Greetings!

The University of Arkansas - Fort Smith proudly welcomes you to the Seventh 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, I would like to thank you for your participation and invite you to engage the presenters in the question-and-answer sessions throughout the afternoon. Your active involvement ensures that the University of Arkansas - Fort Smith remains a dynamic learning community.

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Provost and Senior Vice Chancellor
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Greetings........................................................................................................................................................................... 1
Acknowledgement............................................................................................................................................................. 2

Room 1 – Presentations in Languages and Communication – Health Science 116
2:00 A Cultural Perspective on Class and Racial Discrimination of Asian Americans and its Effects on Minority
Literature and Poetry ................................................................................................................................................................. 10
2:30 Parasexuality for Socioeconomic Gain in Elizabeth Gaskell’s Mary Barton and Mary Elizabeth Braddon’s Lady
Audley’s Secret ........................................................................................................................................................................ 11
3:00 Project Dracula ............................................................................................................................................................... 12
3:30 The Advent of the Children’s Age: The Effects of Imperial Poetry and Mesmerism in a Transatlantic Children’s
Publication .............................................................................................................................................................................. 13
4:00 Things They Carry: Gender and Disability in Vietnam ................................................................................................. 14

Room 2 – Presentations in Languages and Communication – Health Science 124
2:00 Arkansas Sundown Towns and Race Riots ........................................................................................................................ 16
2:30 Some Perilous Thing............................................................................................................................................................ 17
3:00 How the Imposter Syndrome Interferes with the American Dream and a Fulfilling Human Experience .......... 18
3:30 A Comparison of Socrates and Mandela and Their Search for Truth ........................................................................ 19
4:00 Parmenides and Democritus: Spirituality and Science ............................................................................................... 20
4:30 Wisdom in the Wizard: A Rhetorical Analysis of The Wizard of Oz ......................................................................... 21
### Room 3 – Presentations in Languages and Communication – Health Science 222

- **2:00** The Fear of Visiting the Dentist: The Effects of Music on Those Fears ............................................................. 24
- **2:30** Identifying a Relationship Between Creativity and Video Game Play ............................................................. 25
- **3:00** The Media’s Influence on Perception of Parental Roles ....................................................................................... 26
- **3:30** Negotiating Opposite Sex Friendships: A Cultivation Analysis ............................................................................. 27
- **4:00** Is Privacy Outdated? ........................................................................................................................................... 28
- **4:30** A Violent Perspective: The Presence of Violent Content During the Year’s Most Watched Television Event ........ 29

### Room 4 – Presentations in Languages and Communication – Health Science 223

- **2:00** Fashion Website Design in High and Low Context Cultures and Their Effects on Marketing ............................ 32
- **2:30** Factors Contributing to Forced Patriotism ............................................................................................................. 33
- **3:00** The Various Uses of Music ..................................................................................................................................... 34
- **3:30** Conflict Management Between the Different Cultures ............................................................................................. 35
- **4:00** Majorly Wired: Finding a Relationship Between College Majors and Game Usage ............................................. 36
- **4:30** Uses and Gratifications of Online Game Play in World of Warcraft ................................................................. 37

### Room 5 – Presentations in Languages and Communication – Health Science 227

- **2:00** Controversy and the Consumer: A Mixed-Methods Study ..................................................................................... 40
- **2:30** Gaming in Education ................................................................................................................................................ 41
- **3:00** Media Effects on Athletes Using Performance Enhancing Drugs ............................................................................. 42
- **3:30** Analysis of Romance and Action Films in Regard to Sexual Behavior Over Time and Its Effects on Different Age Groups ............................................................................................................................................ 43
- **4:00** The Framing of Immigration by News Media in the United States ........................................................................... 44
- **4:30** Women and Video Games: Women’s Growing Interest in Video Games ................................................................ 45
Room 6 – Presentations in Education – Health Science 318
2:00  Why Study Spanish? Improving Secondary Education Students’ Motivation and Self-Efficacy in Spanish Language Classes
2:30  Bridging the Gap: The Effect of Consistently Enforcing Procedures, Facilitating Role-Based Cooperative Learning Groups and Engaging Students in Active Participation in Classes on Academic Achievement, College and Career Readiness, and Global Workplace Success
3:00  Concerns for Students’ Academic Degree Changes Influenced by Self-Efficacy

Room 7 – Presentations in Applied Science and Business – Health Science 321
2:00  Generating Clean Electrons for Baldor Building at UAFS
2:30  Energy Audit and Weatherization
3:00  The Future of Learning
3:30  Mexican Immigration: Causes, Effects, and General Data
4:00  Disadvantage of Education in Marriage Market for Women
4:30  Examining Bank Failures in the U.S.: Does State or National Charter Matter?

Room 8 – Presentations in Biology, Math, and Engineering – Health Science 325
2:00  Stopover Foraging Ecology of Swainson’s Thrushes (Catharus ustulatus) During Spring Passage Migration Through Western Arkansas
2:30  Detecting Handwriting Forgeries Using Discrete Wavelet Transformations
3:00  The Mars Rover Project
3:30  Battery Electric Vehicle Motor Drive Design
4:00  Automated Splice Identification or Bust
Room 9 – Presentations in Music, History, and Psychology – Health Science 326

2:00  Samuel Bollinger: Composer, Teacher, Native Son

2:30  Women’s Triumph in the New Deal Era

3:00  Rolling into History: John Drennen and the Cherokee Treaty of New Echota

3:30  Discover Arkansas

4:00  Hiroshima: A Defining Moment in History

4:30  Remembering Moffett
<table>
<thead>
<tr>
<th>Table</th>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CGT</td>
<td>Agriculture in Arkansas</td>
<td>76</td>
</tr>
<tr>
<td>2</td>
<td>CGT</td>
<td>Power Production and Power Potential</td>
<td>78</td>
</tr>
<tr>
<td>3</td>
<td>CGT</td>
<td>Hydroponics</td>
<td>79</td>
</tr>
<tr>
<td>4</td>
<td>GD</td>
<td>Shop Responsibly</td>
<td>80</td>
</tr>
<tr>
<td>5</td>
<td>GD</td>
<td>Symbols: How Graphic Designers are Creating a Universal Language</td>
<td>81</td>
</tr>
<tr>
<td>6</td>
<td>DH</td>
<td>MRSA: Are You at Risk?</td>
<td>82</td>
</tr>
<tr>
<td>7</td>
<td>DH</td>
<td>Sleep Apnea</td>
<td>83</td>
</tr>
<tr>
<td>8</td>
<td>DH</td>
<td>Applying the Use of Lasers in the Dental Setting</td>
<td>84</td>
</tr>
<tr>
<td>9</td>
<td>DH</td>
<td>Orofacial Myology: Transforming Malocclusion</td>
<td>85</td>
</tr>
</tbody>
</table>
Table 10 – Biology:
Factors Affecting the Development of Soil Amoeba, Dictyostelium discoideum .................................................. 86

Table 11 – Biology:
Aquaponic Systems are Closed Loop Symbiotic Environments Between Fish and Plants ........................................ 87

Table 12 – Biology:
Aeration Mechanism Efficiency .......................................................................................................................... 88

Table 13 – Chemistry:
Nuclear Fission: The Future of Energy ................................................................................................................ 89

Table 14 – Engineering:
Automated Splice Identification or Bust ............................................................................................................. 90

Table 15 – Engineering:
Automatic Piezoelectric Energy Generator ..................................................................................................... 91

Table 16 – Imagine Sciences:
Neuroimaging Evidence ....................................................................................................................................... 92

Table 17 – Imaging Sciences:
PTSD ....................................................................................................................................................................... 93
Room 1
Presentations in Languages and Communication
Health Science 116

2:00 Matthew Farrar
2:30 Suzanne Pruitt
3:00 Sarah Reeves (Group Presentation)
3:30 Allison Reeves (Group Presentation)
4:00 Payton Clark
A Cultural Perspective on Class and Racial Discrimination of Asian Americans and its Effects on Minority Literature and Poetry

Presented by Matthew Farrar

The United States of America has historically been fundamentally nationalistic, but there have been, and are times, when one must call into question the practices of institutions in order to make necessary changes when acts of inequality are overlooked, or intentionally avoided—as has been notably seen throughout the twentieth century in the United States with the movements for Civil Rights, Women's Suffrage, and Gay Rights. When discussing Cultural Studies in modern Academia, studies of race and class have always played a central role in identifying and evaluating social change, and one particular group that has gone mostly unnoticed is that of Asian Americans. Asian Americans fill a unique societal role, when compared with other minorities or the majority, in that they do not have all the negative connotations, created by the white majority, of being a minority group, yet simultaneously do not have all of the advantages that filling the role of majority entails.

This presentation is in part a literary review of writers who are addressing, or have previously addressed, the development and integration of Asian American perception into the formation of literature and poetry, how literature is affected relative to social inequity, the development of cultural diaspora, social formation of identity, and education’s low rate of teaching Asian-American literature and the educational system’s roles in inequalities towards the “Model Minority.” As they are the fastest growing minority with the highest rates of education in the nation, they are an important group to be focusing on as the group is so often marginalized rather than seen as an essential piece of what is a truly American literary experience; which is only harmed further by issues within some institutions of higher education. Though disgustingly in some institutions have put limitations on the number of Asian Americans that can be accepted into their universities, in a time when many of us believed American society was beyond such open racial inequality, and in the sense of the cultural formation of racial inequality within higher education the availability of minority scholarships are also often declining Asian Americans as a non-minority group—which leaves them, once again, in situations of inequality where either all groups should be treated equally, yet they are singled out amongst even minorities, to pinpoint a few areas of racial discrimination that have incriminating affects on futures of Asian Americans in Academia. In other regards the presentation is a statement of action; as a group that has for so long not been on equal footing with White culture, but has been privileged above other minority groups, Asian Americans occupy a space of both disadvantaged and advantaged.

Matthew Farrar is a junior English major at the University of Arkansas – Fort Smith. Matthew is originally from Portsmouth, Virginia, but is a graduate of Northside High School in Fort Smith. His particular academic focuses are centered around East Asian culture, as he hopes to pursue master’s work in East Asian language and culture, East Asian studies, or Asian-American studies. He hopes to either become a university professor teaching one of the aforementioned subjects or teach English in East Asia. He is the recipient of the Dr. Ted and Betty Skokos Scholarship.
Parasexuality for Socioeconomic Gain in Elizabeth Gaskell’s Mary Barton and Mary Elizabeth Braddon’s Lady Audley’s Secret

Presented by Suzanne Pruitt

In his essay “Sexuality and the Pub”, Peter Bailey coins the term ‘parasexuality’ as a form of sexuality “whose visual code to us as the familiar but largely unexamined phenomenon of glamour” (VSR, 381). Bailey’s term, as he explains, is a form of sexual management. In 19th century Britain, society left little room for female identity between angel in the house, spinster, or prostitute.

Although Bailey uses the term for working women, especially barmaids, the idea of parasexuality should be applied to female characters throughout Victorian literature. Rarely would sex be explicitly tackled in the literature of the time, but that certainly does not mean sexuality disappears completely. In fact, Lady Audley uses her glamour to attract nearly everyone she encounters. She uses parasexuality to gain a life of comfort despite her past. Even Robert Audley, who has discovered Lady Audley was once Helen Talboys, is still under her spell to a certain extent.

Mary Barton uses parasexuality in an attempt to secure her future as well. She certainly has the opportunity to follow through with that plan but because of her epiphany of love she refuses the opportunity to become Mrs. Harry Carson. That being said, her glamour had secured the affections of another man (the one she does end up marrying) when she was still only a child.

Because Victorian women had very little control over the circumstances that would allow for a respectable and comfortable life, there must exist some form of learned manipulation in order to improve the odds of obtaining not only a comfortable life, but one in which starvation does not exist. Although sexuality is suppressed (at best) in 19th century British society, glamour, or parasexuality, is a strong component of sustaining and advancing female socioeconomic status. Using both feminism and psychology, I strive to discover if there exist coping strategies during suppression that are unique to females. Also, is it so bad to use sexuality for socioeconomic gain during Victorian times?

Suzanne Pruitt graduated from Sallisaw High School in 2001. She is now studying English and psychology. Her research interests include Victorian literature using feminist criticism and psychoanalytic criticism. Suzanne has a supportive husband, two wonderful children, and four fantastic step-children. Her activities include caring for her large family while studying literature and psychology as much as possible. Suzanne’s hopes are that her children learn as much from her as she is learning from them.
Project Dracula
Presented by Sarah Reeves, Chris Boerjan, Janelle Cox, Callie Craig, and Kristen Cox

For a digital annotation project assigned British Literature, our group, “Group Dracula,” constructed a digital apparatus to critically annotate the late nineteenth-century novel, Dracula by Bram Stoker. We analyzed three major passages of Dracula through five aspects of cultural studies: LGBT, Feminism, Mythology, New Historicism, and Transmedia. These fields of study are common avenues of research in literature today and therefore our research is valuable to literary academia. The three passages include these scenes: 1). the Castle scene; 2). Lucy’s death; and 3). Death of Dracula. Our digital apparatus is based in the website creator, Weebly. There is a go-to link for each passage on the home page with links to the critical analyses for each study. Each critical annotation results in an apparatus that allows the viewer to relate the analysis inter-textually as he or she reads the passage. In some instances, this structure can operate much like the footnotes or side notes of a literary text.

In this presentation, we introduce the audience to the digital apparatus we created. We will discuss the rationale behind the project design as well as why an intertextual digital apparatus is useful for students of British Literature. We also walk the audience the various components of our website. Our goal with the project was to not only produce academic research in these studies, but also to make it publicly available, thus helping students here and globally. These annotations enable easy cross-textual readings and promote inter-literary criticism that can be used for future researchers into the various cultural studies of Bram Stoker’s Dracula.

The benefits of this digital project are tri-fold in that its focus is Dracula, a globally recognized classic study in literary circles; it is analyzed through a series of theoretical lenses that pertain to the academia of our cultural study; and it is presented on a digital vehicle readily available to the public on a global perspective. For this reason, this presentation is an ideal representation of our local identity and global awareness in classical literary studies.

Sarah Reeves is in her fourth year for the study of English with a secondary teaching licensure and hopes to teach at the high school level. She is a participant in Alpha Omega Phi.

Chris Boerjan graduated from Mountainburg High school in 2006. He is seeking a Bachelor of Arts in English with a minor in history. He actively participates in the community as an auctioneer.

Janelle Cox is a married mother of two and an English TL major in her fourth year at UAFS. Her vision is to become an English teacher and attend graduate school with a focus on nineteenth-century literature.

Callie Craig is a junior at the University of Arkansas- Fort Smith. She will graduate next May with a B.A. in English and hopes to continue her education to earn a Ph.D. She is the recipient of the Mollie Wilson Women’s Financial Series Scholarship.

Kristen Cox is an English major with a minor in political studies. She plays and teaches tennis and hopes to continue her education to law school.
Prevalent thought up into the 19th Century was that children were simply little adults. Psychologist Jean Piaget presented a differing perspective in the 1920s in contrast to this socially accepted idea. His work in the growth of cognitive development introduced the concept that a child’s way of thinking is much different from an adult’s way of thinking. Piaget was not the first person to acknowledge this difference between children and adults, however. Individuals such as Roswell Smith and Mary Mapes Dodge, the founder and editor, respectively, of St. Nicholas, realized the need for age-appropriate literature and ushered in what William Faylor Clarke would later claim to be the beginning of “the Children’s Age” (Clarke). First released in November 1873, St. Nicholas provided children a “pleasure ground” while simultaneously fostering an atmosphere of self-education and imagination through tales such as Rudyard Kipling’s The Jungle Book (Gannon, Rahn, Thompson). A transatlantic text, St. Nicholas spread awareness in both the British Empire and America, influencing the development and identity of millions of children during its 67-year run. This research project applies concepts of Piaget’s theory to the influence St. Nicholas had on the cognitive development of children through stories such as Kipling’s The Jungle Book. Comparisons between the nineteenth century and modern society are likewise made to determine the influence of different technology available to children and the evolution, if any, of the concepts in Piaget’s theory as a result.

Allison Reeves graduated from Northside High School in 2005. She is currently pursuing a degree in English and aspires to go to graduate school. Her research interests lie in childhood development, gender theory, advertising, and children’s literature. She is the recipient of the Mollie Wilson Women’s Financial Series Scholarship.

Jennifer Rambo graduated in 2006 from Jacksonville High School. She aims to accomplish her Master of Science in school counseling after completing a degree in English. Her research interests are in the educational field concerning behavior, learning, and literature within the cognitive developments of adolescents.
Things They Carry: Gender and Disability in Vietnam
Presented by Payton Clark

As a female with anxiety, I see the lack of literature surrounding the combination of gender and disability studies. Though there is an abundance of gender focused literature or disability focused literature, I see a lack of literature based on the two combined. Using the ideas of Helen Cixous and Judith Butler for the gender aspects and Lennard J. Davis and Rosemarie Garland-Thomson for the disability aspects, I will tie in their theories to the novel, “Things They Carry,” by Tim O’Brien. The characters Mary Anne Bell and Norman Bowker will be prime examples to relate theories to and to make connections to each individual theorist. Mary Anne Bell shed societies image of how she should be and painted her body as her own. I will expand on why the war changed her more than it changed the men in that story. While Norman Bowker returned home with depression, Post-Traumatic Stress Disorder (PTSD), guilt, and anxiety. I will discuss why his disabilities changed his life in such a drastic way. Centering the paper around the Vietnam war, I will discuss the idea of women in the war; not simply the idea of women in the war but also societies idea of women in the war. The image of women in the war was thought of as wrong because women were supposed to be homemakers and weak compared to men. I will also review the disabilities of soldiers in the war and the long term disabilities the war caused soldiers once they returned home, such as Norman Bowker. I will attempt to fill the gap in gender and disability studies dealing with the war and in the war zone.

Payton Clark graduated from Southside High School in Fort Smith, Arkansas, in 2011. She is married and a mother of one. Payton is working on obtaining her bachelor’s degree in English with a licensure to teach. Her research interests include fictional literature and cultural studies. She hopes to teach senior English at Southside High School in Fort Smith, Arkansas, after graduating from the University of Arkansas - Fort Smith.
Room 2
Presentations in Languages and Communication
Health Science 124

2:00 Crystal Eckles (Group Presentation)
2:30 Jessica B. Weisenfels (Group Presentation)
3:00 Jordan Pickett
3:30 Jordan Jones
4:00 Michel LaCrue
4:30 Paula Johnson
Arkansas Sundown Towns and Race Riots
Presented by Crystal Eckles and Lucy Ray

Between the years of 1890 and 1968, many towns across the United States practiced the removal of African Americans and other racial groups from their towns by putting up signs instructing these groups to go elsewhere. They were told to be gone by sundown; hence the name “sundown” was attached to these towns. There were thousands of sundown towns spread out across the United States and were at their peak in 1970. Many Arkansans today are oblivious to this history while some knowingly ignore that Arkansas has a dark past connected to sundown towns. It is hard to talk about sundown towns and not talk about race riots because both are connected. Our presentation shares an informative archive that will shed light on Arkansas sundown towns: specifically, our presentation focuses on Bonanza, Mena, Elaine, and Harrison.

Crystal Eckles is a Fort Smith, Arkansas, native. She is a secondary English teacher licensure major and is currently finishing her internship semester at Fort Smith’s Ramsey Junior High. Crystal is also a member of Ninth Street Baptist church where she takes pride in being youth director, assistant district director, and bible study teacher. She aspires to graduate in May and start her teaching career in the Fort Smith School District or whatever district opens its doors to her. She believes all students can learn given the proper resources and a teacher who is willing to go the extra mile.

Lucy Ray was born in Omaha, Nebraska, but has lived in Booneville, Arkansas, for the past 38 years. She is a senior at UAFS, is in her final semester of classes, and plans to intern in the fall as she finishes her degree in English. She is the proud mother of five children and eight grandchildren. Lucy has been a teacher for many years as she raised her family, and now she hopes to carry that passion into the classroom.
Some Perilous Thing
Presented by Jessica B. Weisenfels and Tim VanDyke

Some Perilous Thing is a digital humanities project that deals with the American Dream through poetry. It consists of twenty sections written by two poets. There are two parameters for the project. First, the sections must deal with particular geographical regions, ethnographies, or issues of class mobility within the U.S. Second, each section must follow the research and assimilation of male and female 20th American poets and their work. The project seeks to interrogate and at times re-imagine what the American Dream means. It also intends to open up to view as many facets of the American Dream as it can, delivering each section as an interconnected piece that also brings fresh insight to the whole project. In this way, it will offer a broad, deep, and multi-faceted portrait of the Dream and what it has meant to be American over the past 100 years.

Jessica B. Weisenfels is a devotee of poetry, fiction, and literary theory. She lives in Alma, where she raises her two daughters. She has self-published two poetry chapbooks and routinely publishes both fiction and poetry in the UAFS creative arts journal, Applause. Some of her recent work can be found at 9th Street Laboratories. She has work forthcoming from Fence and MadHat Lit. After completing her English degree at UAFS in May 2014, Jessica plans to take a year to pursue writing projects. In fall of 2015, she plans to enter a Master of Fine Arts program in creative writing with an emphasis in poetry.

Tim VanDyke grew up in Colombia, South America. He worked in the psychological field for several years. His real loves are poetry and theory. He has published Topographies Drawn with a Divine Chain of Birds (Lavender Ink 2011), Fugue Engine (Cannibal 2011), and Light on the Lion’s Face: A Reading of Baudrillard’s Seduction (Argotist 2012). His work has appeared in Drunken Boat, Fascicle, Red-headed Stepchild, Typo, and elsewhere, as well as anthologies. He was the recipient of the Nazim Hikmet Poetry Prize in 2012. After completing an English degree in the Fall of 2015, he plans on pursuing a graduate degree in psychotherapy.
The Imposter Syndrome, also more technically called the Imposter Phenomenon, can be identified as behaviors of insecurity and feelings of fraud exhibited by someone, usually highly accomplished. This phenomenon, coined in 1987, has inspired widespread research on the topic due to the paradoxical nature of the behaviors. This paper identifies the syndrome, and explores the different avenues of the human experience it affects. The imposter phenomenon has been identified in but not limited to the medical field, academia, the educational profession, marketing positions, as well as upper level education and graduate students across a myriad of specialties. Those affected by the Imposter Phenomenon are in large part female (due to the constant struggle of combating multiple identities); however, this phenomenon does affect many males. This paper not only identifies the syndrome and whom it affects, but more explicitly explores how this phenomenon interferes with the achievement of the American Dream. Part of the understood American Dream is wealth, success, and prestige. When a phenomenon occurs that directly interferes with the belief that the individual deserves the success they have obtained, then the American Dream is in jeopardy. There are numerous obstacles that interfere with the achievement of an individual's American Dream. The peculiarity of this syndrome is that objectively these individuals have technically achieved it. Also, a few possible ways to counter the syndrome are discussed here. Note that while this phenomenon is considered an internal source of self-doubt, there are many external factors that influence the occurrence of these behaviors.

Jordan graduated from Temple High School in Temple, Texas. She will graduate in December of 2014 with a B.S. in education. She aspires to play professional volleyball overseas as well as possibly teach English in a foreign country before returning to the U.S. to continue her education. She plans on going to graduate school to study the teaching of English before pursuing her teaching career. She enjoys playing sports, reading all genres, especially women’s literature, and being with her family. She is the recipient of the Sally Boreham Athletic Scholarship.
A Comparison of Socrates and Mandela and Their Search for Truth
Presented by Jordan Jones

The lives and trials of Socrates and Nelson Mandela exhibit timeless truths from which humanity can build. Comparing the two rhetoricians allows one to identify positive truths through reason, in a way others can use to distinguish the better of conflicting ideologies. Both rhetoricians stood against the popular beliefs of their time based on their moral compasses, for the better of humanity.

They employed a rhetorical technique, Accusatio Concertativa, in which they denounce their oppressors’ accusations in an attempt to build their own defense. Socrates used the technique against the state-controlled ideologies of ancient Greece; Mandela used it against the apartheid South African government. Socrates revealed that sometimes the majority moral/ethical beliefs are wrong and should therefore be questioned. In his trial, to strengthen his argument against his accusers, he made it clear how easily it is to be persuaded in one way or the other. Mandela successfully ended the exploitation of black South Africans for cheap labor and subordination by elite white minorities.

The two famous rhetoricians exemplify the eternal struggle between good and evil. Through courageous acts, they both endured much pain and suffering to bring forth positive change in humanity. They illustrate how knowledge and perspective can be used as tools to decide between competing metaphysical ideals. Without questioning norms, what is right, true, and just can be perceived as opposites. This makes the comparison of the two famous rhetoricians timeless as throughout history, similar examples appear in humanity’s constant moral and ethical dilemmas.

Jordan Jones is a 2008 graduate of Alma High School whose strength throughout his academic career has been in writing, and it is writing which he plans to pursue as his professional career. He intends to graduate from the University of Arkansas - Fort Smith in Fall 2014 with a B.A. in rhetoric and writing, minor in philosophy. With an intent to write both fiction and non-fiction, he possesses a diverse field of interests. These interests include sociology, history, politics, sports, and art. It is through any or all of these fields he intends to build his career with his written word.
Historically, the concept of change was (and still is) a subject of discussion and debate in philosophical circles. In this rhetorical comparison, philosophers Parmenides and Democritus are used to show how change was perceived over time and how debates flourished from fifth to fourth century, BCE. Parmenides, a monist and founder of the Eleatic School (a pre-Socratic school of philosophy) argued in his poem, On Nature, that change is simply the opinion of man. He postulated that if there is dark, there is light; if there is cold, there must also be heat, and that these are based on divine intervention. Parmenides believed senses can be deceptive, and if we cannot see it, it must not exist. Democritus, a pluralist and writer who is considered the father of modern science, believed that objects called “atoms” caused change. Democritus and fellow philosophers thought change did not have to be seen to be occurring; atoms, which are “infinite in number…with no internal gaps,” were the cause of this change. Through these two ideas, monism and pluralism, we see how one group built on but also changed the idea of the other, and how the two ideas could clash with each other. These two philosophers show that whether it be divine or scientific, change is natural. They have similar yet opposing views, which is the common conflict seen in ideologies today. On the other hand, a study of these two philosophers can exemplify that spirituality and science is more complementary than contradictory.

Michel LaCrue is originally from Fort Collins, Colorado. She has resided in Fort Smith for 10 years. She has been married for 19 years and has two children. She is a member of Sigma Tau Delta and recently represented UAFS at the Sigma Tau Delta Conference in Savannah, Georgia. She volunteers with the Girl Scouts and the Chaffin Junior High band. She is planning to graduate with her B.A. in rhetoric and writing and minor in creative writing and also geography in Fall 2014. Afterwards she will seek a M.A. program in rhetoric and writing and eventually her Ph.D. She aspires to be a writer and also wishes to teach college-level writing and argument courses in the future.
Wisdom in the Wizard: A Rhetorical Analysis of *The Wizard of Oz*

Presented by Paula Johnson

*The Wizard of Oz*, a children’s fantasy, written by L. Frank Baum, was later directed by Victor Fleming in 1939. Two master craftsmen both desired to create a masterpiece their children would remember them. *The Wizard of Oz* is a timeless classic that has spanned the generations for over seventy-years.

*The Wizard of Oz* empowers us to believe in the worth of others and ourselves. This paper reveals how *The Wizard of Oz* teaches ethical and moral principles inspiring audiences of all ages. A unique method of research was used by rhetorical analysis and through researching the artifact. Critical probes discussing the rhetor’s message include: social statement, modality, points emphasized, what the wizard is designed to mask and reveal.

Can a children’s fantasy teach ethical and moral principles that can be applied? *The Wizard of Oz* contains a two-fold message. The yellow brick road opens dual paths. One a philosophical path revealing virtue ethics, and the other path a spiritual journey that inspires audiences to dream. Munchkinland is an overture foreshadowing Dorothy’s journey where she witnesses encounters where good and evil collide. This two-fold message examines how good conquers evil through the power of influence. Everyone has symbolically traveled the yellow brick road — life’s journey. Along life’s journey, answers may be found in the least expected places from the least expected people. The magic of being needed enhances both the qualities and character of seeing the worth in others and our self.

*Paula Johnson graduated from the LPN program at Westark Community College in 1995. She has been a nurse in long-term care for 18 years. Paula is a returning student majoring in rhetoric and writing. She aspires to pursue a second profession in journalism and writing books. Paula has formerly researched The Cold War era and presidential achievements. She loves researching about the greatness in people through a variety of research topics and methods. Another research interest includes motion pictures that incorporate the values in people.*
Room 3
Presentations in Languages and Communication
Health Science 222

2:00 Tasha Heard
2:30 Allison Hall
3:00 Allison Heppner
3:30 Ashley Danna
4:00 Casey Frizzell
4:30 Clifford Payne
The Fear of Visiting the Dentist: The Effects of Music on those Fears
Presented by Tasha Heard

This paper explored the benefit of using music through noise cancelling headphones during a dental appointment in order to reduce the patient’s anxiety in relation to the Social Exchange Theory (SET). The SET, developed by Thibaut and Kelley, indicated that relationships are based on costs or the negative outcomes and rewards or the positive outcomes. The SET or the cost and rewards of a relationship are exemplified in this paper as the relationship between the dentist or hygienist and the patient. Quantitative research is used, through the medium of a survey, to examine the responses of thirty-nine university students, ranging from the ages of seventeen to fifty-four. Of those thirty-nine students, eleven were Honors International Studies students. The reason for the separation of students in the study was to compare the results of the possibly more privileged and intelligent students (Honors) with the possibly less privileged and less intelligent students (non-honors). The conclusions made due to analyzing the results of the research conducted was that the use of music, TV, or a movie, through noise cancelling headphones, benefited the patient and the oral care professional during a dental appointment by reducing the anxiety caused by the environment the dental office creates, and it did not matter if the students were non-honors or Honors: all participants had the same type of fears when visiting the dentist.

Tasha Heard graduated from Bergman High School. She is currently a sophomore at the University of Arkansas - Fort Smith. She aspires to be a dental hygienist and is currently pursuing a Bachelor of Science in dental hygiene. Her research interests include furthering advancement in oral hygiene and community involvement. She is a part of the Honors International Studies Program and is the vice president of communications on the Student Alumni Association board at UAFS.
Identifying a Relationship Between Creativity and Video Game Play
Presented by Allison Hall

This was a study on identifying a relationship between video games and creativity in adults. Previous research has been done on the relationship between video games and creativity in children. This study offers new information in this area. A 19 question survey was distributed to all currently enrolled students at University of Arkansas - Fort Smith in April 2014. The Grey (2013) “noun-verb” test of creativity was incorporated into the survey instrument. A nonprobability volunteer sample of n=? was gathered from the population. The data analysis may reveal interesting and heretofore unknown details on the relationship between video games and creativity in adults.

Allison graduated from Gravette High School. She is currently pursuing a degree in media communications with plans to enter the creative field of communications and advertising. She served in Afghanistan working as a multimedia illustrator for the U.S. Army. Her research interests include the study of creativity and the benefits of video game play.
The Media’s Influence on Perception of Parental Roles
Presented by Allison Heppner

This study examined the impact that the media has on the way children view their fathers. The study was centered around the main question: Is the way the parental role of the father is being portrayed in the media having an effect on the way children view their own father and his role in the family unit? The study focuses on the way fathers are portrayed in television and film. Previous research has been done on the impact of such media on children. This study offers new information in this area. A fifteen question survey will be sent out to all students enrolled at the University of Arkansas Fort Smith pursuing a degree in Media Communications in April of 2014. The data analysis may reveal new details on the way the media presents parental roles and how this impacts children.

Allison Heppner graduated from Elkins High School in 2012. She was salutatorian of her class and received the Chancellor’s Leadership Scholarship at the University of Arkansas - Fort Smith. She is pursuing a degree in media communications with hopes of one day working in the field of public relations. Her research interests include the various ways that the media impacts society and pop culture. She is the recipient of the Bud Jackson Scholarship.
Negotiating Opposite-Sex Friendships: A Cultivation Analysis
Presented by Ashley Danna

This was a study on identifying the effects of media on opposite-sex friendships by applying cultivation analysis. Previous research has been done on the supposed platonic friendships between men and women. In addition, there has been cultivation analysis research. However, this study offers new information since it combines both studies. The study was derived from a communication theory class in semester of fall 2013 taught by Dr. Susan Simkowski. In the spring semester of 2014, the study continued to develop in a research methods class taught by Dr. Bradley Wiggins. A survey was sent to currently enrolled students at the University of Arkansas — Fort Smith in April 2014. The max amount of questions the students answered was 12 questions, which was dependent on what type of answer they provided. The data analysis may reveal interesting and heretofore unknown details on the friendships between men and women when media is a factor.

Ashley Danna graduated from West Brook Senior High School in Beaumont, Texas. She transferred to UAFS in January 2013 with hopes to create lasting friendships and a rewarding, affordable education. Her research interests include media effects and different types of relationships among men and women. She is currently a marketing intern in the UAFS Marketing Department and interned with The City Wire in Fall 2013. Ashley is graduating in May 2014 with a B.A. in media communications and minor in rhetoric & writing. She also aspires to enter the world of public relations and marketing after graduation. In her spare time, she enjoys traveling, spending time with family and friends, studying gastronomy, cooking, and exploring the outdoors when the weather permits.
Is Privacy Outdated?
Presented by Casey Frizzell

This was a study designed to examine the levels of awareness University of Arkansas – Fort Smith communication students have about privacy online. The study worked off of Sandra Petronio’s previous research with the communication privacy management theory to determine UAFS Comm. students concerns or disinterest concerning privacy online. To measure levels of awareness, a 13 question survey was distributed to all currently enrolled communications majors at UAFS in March–April 2014. A nonprobability volunteer sample of n=80 was gathered from the population. Data analysis will reveal how relevant online privacy to UAFS Comm. students.

Casey Frizzell graduated from Lavaca High School. He aspires to enter the broadcast field while pursuing a degree in media communication and business administration. His research interests include digital controversial topics like online copyright and privacy laws.
A Violent Perspective: The Presence of Violent Content During the Year’s Most Watched Television Event
Presented by Clifford Payne

The Super Bowl has become the premiere marketing event of the year for advertisers, demanding in excess of $4 million per commercial and reaching an audience of more than 100 million viewers from a wide range of demographics. This research examined the content of the advertisements shown during the 2014 Super Bowl, with a focus on violent content. Although there has been considerable research exploring violent content in the media, very little research has examined the content in Super Bowl advertising and whether that content is significantly different than what is shown in similar programs during the rest of the year. Preliminary results of a content analysis indicate that there was no significant difference in violent content shown during the 2014 Super Bowl than in similar primetime programming. Past research indicates that consumers react more favorably to advertisements that incorporate an element of humor, and future research could explore the use of comedic violence in advertisements.

Clifford Payne graduated from Leflore High School and after spending eight years in the army he completed an Associate Degree in psychology and journalism at Carl Albert State College before transferring to UAFS. His research interests include media effects, consumerism, and evolving social and political topics.
Room 4

Presentations in Languages and Communication

Health Science 223

2:00 Constance Lee
2:30 James “Corey” Woodard
3:00 Paul Devin Kochli-Silva
3:30 Dusan Stojanovic
4:00 Glory Smith
4:30 Hillary Yerton
Fashion Website Design in High and Low Context Cultures and Their Effects on Marketing
Presented by Constance Lee

The internet is used as a marketing tool for many companies, including fashion websites. Many readers now view online magazines and websites in place of a paper copy. Through research I became interested to see if different fashion websites were influenced by high and low context cultures, and if so, how. To address this research statement, online fashion magazines were viewed and analyzed based on a content analysis. This research method demonstrates the content of high and low context cultures that are on these websites. The results of this research project will help the readers to be aware of why the content they are seeing is being used and it will let those who publish online fashion magazines aware of audience they are targeting and how others are advertising.

Constance Lee moved to Fort Smith from Benton, Arkansas to attend the University of Arkansas - Fort Smith. She graduates in May with a bachelor’s in media communications and a minor in rhetoric and writing. Her current research interests include fashion and the effects of media and communication within society. She hopes go on and write about fashion or work in a fashion related environment.
Factors Contributing to Forced Patriotism
Presented by James “Corey” Woodard

This was a study designed to examine attitudes associated with the concept known as forced patriotism, which is a term derived from an essay by Alan Chen, Forced Patriot Acts, where he suggests that either the government or the people try to silence or control anybody or anything that would undermine national unity, American patriotism, or respect for state designed values or icons (Chen, 2003). This study will examine the factors contributing to forced patriotism. Previous research by Chen (2004) discussed government reactions to citizen movements designed to undermine national unity. This study drew on the communication accommodation theory (Street & Giles, 1982). To answer questions related to forced patriotism, a 10 question survey was distributed to all currently enrolled students at the University of Arkansas - Fort Smith in March – April 2014. A nonprobability volunteer sample of n=? was gathered from the population. Data analysis may reveal American exceptionalism, nationalism, and patriotism as potential contributing factors to forced patriotism.

Corey Woodard is a graduate of Lamar High School. He is graduating with a degree in media communications with a minor in rhetoric and writing this May (2014). He is the current managing co-editor for the UAFS student newspaper, the Lions’ Chronicle, the former president of the Baptist Collegiate Ministries, and a member of the Nu Alpha chapter of Sigma Nu Fraternity. He is the recipient of the Carnall Wheeler Scholarship.
The Various Uses of Music  
Presented by Paul Devin Kochli-Silva

This study examined the various uses of music among students and adults in the Fort Smith Area of Arkansas and the Fresno Area in California. During the study I asked many questions, aiming to find the target audiences musical preference, the different situations they use music in, and the purpose of the music being played. The questions that motivate my project are: How can music be best used as a tool? (Therapeutically, marketing, etc.) How do different people view music and its influence? Are behavioral patterns dependent of musical preference, or vice versa? The Survey was submitted electronically and shared throughout social media. The Myers-Briggs Personality types were used as helpful archetypes for the test subjects differentiating perspectives towards music. The results to this tests will prove useful to people who wish to change behavioral patterns or fight against psychological conditions using music as a guide.

Paul Devin Kochli is a Graduate of Hanford West High school located in Central California. He is currently a media communication major and a psychology minor. Paul hopes to pursue his goals as a counselor or traveling videographer. His research interests include: religion, astrology, chemistry, history, and pharmacology. Paul has been experienced in multimedia video editing for eight years now and has created various videos on YouTube. After successfully making senior video in high school for three years in a row he hopes to be able to get his chance in the spotlight once again here at UAFS.
Conflict Management Between the Different Cultures
Presented by Dusan Stojanovic

The study aimed to investigate how international student athletes are handling their conflict situations with American students. Interviews were used as a method for gathering information for this research study. In this qualitative study there were 6 international student athletes from three different countries and two continents interviewed. In these interviews students were asked to recall their conflict situations with American students, and how they were handling them. The research study is entirely based on the work of Stella Ting-Toomey and her “Face-Negotiation” theory. For analyzing gathered data there were two criteria used from this theory. First criteria were the cultural difference. There were two different cultures involved: individualistic (American students) and collectivistic (International students). Second criteria were ways of handling the conflict situations: avoiding, obliging, dominating, integrating, and compromising. After data gathering process was over, the conclusions were made on how international student athletes handle their conflicts in regards to their culture (collectivistic). The results revealed that international student athletes use more integrating and compromising as their main conflict-solving method. The explanation was that since they are from collectivistic cultures, international students are more likely to compromise and integrate with other students in order to solve a conflict situation. The similar studies have been done before, so the significance of this one is in expanding peoples’ knowledge in conflict situations between the different cultures.

Dusan Stojanovic was born in Lazarevac, Serbia. He graduated from the Sports High School in Belgrade, Serbia, in 2011. Dusan came to America to pursue his dreams of being basketball player and media communication student in 2011. Another reason for his arrival was his brother, who recently graduated with a degree in animation technologies. He is a junior on the court and in the classroom, but basketball eligibility of two more years is going to allow him to pursue another degree. Having an international background encourages him to study and conduct research on the intercultural communication and conflict resolutions. He also wants to pursue career in the broadcast media.
Majorly Wired: Finding a Relationship Between College Majors and Game Usage
Presented by Glory Smith

This study examined the relationship between college majors and amount of time spend playing simulation games among undergraduate students at the University of Arkansas - Fort Smith (UAFS). Previous research has showed that the typical gamer fits a mold. Researchers believe that there are correlations between gender and gaming. There has also been research about the relationship between ethnicity and gaming. A 10 question survey was sent to all students in the College of Languages and Communication at UAFS in April 2014. The questions were posed: What is your major? How many course hours are you taking this semester? How many hours a week do you spend on the computer doing homework for your courses? How many hours would you say you spend on the computer doing other activities? How would you define a gamer? Do you play simulation games (League of Legends, World of War Craft, Sims, Call of Duty, etc.)? If so, how many hours a week do you play? Do you have accounts on Steam, Xbox Live, Playstation Network etc.? Do you play simulation games with your friends? Do you think how much time you spend playing simulation games effects your homework for other classes? If your grades were effected, would you cut back your hours playing simulation games? A nonprobability sample of n=? was gathered from the population. Data analysis may reveal that there is a relationship with how much homework a major has and simulation game usage.

Glory Smith graduated from Alma High School. She aspires to enter the radio or TV industry and is currently pursuing a degree in media communications.
Uses and Gratifications of Online Game Play in World of Warcraft
Presented by Hillary Yerton

This study seeks to understand the needs, motives, gratifications, positive and negative aspects of online game play regarding the game World of Warcraft. It will also attempt to define the game and answer the question of whether or not WoW disrupts or negatively affects player's daily lives. Previous research has been done on online game play in World of Warcraft regarding addiction and gender. This study seeks to offer new information about the uses and gratifications of World of Warcraft. A 15 question survey will be distributed to all currently enrolled students at the UAFS in the Spring semester of 2014. The data analysis may reveal interesting and heretofore unknown details on the uses and gratifications of the mmoprg game World of Warcraft.

Hillary was home schooled and graduated high school in Van Buren, Arkansas. She would like to continue on to graduate school and pursue a master's degree in fine arts after finishing her current degree of media communication. Her research interests include video games, Aristotle’s five canons of rhetoric, and dance theory. She is currently a dance instructor for UAFS Academy of Arts, Western Arkansas Ballet, and JWA Lifesong Dance. She is the daughter of Scott and Katherine Weston of Van Buren and currently lives in Fort Smith with her husband Phillip, a dog, and a cat.
Room 5

Presentations in Languages and Communication

Health Science 227

2:00  Hunter Brown
2:30  Landon Harwell
3:00  Mitch Huckabay
3:30  Paige Stewart
4:00  Patricia Hofferber
4:30  Taylor Smith
Controversy and the Consumer: A Mixed-methods Study
Presented by Hunter Brown

The study aimed to see if what our culture identifies as politically incorrect is noticeable among UAFS Students. Qualitative focus group methodology was used. Altogether there were eight males and eight females over two focus groups. Two men and two women across the following ages: 18-29, 30-39, 40-49, 50+ were divided into two groups. Each group was given a five question survey at the beginning of the study. The group went on to watch three advertisements that have been identified as politically incorrect. Each group was then given a follow up quantitative survey where they could reflect on what they saw.

Hunter Brown is a recent graduate of Lavaca High School. He now attends UAFS studying media communications with a minor in theatre. He is a UAFS Ambassador and a member of Sigma Nu Fraternity. Upon graduation he plans to further his career in New York City.
Gaming in Education
Presented by Landon Harwell

Games are an increasingly hot topic. The purpose of this research is to further understand how gaming in education affects the students learning process and why games should be used more often. Why are games not used more often in educational settings? Previous research has studied how using games in classrooms effects students learning. My research will include some previous analysis while also focusing on the advantages of using games in classrooms as well as discussing one school that only teaches using video games. From the research I’ve gathered there are many students that are more motivated to learn when using games. A 12 question survey was administered/ sent/ distributed to all currently employed University of Arkansas Fort Smith Professors. Previous research has shown that students do become more interactive when using games to learn new material. The significance of this research is that many students would enjoy learning using interactive games in the classrooms meaning games may start being used more often in educational settings.

Landon Harwell graduated from Gentry High School. His future goals include earning a B.A. in media communications and becoming a sports writer/ broadcaster. His research interests include gaming in education, the culture of foreign countries, and sports medicine. He currently works at Dillard’s but will begin an internship next semester. He hopes to get a job at a TV station after he graduates to begin working his way up the communication chain. He will be graduating in December this year.
Media Effects on Athletes Using Performance Enhancing Drugs
Presented by Mitch Huckabay

This study examined the media effects on athletes using performance enhancing drugs among undergraduate students and adults at the University of Arkansas - Fort Smith in April 2014. A few questions being pursued are: Does the media have an effect on the public perception of athletes that are using/have used performance enhancing drugs? Does the media try to force a negative connotation/perception of the athletes using on the public? Does the media have an effect on your perception of the athletes who are caught or admit to using PEDs? A sample of n=? people will be selected and electronically surveyed. Some may be surveyed through text if accessed more easily than electronically. According to past research nine athletes who have used PEDs have been analyzed, and based on the documents and evidence examined, there seems to be a negative connotation surrounding these specific athletes. The results from this current study may reveal that the media makes an effort to portray athletes using PEDs in a negative way, and that the efforts of the media have an effect on people's perception.

Mitch graduated from Mansfield High School in Mansfield, Texas. He spent his first two years of college at Northwestern State University of Louisiana before transferring to the University of Arkansas - Fort Smith. He is currently a student-athlete and is pursuing a degree in media communication as well as a minor in speech. He aspires to go into coaching once his college career is over, and his research interests include things involving the relation between athletes and the media and the effects they have on each other.
Analysis of Romance and Action Films in Regard to Sexual Behavior Over Time and its Effects on Different Age Groups
Presented by Paige Stewart

Sexual Behavior in film media continues to become more prominent. This particular research will analyze how sexual behavior in films continues to increase over time and it will compare the portrayal of sexual conduct in romance films and in action films in regard to the Hays Code. Previous research has been done to show in older films sexual behavior was less common or was portrayed in a more creative way to obey the Hays Code. Other research has shown modern films have hardly any restrictions. Additional studies show sexual behavior does affect different age groups including children, teens, and adults. This study will provide new research for how sexual content continues to increase in both romance and action films over time and how this increasing content continues to affect certain age groups to a greater extent. Eight movies, 4 (2 romance; 2 action) from the 1940s decade and 4 (2 romance; 2 action) from 2010-2013 will be thoroughly examined in a content analysis. Categories for each sexual reference include nudity, kissing, innuendos, intimate sex scenes, sexual preferences, and relevance to the film. The unit of analysis (frequency) will be measured in seconds. These measurements will be placed into a coding sheet for further comparison.

Paige Stewart is a Fort Smith native and graduated from Southside High School in 2012. She accepted the Chancellor's Leadership Council scholarship at the University of Arkansas - Fort Smith and is currently a sophomore. She is working on obtaining a bachelor's degree in media communication with a minor in speech. Her research interests include film media, social media, and the evolution of music. She aspires a future career in the news industry, writing or reporting. Eventually she would like to teach an Introduction to Speech Communication class at the collegiate level. She is the recipient of the Mary Lee Kulin Scholarship.
The Framing of Immigration by News Media in the United States
Presented by Patricia Hofferber

This study examined the media framing of the immigration issue in the United States. Media framing is defined as the way media presents an issue (Carvalho, Davis, and Mullins, 2011). Previous research has shown that news media in states closer to the U.S. – Mexico border tend to frame the immigration issue with a greater frequency of negativity than other states. This study used a qualitative content analysis to examine common themes in two newspapers from Little Rock, AR. A composite week was constructed from three months before and after the passage of the 2012 Dream Act. The unit of analysis is type of framing of the immigration issue (positive, negative, neutral). A qualitative emergent coding strategy was used to gather common themes associated with the unit of analysis.

Originally from the western slope of Colorado, Patricia Hofferber is a proud member of the Choctaw Nation of Oklahoma and has found a home in Fort Smith. She attends UAFS full time and is majoring in media communications with a minor in rhetoric and writing. Her goal upon graduation is to travel the country as a freelance journalist. Patricia’s interests include genealogy, history, and public events.
Women and Video Games: Women’s Growing Interest in Video Games
Presented by Taylor Smith

This was a study on women’s growing interest in video games. Previous research has been done studying the interest and usage of video games by women. Previous studies show that women are less interested than men in video games. This study looks to provide more insight into women’s interest levels, if they have increased, and what games are most commonly used by women. A 15 question survey was sent to female students at the University of Arkansas - Fort Smith. A non-probability volunteer sample of n=? was gathered from the population. Data analysis may reveal college age women are not actively participating in video game usage.

Taylor Smith graduated from Mansfield High School. She is currently pursuing a degree in media communications and plans to enter the public relations field. Taylor’s research interests include pop culture and communications.
Room 6
Presentations in Education
Health Science 318
2:00 Danyell Farris
2:30 James Minor
3:00 Armando Castro (Group Presentation)
Why Study Spanish? Improving Secondary Education Students’ Motivation and Self-efficacy in Spanish Language Classes

Presented by Danyell Farris

High school Spanish language teachers have recently noticed a decline in the number of students enrolling in their classes. Research suggests that a negative self-efficacy in the classroom may be a contributing factor to this decline. Students are quickly giving up and claiming that they cannot do the work that they are assigned. This study surveys students who are currently studying Spanish in high school to determine causes for the observed decline in interest and enrollment in Spanish classes. It also examines the correlation between student success after various modalities of assessment of language skills are used and their levels of motivation to contextualize their newly acquired language skills in their daily lives in addition to college and career settings. Even though the students may not currently live in a town in which a fluent use of Spanish is necessary, it will be beneficial in any career to be proficient in speaking and writing Spanish. Apart from the direct applications of a second language (e.g., a doctor being able to communicate with his or her Spanish-speaking patients), an endless number of opportunities will be available. Secondary education students will be better equipped to broaden their global awareness through international travels if they develop the positive self-efficacy to continue to study the language.

Danyell Farris graduated from Southside High School in Fort Smith in 2012. She aspires to become a Spanish language teacher for high school students and one day in a university. Her research interests include motivational skills for students, Spanish culture, and international education systems.
Bridging the Gap: The Effect of Consistently Enforcing Procedures, Facilitating Role-based Cooperative Learning Groups, and Engaging Students in Active Participation in Classes on Academic Achievement, College and Career Readiness, and Global Workplace Success

Presented by James Minor

Classroom distractions are an everyday issue that teachers face. Learning to manage these distractions is a crucial skill that educators must master in order for students to be academically successful and grow into responsible lifelong learners who can compete in a global market. This research study focuses on specific ways to manage different types of distractions witnessed in classroom observations made at the beginning and end of class periods, transitions between work stations, and students arriving late or leaving early. Many experts in classroom management discuss the importance of procedures and the positive impact they have on students and learning environments. Based on the body of research accessible in empirical and practitioner journals, most high school students feel more comfortable learning when procedures are in place, and they are less prone to exhibit behavioral problems when they are fully engaged in learning from the beginning to end of each class period. In the lesson taught by the observer, the implementation of bell work and student engagement through the entirety of the class period proved to be successful in maintaining a focused learning environment. The implications of this success suggest that implementation of these procedures on a larger scale will contribute to more effective teaching, foster higher academic success, and promote effective work habits that will assist students in transitioning from high school into college and careers in the future.

Travis Minor graduated from Heavener High School in Oklahoma and is currently pursuing a career in education. He is a student at the University of Arkansas - Fort Smith and will graduate in December of 2014. Travis looks forward to his career in the classroom, but also has aspirations of attending graduate school and earning an administrative endorsement. He believes the future is in our classrooms and that teachers have the capacity to reach every single student they teach in a positive manner.
Concerns for Students Academic Degree Changes Influenced By Self-efficacy
Presented by Armando Castro, Christine Taylor, Martin Garcia, Dale McKellip, Angela Thomas, Rose Kappes, Beau Branham, Terri Hood, Amber Bean, Antoinette Zepp, Lauren Krepps, and Ryan Millican

During those all-important academic years when a student must declare his/her major, multiple changes take place in their thoughts of a future career. Changing majors has become a common practice for college students for various reasons; student’s identity of self-perceptions, degrees of academic rigor, multi-cultural accommodation, self-efficacy, loss of interest in degree choice, life-changing experiences and much more. The consequences of changing majors can be both academic and financial, but should be planned better for greatest efficiencies.

This study will consider the life-changing distractions as identified by the UAFS students in an effort to identify the causes and appropriately accommodate the students’ needs for greatest effectiveness. A questionnaire containing 6 demographics questions, 14 rate, 6 rank, and 6 qualitative, open-ended questions will guide this descriptive research. The students of UAFS LEAD 3623 Professional Communications have volunteered to equally contribute to all parts of this research process, including collecting the data from colleagues, writing each section of the study, synthesizing the data, and presenting the results. UAFS students that are 18 years of age or older that have changed their degree at least once will be requested to volunteer to complete the questionnaire. The quantitative data will be analyzed using statistical frequencies and the qualitative data with be synthesized for rich and full descriptive meanings for this mix-method study. The conclusion of this research hopes to identify the self-efficacy of UAFS students that influences their degree choices with consideration for multicultural inclusion.

Armando graduated from Northside High school in the year of 2001 and has been attending the University of Arkansas - Fort Smith since 2002. His major is organizational leadership with a minor in math. After graduating in spring of 2015, he will re-attend UAFS and pursue a major in mechanical engineering. Armando was a United States Infantry Marine for four and a half years and was medically retired in 2007.

Christine Taylor is a junior at the University of Arkansas - Fort Smith majoring in organizational leadership. She received her associate degree in general studies the Fall Semester of 2013. After she graduates from college, Christine would like to either start her own business or carry on her family’s business. She is currently a member of the Zeta Phi Chapter of Gamma Phi Beta at UAFS and works at the Health Depot Pharmacy.

Martin Garcia is majoring in organizational leadership with an intent to graduate in fall of 2014. Upon graduation he plans to travel the United State to learn more about himself and spend time with his child before starting a career.

Dale McKellip is a student at the University of Arkansas - Fort Smith majoring in organizational leadership. He has received his associate degree in applied science. Dale has plans to participate in the English Second Language (ESL) program offered at UAFS and wants to travel and explore different cultures and learn more about the world around him.
Angela Thomas is a junior pursuing her major in organizational leadership. She received her associate degree in general studies at UAFS this previous summer. She wants to continue on once she graduates to receive her master’s in library science at the University of North Texas. Her dream is to become the director of a library, hopefully at the University of Texas in Galveston, where her family plans to open a bed and breakfast. She currently is a founding member of the Upsilon Beta chapter of Alpha Omicron Pi at UAFS and enjoys playing video games in her spare time.

Rose Kappes is a senior pursuing her major in organizational leadership. She received an associate degree from Arkansas State University in the spring of 2013 and has been employed at Gerdau as a facilitator for the past 24 years. She will go on to get my master’s in business next fall.

Beau Branham is a senior at the University of Arkansas - Fort Smith. He will graduate with a degree in organizational leadership in May 2014. Beau graduated from Hackett High School in 2008. He accepted a basketball scholarship to the University of Saint Mary where he earned his associated degree. His goal after graduating is to become a graduate assistant for a NCAA basketball team while earning his master’s. His plans to continue to build a coaching career and influence the lives of others.

Terri Hood is currently a student at the University of Arkansas - Fort Smith majoring in organizational leadership. She will be graduating in May 2015 with her bachelor’s. She has also obtained an Associate of General Studies. She currently works at Bost Incorporated as a waiver for people with disabilities. She grew up in Greenwood, Arkansas, where she currently resides. She enjoys bowling, reading, volunteering for Special Olympics, and spending time with family and friends. Her goal after graduation is to work for a company that shares similar interests or that has relations within the medical field and raise a family. She is the recipient of the Hoge Family Nursing Scholarship.

Amber Bean is currently a student at the University of Arkansas - Fort Smith majoring in organizational leadership. She will be graduating in May 2014 with her bachelor’s. She has also obtained an Associate of Applied Science in administrative professional and office technology and an Associate of Arts in business administration. She currently works at Golden Living as a Medicare analyst. She grew up in Arkoma, Oklahoma, but now lives in Greenwood, Arkansas, with her husband and daughter. She enjoys crafting, gardening, and sporting events. Her goal after graduation is to work for a non-profit organization and to one day open up a shelter for under privileged children.

Antoinette Zepp received her associate degree for administrative professional and is continuing to pursue a bachelor’s degree in organizational leadership. She has faced many challenges as a non-traditional student. She is a mother of two and has three beautiful granddaughters.
Room 7
Presentations in Applied Science and Business
Health Science 321

2:00  Mark Lennon (Group Presentation)
2:30  Brendon Dilbeck (Group Presentation)
3:00  Derek Parks (Group Presentation)
3:30  Karen Barrera-Leon
4:00  Marina Ishii
4:30  Morreen Klement
Generating Clean Electrons for Baldor Building at UAFS
Presented by Mark Lennon, Jeffrey P. Holliday, Rogelio Perez, David R. Williams, and Audie Anderson

Because of the increasing demand for more energy and the diminishing resources of the earth, a worldwide focus has been looking for more sustainable energy. The purpose of this research is to look at the feasibility of two major green energy sources, photovoltaic cells, and wind turbines. We will be researching the cost of each technology as if they were installed on the baldor building at uafs and supplying energy for said building. This will research will continue to give uafs a local identity in the community as a green campus, using technology that is being used globally. Not only will we be researching the installation and maintenance costs of each technology, we will also look at what changes can be made to increase efficiency and what the roi will be.

Mark Lennon is currently an automotive instructor for the University of Arkansas - Fort Smith. He has 30 years experience as an automotive technician specializing in electrical and electronics. He holds an associate degree in biblical studies from Andersonville Theological Seminary, and an associate of applied science degree in general technology from University of Arkansas - Fort Smith. He is currently a senior working toward his Bachelor of Applied Science. Mark enjoys running sound and helping with multimedia at Abbot Baptist Church. In his free time Mark likes to do computer repair, designing and constructing electronic circuits, and building home improvement projects. Mark and his wife have been foster parents in Arkansas for four years.

Jeff Holliday is a retired MSgt. in the U.S. Air Force with 22 years 10 months of active duty service as a surgical/orthopedic technician, clinic manager, and medical supplies and equipment logistician. Jeff’s training experience includes planning, execution, and evaluation of military and civilian mass casualty exercises and primary trainer for surgical technique, casting, splinting, and bracing. Past certifications include EMT and certified pedorthist. Jeff holds an associate degree in surgical technology through the Community College of the Air Force and is currently pursuing an associate degree in general technology. His personal life includes three dogs, two sons, and one wife. His pastimes are bible study, caricature art, writing parodies of popular music, reading and collecting hobbies.

Rogelio Perez is a full-time student at the University of Arkansas - Fort Smith. He has seven years experience as an industrial electrician specializing in electrical troubleshooting. He currently holds an Associate of Applied Science in electronics from the University of Arkansas - Fort Smith. He is currently a senior working towards his Bachelor of Applied Science. Rogelio enjoys helping his friends with any electrical issue they may be having at their home. In his free time Rogelio likes to make necessary repairs on his car because it saves him money that he later uses toward college expenses. After graduating college Rogelio is going to look for a day shift position in industrial maintenance or a related field. Rogelio and his girlfriend have been dating for two years and are planning on getting married on the fall in 2014.
David R. Williams graduated from Charleston High School in 1977. He is currently a student at the University of Arkansas - Fort Smith in the bas program. He started working at Whirlpool in 1978 and was laid off in June of 2012 when Whirlpool shut its doors in Fort Smith. He holds an associate degree in electronics technology and is currently a senior working toward his Bachelor of Applied Science degree. David enjoys riding motorcycles, working with computers, and spending time with his wife and family.

Audie Anderson is currently a student at UAFS working on an associate degree in workforce leadership. He was formerly an employee of Whirlpool Corp. for almost thirty years.
Energy Audit and Weatherization
Presented by Brendon Dilbeck, David Williams, and William “Blake” Banning

During our presentation we will be analyzing the process of an energy audit along with the weatherization that follows. We will discuss the cost and advantages while documenting and explaining the materials used in order to cut down on energy usage through the loss of thermal energy in residential buildings. Calculations will be made to render the return of investment, tax incentives and benefits will also be included, of buildings meeting certain standards such as leed certification. We will be able to provide pictures from a home here in Fort Smith that was recently audited and weatherized by a local credited weatherization crew, dk construction. Our research came from shadowing these men while they efficiently sealed and insulated the home. This was a great opportunity for our group to experience the step by step procedures of an auditing and weatherization company as well as have some sort of tangible experience. Other elements of research came from searching the internet for content available through government statistics, standards and tax information. With more homes being weatherized and standards constantly being raised, education on this matter will better prepare us to be competitive in the professional field.

Brendon Dilbeck graduated from McGehee High School in 2009 and moved to Fort Smith to attend college. He pursues a Bachelor of Applied Science and has an associate degree in electronic technologies. His research interests include energy and resource conservation. He enjoys being with friends and family, animals, nature, music and T.V.

David Williams graduated from Charleston High School in 1977. He was an electrician at Whirlpool when the plant shut down in 2012. He acquired his associate degree in technology in May 2013 and is currently studying for his BAS degree. He enjoys riding his motorcycle and playing with computers. He is married with 10 children, with two still living at home.

Blake Banning graduated from Charleston High School. He aspires in entering the automotive field and is pursuing a degree in science. He is currently a senior working towards his Bachelor of Applied Science. Blake enjoys golfing, fishing, and helping friends fix their vehicles in his free time.
The Future of Learning
Presented by Derek Parks, Joshua Gibson, Austin Grimes, and Caleb Lambert

This project is a study based on the teachings of the STEM program. The STEM program is taught in numerous different respects. However this project will focus on STEM learning in relation to the construction of an electric guitar. STEM represents four different aspects of education found in most curriculums. Individually these four elements that make up the STEM program are science, technology, engineering, and mathematics. The main focus of this particular study is on the benefits received by students who have completed a STEM based course. STEM incorporates these four mentioned curriculums with a much more hands on learning approach in many different learning environments which allow the students to have freedom. The goal of this research is to discover and analyze the benefits obtained through taking a STEM based course. These results will then be taken and compared to the benefits of a standard lecture based class. The results of this study will decide if more hands on, application based STEM courses should be established within our educational curriculum.

Derek Parks graduated from Charleston High School in 2010. He then began attending the University of Arkansas - Fort Smith the following fall semester, where he has attained an associate degree in computer-aided drafting and design. Upon finishing this degree he decided to continue his studies at UAFS. He is currently a senior by hours who is working towards a Bachelor's of Applied Science. He aspires to work in business management or possibly own his own business. His interest in this study is determining whether or not a hands on learning experience is more beneficial to the people who are learning the material.

Joshua Gibson graduated from Nettleton High School in 2009. He was a four-year collegiate athlete at St. Louis Community College-Meramec and at the University of Arkansas - Fort Smith. He aspires to enter the field of sport-specific personal training and is currently working toward a bachelor’s degree in organizational leadership. His research interests are focused on becoming a better leader and contributing his knowledge to others through a hands-on experience. He finds that the best learning experiences are those discovered through trial and error.

Austin Grimes graduated from Van Buren High School. In high school he studied in Environmental and Spatial Technology and through EAST he discovered his passion for science and technology. He hopes to enter a hands-on, interactive, and technologically oriented job. His determination for knowledge made him the first of his family to attend college; he is currently pursuing a degree in applied science. His day-to-day life is consumed by technology in some way; either it’s expanding his knowledge on computers, browsing the internet, conversing with people of similar interest, troubleshooting, researching new computer hardware, playing guitar, and video games.

Caleb Lambert is a graduate of Bryant High School in Central Arkansas and is currently a sophomore at UAFS pursuing a bachelor's degree in electronics technology. After college he plans to work in the industrial field. His interest in electronics began at a young age and evolved into the pursuit of a career in troubleshooting and electrical motor repair. He enjoys hunting, fishing, and working on different hands-on projects. He hopes to use this research symposium as a learning experience to further my knowledge of electronics technology.
Mexican Immigration: Causes, Effects, and General Data
Presented by Karen Barrera-Leon

Local and national laws exhaustively regulate the flow of goods and services in and out of our cities and states; however, these rules have little to no effect on man’s innate curiosity and mobility. As our nation’s social fabric accurately depicts, our country has become home to immigrants from every corner of the globe. This paper focuses on Mexican immigration into the United States and uses the 2000 Census to extrapolate and analyze various data points. Although the causes of immigration are vastly known by many (poverty, abuse, family reunification), the raw data that accompanies the flow of people is understood and studied by few. Census frequencies confirm that Mexicans have lower overall education levels than the rest of the population; they also constitute one of the youngest racial groups within the country with 75% being 40 or younger. Industrial coding shows that a disproportionate amount of Mexicans work in crop production, animal slaughtering, mining, landscaping and construction. Economically speaking the inflow of low-cost labor decreases the minimum wage, along with increasing total output, efficiency and productivity. Currently, Congress debates immigration reform amidst high political tension, especially after a surge of Hispanic voters greatly assisted Obama’s reelection. Regardless of individual beliefs, it is undeniable that the face of our nation is rapidly changing and the time for cooperation and synergy is now.

Karen Barrera-Leon is a California native who graduated from Van Buren High School in 2011. She is currently pursuing a degree in finance with a minor in mathematics. After graduation Karen hopes to enter the international finance field; her biggest dream is to work at one of the many agencies that facilitate international trade and financial transactions. Her research interests include migration, linguistic patterns, and cultural assimilation. She is the recipient of the First Bank Corp Scholarship of Distinction.
It is believed that there is “hypergamy”, which is a tendency for women to marry up with respect to education or other features associated with economic well-being. Hypergamy tends to interfere with marriage for women at the top of the education distribution. It is commonly said that the more successful woman becomes, the less likely she is to find a husband or bear a child. The difference between the proportion of women with lower education who are married and the proportion of women with higher education who are married is the “success gap.” The trend of seeking higher education in women over several decades is likely to increase competition for educated men and widen the success gap.

Based on a research paper “Education, Hypergamy and the ‘Success Gap’” by Elaina Rose, from the Department of Economics at University of Washington, I test whether there is success gap in today’s marriage market in Arkansas by using U.S. census data. I use data of women age 40–44 to determine the differences in percentage of marriage population by education level. The success gap is diminishing, although the patterns slightly differ for blacks and for whites. There are also differences in percentage of motherhood in different educational levels. I test a few other states in different regions of the U.S. to compare with the data in Arkansas.

Marina was born in Tokyo, Japan, spent seven years of her childhood in Bangkok, Thailand, and went back to Japan when she was 15. She graduated Japanese high school and came to the United States to pursue higher education with a wide variety of cultural experiences. She aspires to enter the global stage of business, and she is currently pursuing a business administration degree. She is interested in economics and international business. Her research interests include analyzing late marriage situations by using U.S. census data and comparing marriage market in different regions of the U.S.
Examining Bank Failures in the U.S.: Does State or National Charter Matter?
Presented by Morreen Klement

In the United States, banks can choose to be chartered at either the state or the national level. It is generally accepted that nationally chartered banks are subject to stricter regulatory standards and better quality assistance in times of trouble. However, conforming to federal regulatory standards imposes an economic cost on banks. This is one likely reason that there are many more state chartered banks as compared to national chartered banks.

This paper examines the number of bank failures by state in the southern region for the period 1983 – 2012. Key variables are examined on the state level and include the number of banks by charter type, number of employees, bank assets, bank return on equity, variance of bank net income, and overall unemployment rate. A Tobit regression is used to determine the significance of these variables in explaining the number of bank failures per state. A key hypothesis is that as the percentage of state chartered banks increases, bank failures will decrease. This is despite the popular belief that national chartered banks may be more secure. Elasticities are calculated to determine the impact each variable has on the failure of banks.

Morreen Klement graduated from the Arkansas School of Mathematics, Sciences, and the Arts. Currently she is the president of Phi Beta Lambda, a volunteer with the Arkansas Blood Institute and the Donald Reynolds’ Cancer Support House, and a peer mentor for Planning for Success. Her plans are to graduate with a business degree in the fall and then work towards a master’s in finance with a concentration in risk assessment to complement her goal of entering the banking field.
Room 8

Presentations in Biology, Math, and Engineering

Health Science 325

2:00 Justin Helton
2:30 Gage Rice
3:00 Osman Martinez
3:30 Robert Murphree
4:00 Casandra Bright
The stopover foraging ecology of Swainson’s Thrushes on spring passage migration was studied in w. Arkansas in the spring of 2013. Observations were made in two forested field sites, one urban and the other suburban. For each foraging observation, the following three parameters were noted: Foraging Stratum (Ground, Shrub, Sapling, Sub Canopy, and Canopy); Foraging Substrate (Ground/Litter, Herb, Foliage, Bark, and Air); and Foraging Maneuver (Glean, Probe, Dive/Glean, Hover, Jump Hover, and Hawking). We tested the hypothesis that these foraging variables differed significantly between the urban and suburban sites. This hypothesis was rejected for all three parameters ($\chi^2$ = 1.52, Foraging Substrate $\chi^2$ = 2.12, Foraging Maneuver $\chi^2$ = 0.0902, d.f.=1). Seventy one per cent of the observations were on the Ground, followed by Sapling (14%) and Shrub (9%) (N=249 observations). Sixty nine per cent of the foraging substrata used was Ground/Litter, followed by Bark (15%) and Foliage (14%) (N=249 observations). Gleaning was the most common Foraging Maneuver used (68%), followed by Dive Gleaning (16%) and Probing (11%) (N=249 observations). These are preliminary results from the first of two field seasons. Data will be augmented by more observations in spring 2014. Swainson’s Thrushes breed in n. USA and Canada, and winter in C. and S. America. They are declining significantly in various parts of their range. It is hoped that data pertaining to their stopover foraging ecology will offer insights on how to manage forested areas in Arkansas for their conservation.

Justin Helton graduated from Waldron High School in 2010. He is the first in his family to attend college and will graduate in Spring 2014. He has been accepted by the University of Central Arkansas for the physical therapy program starting Fall 2014. He aspires to enter the health care field as a physical therapist. His research interests include ecology and organic chemistry. He is the recipient of the Charles and Marion Stephens Scholarship.
Detecting Handwriting Forgeries Using Discrete Wavelet Transformations
Presented by Gage Rice

Discrete wavelet transformations, used along with statistics, can be used to detect handwriting forgeries with a great degree of accuracy. The field of wavelet theory is a relatively new one that gained a footing in the mathematical community in the mid 1980's. Work in wavelet theory, and the wavelet transformations that followed, have led to many advances in the compression, denoising, and detection of edges in images. In my work, I took handwriting samples from a handful of sources, and I, along with Dr. Jill Guerra, made forgeries of the given samples. From there, all of the handwriting samples were scanned into the computer where I used Matlab to perform discrete wavelet transformations on them. After this, the weights and respective errors for the linear predictors were calculated and I used a one-way ANOVA test to compare the skewness of the samples with their associated forgeries.

Gage Rice is a senior mathematics major at the University of Arkansas - Fort Smith. He will graduate this May and continue on to graduate school where he will pursue his Ph.D. in mathematics. He enjoys using linear algebra and differential equations, along with his background in computer programming, to model mathematical systems. In his free time he enjoys spending time with his girlfriend and family, hiking, watching movies, traveling, and playing guitar. He is the recipient of the Betty Scarborough Scholarship.
The Mars Rover Project
Presented by Osman Martinez

A joint research project to design and construct a Mars rover between the University of Arkansas – Fort Smith (UAFS) and Harding University started summer 2012 after receiving funding from the NASA Collaborative Research Program grant and both universities, respectively. This research project is unique due to the rover’s capabilities of scanning large areas of the Martian terrain. A group of undergraduate students at Harding University has designed a suite of optical instruments to sense and measure atmospheric compositions, including biomarker gas presence on solid-surface solar system bodies such as Mars and Enceladus. UAFS Electrical Engineering students have designed and constructed an on-board power supply system based on a 12 V Lithium Ion (LI) battery pack, motor speed controllers, and programmed/implemented a HC912 microcontroller. A recent addition to the rover is a robotic arm that can lift and place weather stations, drill holes into the Martian surface, and help aid rover maneuverability in rough terrain causing immobility. This robotic arm will allow the collection of soil samples and placement of sensor arrays to measure temperature, moisture, and wind speed over a large area.

The next step in completing the rover’s design is coordination of all individual sub-systems thus allowing rover autonomous guidance and data collection.

Osman Martinez graduated Northside high school and has an associate degree in automotive technology. He has spent the last two years working on an electric vehicle and designing a robotic arm. He has been funded by the Arkansas Space grant consortium. He is the recipient of the John and Kim McFarland Engineering Scholarship.
Battery Electric Vehicle Motor Drive Design
Presented by Robert Murphree

This presentation will review progress being made on designing and building a motor drive suited for Battery Electric Vehicles (BEV) using 3-phase induction motors. Commercially available motor drives used to control conveyor belts and air handlers do not respond well to abrupt changes encountered while driving an electric vehicle. The motor drive design best suited for our BEV will be powered by a 108 cell, 19 kW Lithium Ion (LI) battery with a nominal 360 V output. This motor drive will accept the DC battery output and produce 3-phase AC voltage which is proportional to the driver’s accelerator pedal position. The first revision of this new motor drive design was completed May 2013 with some notable drawbacks. This first revision drive design utilized a DC-DC Buck converter to step down the 360 V battery output to 15 – 18 V which is used by the IGBTs to produce the 3-phase voltage needed to rotate the BEV’s motor. The DC-DC Buck converter will be replaced with an inverter and step down transformer in the second revision of the motor drive design. This presentation will also discuss other drawbacks in the first revision and explain how the second revision will address these shortcomings.

Robert Murphree is a junior electrical engineering major with plans to attend graduate school. He has spent the last two years working on an electric vehicle motor drive. He has been funded by the Arkansas Space grant consortium. He is the recipient of the Roland S. Boreham, Jr., Engineering Scholarship.
Automated Splice Identification or Bust
Presented by Casandra Bright

In recent years Trane has identified unreliable splice identification on their spine-fin machine as a major contributor to monetary loss. This loss calculation considers material waste, unit replacement costs, and damage to the company’s reputation. Since the spine-fin material is laid over the tubing with no gaps, visual inspection is not an option. Currently this guess-work identification is done by a single employee who simultaneously operates multiple spine-fin machines. Even their best operators are not totally effective in this regard, and subsequent product testing sometimes fails to identify faulty tubing. As a company that prides themselves in product quality and community involvement, Trane addressed this issue of quality control by contacting our creative project team. Developing and implementing a means by which these splices are accurately located and visibly marked ensures quality in product. Our design came from an overall goal of simplicity and reliability. We identify the splice with a proximity switch and deform the finned material with a pair of truncated sheaves. This contributes to low operation and maintenance costs—adding to the economic feasibility of our design.

Casandra Bright will obtain her honors B.S. in mechanical engineering this summer. Her plans include graduate school for mechanical engineering with a concentration in fluid dynamics or composite materials. She currently serves as a Sebastian Commons resident assistant, a mechanical engineering teaching assistant, and student section chair of The American Society of Mechanical Engineers (ASME) at UAFS. She is currently researching the effects of abrasion on dynamic rope as used in rock climbing.
Room 9
Presentations in Music, History, and Psychology
Health Science 326

2:00  Brian Bailey
2:30  Angella Seal
3:00  Jerry Wing
3:30  Felicia Wright (Group Presentation)
4:00  Maureen Didion
4:30  Tiffany Fricks
Samuel Bollinger; Composer, Teacher, Native Son
Presented by Brian Bailey

This paper was written to bring to light one of Fort Smith’s celebrities, now long forgotten by many or only known by few. Samuel Charles Bollinger (1871-1941) was a prolific composer who hailed from Fort Smith, Arkansas. Born of German immigrant parents, he took to music at an early age receiving piano lessons. Through research, I will track Bollinger’s life, composing, teaching and performing career. Though forgotten now by so many, I would like to give honor to his music placing him in the same echelon of his contemporaries Edward Greig, Richard Strauss and Percy Aldridge Grainger, to name a few. Though my scholarship and research, I would like to bring back the memory of this most amiable and well respected composer and native son of Fort Smith.

Brian Bailey graduated from John Marshall High School in San Antonio, Texas, and was brought to UAFS by Charles L. Booker, Jr., on a music scholarship to study music. He is now in his final semester, poised to graduate. When not in classes, Brian is in various ensembles including symphonic band, jazz band, Jazz Catz, percussion ensemble, and athletic band. Outside of school he is in multiple jazz combos. He hopes to continue on to a graduate program one day to study jazz or music history more ardently in hopes of spreading the word of one of this country’s greatest art forms. His favorite percussive instrument is the vibraphone. He would like to return to Texas, but will go wherever he is needed.
Women’s Triumph in the New Deal Era
Presented by Angella Seal

This research paper examines trials, tribulations, and triumphs women faced in the 1930’s during the New Deal Era and the Great Depression. By examining the economic needs of women in The New Deal, I am able to show how millions of women were overlooked by the American government. In my research, I will show why it is so important that there is global awareness about issues women faced during the New Deal Era. The policies and programs that were established for the economical greater good of the American People were truly only to help the white male, who it was presumed would always be able and willing to fulfill their familiar economic responsibilities as breadwinners. This was a false premise, and forced many single mothers and minority women into poverty, isolation, illness, depression, and homelessness. Many women lived on the streets and later in shelters with their children, as those became available. Upon further examination of the programs that the American Government passed during the New Deal Era, the 1933 Federal Emergency Relief Act, the Mother’s pension, and Widow’s pension were the most supportive to women, offering financial assistance to women and children. However, many women found shame in accepting government assistance, and countless women turned away due to the strict qualification guidelines. Thousands of women created a voice for themselves and expressed their concern by writing letters to governors, public officials, and the First Lady asking for support, along with relief from their current living conditions. Many politicians and influential men of the 1930’s did not believe women needed help, they continue to portray men as the primary breadwinners, and it was assumed women would be taken care of by men. The research for this presentation is based on these primary sources and the scholarship of Elaine Abelson, Maurine Beasley, Kristin Downey, Elna C. Green, Denise Lynn, J. Mcguire, and Susan Ware.

Angella Seal graduated from Lindenwood Academy. She is the proud mother of two daughters age 7 and 19 and one son age 15. She aspires to be a secondary teacher in history and to continue her education in the master’s program at the University of Arkansas at Fayetteville. Angella is currently attending the University of Arkansas - Fort Smith, where she is on the Dean’s List. Her research interests include women studies and historical events in Arkansas. Angella plans on using her research in the classroom to help her future students have a better understanding of women’s history and Arkansas historical events.
Rolling into History: John Drennen and the Cherokee Treaty of New Echota
Presented by Jerry Wing

From the establishment of the constitutional United States in 1789 to the middle of the twentieth-century, Native American policy has been at the forefront of issues within our civil discourse. Unfortunately, this story is a particularly dark chapter in our nation’s history. One of the best-known stories from this period is that of the Cherokee people and the Treaty of New Echota, which ceded Cherokee lands in Georgia over to the United States Government in exchange for land in Indian Territory (Oklahoma). This treaty precipitated the infamous Trail of Tears, the forced removal from Georgia of the Cherokee tribe during which a significant portion of the tribe perished. What is less well known about this story is the involvement of John Drennen, a businessman from Van Buren, AR, in the fulfillment of the terms of this treaty. John Drennen was involved in the taking of a census roll of those Cherokees who survived the Trail of Tears, and in the payment of annuities to those survivors, as specified in the treaty. In this presentation, Mr. Wing will establish the overall terms of the treaty, and discuss the people and events surrounding its ratification and implementation. Mr. Wing will also place John Drennen into the context of these events, and detail his involvement in the implementation of the treaty. Finally, Mr. Wing will briefly examine the lasting impact John Drennen has had on this story as a result of his involvement.

Jerry Wing is a junior at the University of Arkansas – Fort Smith. He is pursuing a history degree with a minor in resource interpretation. He graduated from home school in 2011. Jerry plans to further his education by obtaining his master’s degree after graduating from UAFS. He is currently employed as a part-time sales associate at LifeWay Christian Bookstore in Fort Smith. Jerry lives with his parents, three brothers, and two very eccentric dogs.
Discover Arkansas
Presented by Felicia Wright, Maria Cadle, Tim Hutson, Katie Dunn, and Amanda Sexton

The “Discover Arkansas” exhibit now on display in the UAFS Boreham Library’s main exhibit case, interprets the cultures and cultural artifacts native to Arkansas from the prehistoric time period to the current era. A sub-theme to this includes how an object from these time periods becomes an interpreted, exhibited artifact. This process, as explained in the exhibit, follows the course of an object from initial discovery in Arkansas to the eventual understanding of its historical and global relevance.

This exhibit was the semester long project for the Resources Interpretation Class “Communicating Through Exhibits”, (RINT 3523). The project came about after UA Fort Smith archeology and anthropology faculty approached the class regarding help with exhibiting their artifacts. The class began the process of exhibit creation by creating the theme and sub-themes of the future exhibit. Next in the process was acquiring and collecting the necessary artifacts for the exhibit involving communication with various stations and personnel of the Arkansas Archeological Survey. At this point, the class began to extensively research the various time-periods and artifacts used in the exhibit. From this research, students created text and captions for the exhibit, and an overall design began to take shape.

At this point the actual physical aspect of the exhibit creation process began with the printing and mounting of the various labels and maps. After the initial installation, some final adjustments and fine-tuning resulted in the exhibit now on display.

Felicia Wright is a Fort Smith native majoring in history and minoring in historical interpretation. She is a member of the UAFS Panhellenic Council, the Zeta Phi Chapter of Gamma Phi Beta Sorority, and is active on campus and in the community. Felicia is planning to study abroad Spring 2015 and aspires to work in a museum educational department or in a public school system after graduate school.

Maria Cadle graduated from Green Forest High School. She is hoping to work for a historical site after graduating in 2015 with her minor in anthropology and a concentration in resources management. Her interests include Native American history and archeology.

Tim Hutson graduated from Southside High in Fort Smith, Arkansas, and is attending the University of Arkansas - Fort Smith as a non-traditional student. Although he is a history major, his passion lies with a hands-on behind the scenes turn-key construction of exhibits. He hopes to find a place to utilize his newly acquired talents in communicating through exhibits after his graduation.

Katie Dunn graduated from Mulberry High School. She is hoping to work at a historic site after graduation in May 2015.

Amanda Sexton graduated from Cedarville High School. She will graduate in May of 2015 and hopes to attend graduate school for archival studies.
Hiroshima: A Defining Moment in History
Presented by Maureen Didion

The atomic bombing of Hiroshima will live forever in the pages of history as one of the most significant turning points in modern history. It plunged the world into the nuclear age. In an instant on December 6, 1945, the world was changed and this date (or this event) will live forever in infamy. A city suddenly ceased to be. The lives destroyed, the torture endured, and the repercussions are still felt today. It haunts not only the citizens of Hiroshima but the American psyche as well.

In the remaining months of 1945 much was written and discussed concerning the atomic bomb and the discovery of nuclear energy, yet very little was written about the fate of the city destroyed by the atomic bomb or the suffering of the Japanese people as a result. In the closing months of World War II, the American public heard little of the plight of the Japanese bomb victims. As a result the American public had little concern or empathy for the fate their government had handed the Japanese citizens of Hiroshima.

Maureen Didion is a 2011 graduate the University of Arkansas - Fort Smith. She has returned to complete a degree in psychology with a minor in rhetoric. She was motivated to study psychology to understand human behavior. Maureen is employed by the We Care Foundation, serving children with cancer. Maureen’s interests are an eclectic example of her inquisitive nature, including history, ecology, photography, and camping. Maureen has done research on the Alaskan brown bear since 1990. Since 2002 has traveled to the Arctic researching the implication of climate change on the polar bear. Recently Maureen is doing research on World War II and the atomic bomb.
Remembering Moffett
Presented by Tiffany Fricks

History can be a vital element in the formation of a town’s identity. How that history is represented is significant in creating and maintaining this identity. As such the fates of communities and their identities are precarious. The specific topic of this paper focuses on the role of the history of Moffett, Oklahoma, and how that history affects how the community is perceived today in the construction of its identity. Fort Smith, Arkansas, has moved past its sketchy past and swept it’s proverbial dirt under the rug and moved it across the river to Moffett, where Moffett is seen as the culmination of all things bad in comparison. Such similar histories have produced two strikingly different communities in the present day. Moffett’s history is more complex than just a simple small town, and there is an undercurrent of dissatisfaction with this community, a reputation it cannot seem to live down, by bordering communities to this day. The widely circulated cultural memory of the town of Moffett distracts attention from unseemly activity taking place on Garrison Avenue during the Camp Chaffee era. By keeping the “talk” directed at Moffett, Fort Smith created a mythic alibi by saying that illegal and even scandalous things happened across the river, but Fort Smith was free of those things. This has created a cultural memory that is disconnected from the historical facts, skewing our contemporary perception of the past.

Tiffany Fricks is from Muldrow, Oklahoma, and is majoring in psychology while minoring in sociology. She has recently presented her paper, “Subtlety in The Big Lebowski,” at the Arkansas Sociological and Anthropological Association; presented at the Psychology Symposium in 2013; and has a keen interest in analyzing the representation of cultural meaning. Her work on how Moffett, Oklahoma, is remembered in local stories is an extension of this interest. Tiffany will be graduating in May 2014 with honors (cum laude) and upholds the highest professional standards, a desire to achieve, and a positive attitude. She will pursue a graduate degree after graduation.
Poster Presentations
Health Sciences
Weidman Conference Center
Agriculture in Arkansas
Presented by Walter Snider, Brandon Campbell, Truett Vinas-Carter, and Joel Bill

Table 1

Food is an essential factor to life. Arkansas contributes to the state, nation, and the world in agriculture. With Arkansas being the natural state, it produces the most rice in the country approximately 48% of the running total, and provides 25,000 employment opportunities from rice production alone. The state is also second in the country for producing broilers, a chicken that is specifically raised for consumption and not for laying eggs. Last but not least, Arkansas comes in third in the country for producing cotton. In 2012 585,000 acres of cotton were harvested in the state at a value of $420,710,000.

The average yield for Arkansas in 2012 was 1083 pounds of lint per acre. With these leading agriculture industries, Arkansas brings in $16 billion dollars of state revenue annually. This boosts the economy of the state tremendously. The agricultural revenue comes from domestic sales and exporting to the rest of the world. Another benefit of this agricultural success is that the industry creates every one out of six jobs in the state. Arkansas is known as the natural state and lives up to its reputation through its agricultural success with the production and sale of rice, cotton, and broilers.

Walter Snider graduated from Southside High school, worked part time for FedEx, and currently is a full-time student at the University of Arkansas - Fort Smith. Walter is in CGT because he has always been fascinated by video games and the special effect parts in movies using computer technology. He is interested in this program because it can help him on his way to a successful career in making video games or movies. He wants to work for Blizzard Entertainment because he grew up playing their video games from which he draws inspiration. He would also like to work for Pixar as he grew up watching their movies and likes the way they capture emotion and character empathy through animation.

Brandon graduated from Southside High School in Fort Smith, Arkansas. He began attending college classes while still in high school through the WATC program. Through WATC, he began their CADD program which is now referred to as CGT courses. Brandon will graduate in May of 2014 with an associate in general CADD from the University of Arkansas - Fort Smith. Then he will go in to the BSAT program to pursue a degree in GPS/GIS. Brandon plans on taking that degree into the field as his career. The type of career he would like to pursue with this degree is not certain. He either plans on working with the game and fish association of Arkansas or surrounding states, or working with oil prospects surveying land. Brandon enjoys to hunt, fish, mountain bike, and basically anything else outdoors.

Truett Vinas-Carter is from Dallas, Texas. He graduated from Sachse High School in 2007. Moving to Greenwood, Arkansas, in 2010 to continue his education and gain an associate degree in mechanical drafting. He has been working with AutoCAD and Inventor since 2003; he has had to readjust to more recent changes in AutoCAD and Inventor due to not having access to AutoCAD or inventor for three years often finding that Solidworks is preferred in most cases due to less searching for buttons and quicker switching between imperial and metric measuring units.
Joel Bill is studying General CADD which offers a variety of different programs to use. Joel believes this will help him in the long run being experienced in a little of everything. Joel Bill hopes to someday get a great job closer to his family in Texas. Joel has been married now for one year and 18 days. Joel’s wife’s family is from Spiro, Oklahoma and his is from Comanche, Texas, about seven hours from where he lives now. Joel misses the small town that only has about four stop lights. Joel has said “There is just something about a small town atmosphere where everyone knows your name and is like one big family”. Someday he and his wife may move there but for now they have their eyes set on Dallas, in the middle between their hometowns. Right now Joel works in produce at Wal-Mart. He really would like to do something more. To pass the time when he is not at work or school you can catch Joel most of the time either sitting in the music room with his guitar or on the swing under the porch.
Power Production and Power Potential
Presented by Kenny Millsap, Eric Bausch, and Tony Bui

Table 2

Prior to Thomas Edison’s invention of the light bulb in 1879 power production, or specifically the production of electricity, was not a vital commodity as it is in today’s modern society. Now, electricity has become an almost universal necessity for everyday survival for the majority of mankind. This is due to the fact that the world is moving toward the emerging high-tech age. Today there are many methods and devices that generate electricity: moving water in hydroelectric dams and wave or tidal generators, wind turbines, the burning of petroleum, coal, or natural gas in traditional power plants, nuclear reactors, solar panels, and using mirrors to focus light in solar furnaces. As of 2013, the United States consumed 3,741 billion kWh/year (Kilowatt-hour per year), which made the United States rank second in electricity consumption after China who consumed 4,693 billion kWh/year.

As the demand for electricity rises, so grows the demand for electrical generation capacity. Arkansas joins the rest of the country in maintaining a surplus in electricity generation. Having a surplus in electricity generation, Arkansas’ average retail price of electricity is 7.46 cents per kWh, which makes Arkansas rank 6th among the states who provide electricity at a low cost. The main resource that generates electricity in Arkansas is coal, which generates 48% of the electricity. The second resource is nuclear, which makes up 23% of electricity generation. Natural gas generates 21% of electricity. The remaining 8% is from renewable resources.

Kenny Millsap graduated from Ozark High School in 2005. From there he attended the University of the Ozarks in Clarksville, Arkansas, where he graduated with a Bachelor of Science in business administration and art in December 2010. Following graduation, he began to attend UAFS pursuing a CGT degree. He is seeking employment in the CDD field and eventually self-employment, utilizing all three degrees to develop an internet based art studio.

Eric Bausch graduated from Grace M. Davis High School, Modesto, California. He spent a four-year tour of active duty as an Electrician’s Mate in the U.S. Navy stationed out of San Diego, California. He attended OSU-Okmulgee where he acquired an A.A.S. in Electronics and an A.A.S. in Automated Manufacturing Systems Technology, as well as UAFS where he is finishing an A.S. in the Computer Graphics Technology field while working toward a Bachelor of Science in Animation Technology. He aspires to enter the field of computer generated graphics and animation. His research interests include small scale power generation for off the grid living.

Tony Bui graduated from Northside High School in Fort Smith, Arkansas, in 2001. After graduating high school, Tony spent two years at Westark College, which is now University of Arkansas - Fort Smith. Tony then spent his following years working at Southern Steel and Wire, self-employed as an owner of a nail salon. Since 2009, Tony returned to the University of Arkansas - Fort Smith to focus his study in courses of mechanical engineering and computer graphic technology. Tony’s interest is in designing and fabricating machines and motors.
Hydroponics
Presented by Angela Gilbert, Matthew Seiter, Michael Seiter, and Kangdo Vang

Table 3

This project is the result of hydroponic research over the techniques of a hydroponics system versus traditional farming. The initial idea is to determine successfulness between the hydroponic system and traditional farming. With population on the rise and the availability of food slowly on the decline, it is important that a more productive and cheaper source of healthy foods is found. Toxicity of produce is also important, because in today's farming more chemicals are being used on produce to grow faster and larger. Life in a hydroponic system grow and matures more naturally and more successful than that of soil; this is especially true with the system used in the current research. Research will continue to be conducted.

Thus far, on a smaller scale run, the hydroponic system has grown produce that matures healthier than its counterpart on soil. Successfulness of the research is and will be determined by observing the system's produce and comparing the produce to the outcomes of commercial farming. In the research, the produce will be observed for quality and rate of growth. The findings of the research will help determine possible answers to food distribution shortages. With the success of this project and its research, local hydroponics will surely grow to international success.

Angela Gilbert graduated from Harrison High School in 2012. She aspires to enter the field of computer animation and is currently pursuing a degree in CGT, digital design from the University of Arkansas - Fort Smith. In the future she will continue her education and earn a degree in animation technology. She then plans on furthering her education in a master's program for art or animation. Angela is also an Honors International Studies Program scholar, is a Beta Class Mentor, and has been involved with Student Alumni Association, Campus Activates Board, and Student Animators.

Matthew Seiter is currently a student at the University of Arkansas - Fort Smith. He is currently in the CGT, digital design Program. He will receive his associate degree at the end of the 2014 Spring semester. He then will be applying for the BSAT, animation program in the 2014 Fall semester. He then plans on graduating with a bachelor's in animation technology. His dream job would be to work for Pixar. He is currently in contact about an internship with a company in Fort Collins, Colorado.

Michael Seiter is a 20-year-old sophomore at the University of Arkansas - Fort Smith. He is very involved in his fraternity, Sigma Nu, and many other organizations such as Animation Club. He is majoring in digital design to get his associates degree and then plans to earn a BSAT. He enjoys art and challenging himself in his field of study. After he graduates, he hopes to have interned at an animation studio and then start his career. Another route he is considering is going to graduate school for animation.
The Shop Responsibly movement is one which counters the unethical shopping habits of Americans. People go to the mall and buy clothes on a whim, unaware that there are an estimated 12.3 million people in forced labor, making clothes to be sent to the US. Even those who are not enslaved must frequently work under dangerous, and in some cases fatal, conditions. But textiles are not only a health hazard to the workers making them, they can also harm the consumer. When people get tired of a garment, it often ends up in the garbage. This adds up to approximately 12 million tons of clothing being thrown into landfills every year in America alone. This might not seem to be an issue—textiles are biodegradable right? Yes, but when they are forced to decompose in the compressed pressure of a landfill they emit methane, a harmful greenhouse gas. By throwing clothes away, one hurts both the environment and increases the demand for more unethical clothing production. Here’s the good news: buying pre-owned clothes from thrift shops lowers the demand by the US consumer for unethically produced textiles. At consignment stores you can find name brand clothing or create your own unique look while getting more bang for your buck. Donating used clothing provides the great feeling of reducing harmful effects on the environment, enabling others to shop both ethically and locally. So shop responsibly—what do you have to lose?

Maegan Riley is a newlywed 22-year-old with a special love of thrifting, road trips, and hanging out with her cat. She graduates with a Bachelor of Science in graphic design in May 2014 and hopes to someday be self-employed as a freelance designer. She enjoys using her skills to make a positive impact and raise awareness to issues she cares about.
Symbols: How Graphic Designers are Creating a Universal Language

Presented by Tia Johnston

Table 5

The field of graphic design is often seen mainly through the activity of logo design. However, graphic designers do construct visual works that are extremely useful in simplifying everyday life, the design of symbols. Not only are these symbols in use for us locally, they are becoming global and are breaking down language barriers, creating a universal language for all. From the beginning in ancient times where our ancestors used symbols to mark containers, to recent times with the Olympics and the symbols used to direct contestants, symbols are continually evolving and making daily life easier. Symbols can be found practically everywhere; on phones, cars, crosswalks, restrooms, etc., virtually everywhere we go. All of these symbols we know and recognize are from the exhaustive research of graphic designers, who work to create simple yet descriptive pictures that communicate meaning for the viewer. Often, this rarely leaves room for the graphic designer to showcase their artistic creativity and expression regarding the object or action. The presence of symbols in our lives will only continue to grow due to the requirement of simplicity of interpretation and the growth of technology over all languages and cultures that symbols transcend.

Tia Johnston graduated from Southside High School. She aspires to make her mark in the field of graphic design and is currently pursuing a Bachelor of Science in graphic design. Her research interests include graphic design history, art history, wartime propaganda, handmade graphic design pieces, and unusual art techniques. When she isn’t glued to her computer screen, she’s running down the battery on her Kindle, covering the pages in her sketchbook with art, or singing slightly off-key to the radio.
MRSA: Are You at Risk?
Presented by Alyssia DuVall, Heather Moore, Brooke Miller, and Meredith Poole

Table 6

Methicillin-resistant *Staphylococcus aureus*, or MRSA, was first discovered in 1942. In recent years, MRSA has been associated with hospital environments; however, this infection can also be contracted via close contact with infected individuals outside of the hospital setting such as in schools, prisons, and locker rooms. While most tend to associate MRSA with community or hospital setting, there is a growing concern that MRSA can be easily transmitted in the dental setting as well. Settings that include oral surgery, dental emergency, special dental care units, and dental school environments make a large spectrum of individuals susceptible to acquiring this infection. MRSA in the dental office has been traced to the production of aerosols by certain dental equipment and also on patient dentures, blood pressure cuffs and other non-critical items that are commonly used on patients in the dental setting. The prevention of the spread of MRSA is crucial in the dental environment. Strategies to prevent the spread of MRSA include following standard precautions such as washing hands and cleaning contaminated areas thoroughly, including areas affected by aerosols, and also by making sure dental practitioners are well educated on the topic of MRSA and are aware of the infectious potential. MRSA is considered a global health threat and will continue to manifest itself in the population if healthcare is not vigilant in prevention modalities.

Alyssia DuVall graduated from Arkansas Tech in May 2012 with a Bachelor of Arts in psychology. She will graduate from UAFS with an Associate of Applied Science in dental hygiene in May 2014. She is a recipient of the Laurie Pendergraft Mason scholarship and the Degen Foundation scholarship. She plans to get married in June to her fiancé currently attending dental school in Memphis. She will relocate to Memphis and work in private practice. She enjoys spending time with family, running, CrossFit, golfing, and fishing.

Heather Moore will graduate with an Associate of Applied Science in dental hygiene in May 2014. Heather is from Greenwood, Arkansas. She is a recipient of the Laurie Pendergraft Mason scholarship and the Academic Excellence scholarship. She enjoys spending time with her husband and daughter, Adelaide. She plans to work in private practice in the Fort Smith area following graduation.

Brooke Miller will graduate with an Associate of Applied Science in dental hygiene in May 2014. Brooke is from Alma, Arkansas. She received the Sister of Mercy scholarship. She enjoys spending time with her family. She has served in the children church ministry for several years and enjoys working with the children. Brooke hopes to work in private practice in the Fort Smith-Van Buren area after graduation.

Meredith Poole will graduate with an Associate of Applied Science in dental hygiene in May 2014. She is from Fayetteville, Arkansas, and plans to return to the Northwest Arkansas area to work in private practice. Meredith enjoys spending time with her family and friends and playing with her dog, Grace.
Sleep Apnea
Presented by Gabrielle Turner, Britney Schlinker, and Krista Moore,

Table 7

The dental hygienist’s primary goal is to maintain the health of the periodontium while promoting healthy living and identifying potential problems in order to reduce the risk of systemic diseases. Screening for Obstructive Sleep Apnea (OSA) is within the scope of practice for the dental team and OSA can be readily identified utilizing a specific set of criteria. Research suggests that 18 million people already have OSA, but it remains underdiagnosed in many cases. While OSA can have minor consequences for some individuals, in others it can be life threatening as the severity of the symptoms increase. OSA is more than just snoring. It creates a collapse of the upper airway creating apnea (breathing cessation). The collapse of the upper airway during the apneic event prevents adequate sleep and daily performance. OSA can induce systemic complications such as cardiovascular disease and is also associated with an increased risk for diabetes in some individuals. Gender, age, obesity, and genetics are causative factors that can increase the risk of this potentially fatal disorder. Men tend to have a higher frequency of OSA but women may be affected, especially post-menopausal. Obesity remains the single most significant risk factor in adults for OSA. Extraoral markers include obesity, large neck circumference, retrognathic profile, and a small mandible. Intraoral markers include macroglossia, hypertrophic tonsils, xerostomia, bruxism, and an extended soft palate. Treatment options for OSA include the Continuous Positive Airway Pressure (CPAP) machine, the mandibular advancement device (MAD) and the tongue retaining device (TRD).

Gabrielle Turner will graduate with an Associate in Applied Science in dental hygiene in May 2014. She is the recipient of the Fort Smith Dental Association Scholarship and the Laurie Pendergraft Mason scholarship. She has participated in several community service activities while in the dental hygiene program and hopes to continue service endeavors once she graduates. Gabrielle is from Springdale, Arkansas, and plans to return to Northwest Arkansas to practice dental hygiene. She enjoys spending time with her husband and children, camping, and hiking as time permits.

Brittany Schlinker will graduate with an Associate in Applied Science in dental hygiene in May 2014. She resides in Fayetteville, Arkansas, and will work in private practice following her graduation. She enjoys spending time with her husband and children outdoors, camping, and being involved in various sports activities.

Krista Moore will graduate with an Associate in Applied Science in dental hygiene in May 2014. She graduated with a Bachelor of Arts in communication from the University of Arkansas in 2008 and worked as a dental assistant from 2009-2012 before pursuing a career in dental hygiene. She is the recipient of the Laurie Pendergraft Mason scholarship. Krista lives with her husband, James, in Springdale, Arkansas. She enjoys watching Razorback Athletics in her spare time and looks forward to spending time with family and friends after graduation.
Applying the Use of Lasers in the Dental Setting
Presented by Taylor Hibbard, Holly Ricketts, Megan Whitlock, and Erin Wooden

Table 8

Research shows that the incorporation of a laser in conjunction with non-surgical periodontal therapy has the potential to improve the overall outcomes for chronic periodontal disease in most patients. The use of lasers in dentistry has begun to generate attention because of the unique characteristics that produce favorable results. Early use of lasers focused on use in oral surgery; new technology developed in the 1980s began to shift the attention to treatment for periodontal disease. Current lasers used in dentistry have different functions that include cavity preparation, endodontic treatment, hemostasis, non-tenacious calculus removal as well as bone regeneration and bacterial reduction. The most commonly used lasers with regard to dental hygiene are the Nd:Yag and the Diode laser. Both of these lasers have the capability to ablate and vaporize microbial plaque as well as the potential to disinfect and remove the diseased sulcular lining associated with periodontal disease. Periodontal disease is associated with gram-negative anaerobic bacteria that are more susceptible to the effects of the laser, while healthy tooth and tissue structure are left unaffected. The laser must be used as an adjunctive therapy with scaling and root planning in order to achieve the desired results. Outcomes include improved bleeding indices as well as reduction of pocket depths with the ablation of subgingival bacteria. Research does not substantiate the use of the laser solely for the purpose of treating periodontal disease with a non-surgical approach, but is useful to reach areas that are difficult to access with traditional instrumentation techniques.

Taylor Hibbard will graduate with an Associate of Applied Science in dental hygiene in May 2014. She plans to stay in the Fort Smith area and work in private practice. She is a recipient of the Academic Distinction Scholarship. She has served as president for her class in the dental hygiene program and is also president of the student ADHA. Taylor enjoys spending time with her family and friends.

Holly Ricketts will graduate in May 2014 from the University of Arkansas - Fort Smith with an Associate in Applied Science in dental hygiene. She plans to work as a dental hygienist in the Alma, Van Buren, or Fort Smith area. She will be getting married in November and plans to be reside in Alma, Arkansas. Her hobbies include fishing, camping, kayaking, running, and spending time with her family and friends.

Megan Whitlock is from Alma, Arkansas, and will graduate with an Associate of Applied Science in dental hygiene in May 2014. She plans to remain in the River Valley and enter private practice as a dental hygienist but is not opposed to relocating if the opportunity arises. Having the freedom to use her knowledge in a variety of practice settings is one her favorite things about dental hygiene.

Erin Wooden lives in Fort Smith with her husband and 4-year-old daughter. She will graduate with an Associate in Applied Science in dental hygiene in May 2014. She enjoys being outdoors and spending time with her family. Erin wants to work in community health and share her passion for helping people who lack access to care. She is also interested in continuing her education in dental hygiene and hopes to someday work in the college setting.
Orofacial Myology: Transforming Malocclusion
Presented by Kayla Bowden, Marly Pierce, and Lauren Haynes

Table 9

Orofacial Myology is the study of skeletal and muscle disorders of the mouth and face when abnormal functioning is present. Disorders that affect speech, swallowing, and chewing are often related to mouth breathing, tongue thrusting, allergies, genetics, clenching and bruxism. On a daily basis, dental hygienists encounter patients who present functional problems of the oral cavity due to improper formation of oral structures. Formation of the oral cavity can affect speech, swallowing, mastication as well as esthetics. To address these discrepancies in form and function, an interdisciplinary approach is necessary. Consultation with other specialties that may include orthodontists and speech pathologists as well as members of the dental team is considered orofacial myology. Orofacial myology provides a team approach to correcting function prior to correction of form. Without intervention for the correction of the causative habit, orthodontic approaches have limited success. Research shows that long term prognosis for correction of an open bite associated with thumb sucking or mouth breathing is guarded and tends to relapse if the parafunctional habit is not addressed. The dental hygienist can utilize basic screening protocol to detect mouth breathing, tongue thrusting, thumb sucking or issues with the resting posture of the tongue, lips or mandible. This basic initial assessment increases the chance that interceptive treatment will be rendered and the long term prognosis for correcting form is improved. While children tend to be the focus of orofacial myology, detection and correction of parafunctional habits can also improve periodontal or restorative outcomes for adult patients as well.

Kayla Bowden will graduate with an Associate of Applied Science in dental hygiene in May 2014. She also graduated with a Bachelor of Speech pathology and audiology from the University of Arkansas at Fayetteville, in May 2011. She relocated to this area from Searcy, Arkansas. She plans to seek employment in the Northwest Arkansas area after graduation. She enjoys spending time with her family, friends, boyfriend and her dog.

Marly Pierce will graduate with an Associate in Applied Science in dental hygiene in May 2014. She is a recipient of the Laurie Pendergraft Mason scholarship. She plans to work in Northwest Arkansas in private practice. She also plans to further her education and will work toward an advanced degree in dental hygiene. She enjoys spending time with her boyfriend, John, and her dog, Nevi.

Lauren Haynes will graduate with an Associate in Applied Science in dental hygiene in May 2014. She is originally from Marietta, Georgia, and relocated to this area to attend the dental hygiene program. She plans to work in private practice and looks forward to spending time with her family and friends following graduation.
Factors Affecting the Development of Soil Amoeba, *Dictyostelium Discoideum*
Presented by Amy Belanger, Jill Campbell, Taylor Jordan, and Keigo Nakamura

Table 10

Soil amoeba, *Dictyostelium discoideum*, is recognized by NIH (National Institute of Health) and biologists all over the world as a model organism to study various cellular, molecular, developmental, ecological, behavioral and evolutionary processes because its life cycle is simple, genome size is small and it is found in every corner of the world. *Dictyostelium discoideum*, live in moist soil and feed on bacteria. Depletion of food (bacteria) causes thousands of starving unicellular amoebae to aggregate and form a migratory slug, which searches for a new feeding ground, and then culminates into a multicellular fruiting body consisting of a spore and stalk. The spores from the fruiting body are released and hatch into unicellular amoebae, thus starting the life cycle again. We know that aggregation of amoebae upon starvation is due to extracellular release of chemical signal, cyclic AMP (cAMP) by the starving amoebae. What would happen if cyclic AMP levels are disrupted during aggregation? In the cells of higher organisms, caffeine and theophylline cause intracellular increase in cAMP levels. How would Dictyostelium cells respond to theophylline? How does a slug searches for a new feeding ground? What environmental factors lead to slug migration? What stimuli lead to the release of spores from fruiting bodies? Answers to these relevant and interesting questions pertaining to the development of *D. discoideum* will be presented at the seventh Undergraduate Research Symposium.

Amy Belanger graduated from James Bowie High School. She is a student-athlete at the University of Arkansas - Fort Smith and is the captain of the tennis team. She is entering Texas A&M College of Veterinary Medicine in the spring of 2014 and is currently pursuing a Bachelor of Science in biology. She hopes to one day own a successful veterinary clinic and travel to Latin America to provide animal care to underprivileged countries. Her research interests include cell and molecular biology and animal development.

Jill Campbell graduated from Northside High School in 1998. She holds an Associate of Arts in psychology. She is a biology major with plans to go to graduate school to study conservation biology and science education. She aspires to teach biology at the college level and would try to make the environment a safer and healthier place for all living creatures.

Taylor Jordan graduated from Ozark (Missouri) High School. She is finishing up her Bachelor of Science in biology with a minor in Spanish and is also a student-athlete on the UAFS volleyball team. She is attending the University of Missouri-Kansas City School of Dentistry in the fall. Taylor would like to be able to travel to Spanish speaking countries and provide dental services for the underserved areas. Her research interests are in cell and molecular biology.

Keigo Nakamura graduated from high school in Japan, and is an exchange student from Miyagi University. Before returning to Japan in the summer, she wants to learn and experience as much as possible at UAFS.
Aquaponic systems are closed loop symbiotic environments between fish and plants. The heavy stocking densities essential for profitable production of vegetables and fish requires O2 supplementation which is typically achieved through expensive energy input methods. This research focuses on the reduction of these energy inputs to determine the system’s capacity to promote nitrification of the ammonia produced by the fish. With the implementation of the venturi and vortex technology, the need for these expensive inputs is eliminated while the level of atmospheric O2 within the system increases. As aquaponic systems rely on Nitrosomonas spp. and Nitrobacter spp. bacteria to convert the ammonia into nitrate for plant uptake, this system creates an environment conducive to heavy population densities of these beneficial aerobic bacteria. The research was conducted over a 42 day period where nutrient levels as well as environmental factors were recorded to determine the system’s ability to nitrify the ammonia into usable nitrate. The environmental factors driving the nitrification of this system include pH (target 7.0/ actual 7.56), water temperature (average 24.9°C which was adequate), and dissolved oxygen levels (target >6.2 mg/L/ actual 7.843 mg/L). The results of the nitrification were recorded in ppm. Ammonia (TAN or Total Ammonia Nitrogen NH3 + NH4, target NH3 <1 / actual .0016, NH4 is relatively harmless), Nitrite (NO2 target <5 / actual 0), and Nitrate (NO3 target <500 / actual 68.57). The data indicates that the system is adequate for the nitrification of ammonia which promotes healthy fish and vigorous plant growth.
The use of aquaponics has been around for centuries. Using the idea of aquaponics in tank culture is relatively new. Advancement of aquaponics in tank culture is faltering due to limiting factors of supplementing O2 into the system. Previously this was carried out by regenerative blowers, paddle wheels, and spray fountains; all different mechanisms of aerations. Paddle wheels and fountains are larger and take up too much space within the system to be fully efficient. Regenerative blowers are costly using much of allocated budgets leaving less room for improvement elsewhere. This research addresses the limiting factors of O2 supplementation by looking at stocking density in relationship to available dissolved oxygen. Tank culture requires high stocking densities which in turn requires a dire need for efficient O2 supplementation. A Venturi/vortex component was used driven by a single operating water pump. Projected dissolved oxygen levels at ≤51mm x 100 fish was ≥6.2mg/L. Actual stocking densities were >54mm x 216 fish and >150mm x 6 fish for a 136.4 percent increase in initial stocking density projections. The average dissolved oxygen level for the 42 day trial was 7.843 mg/L which was a 26.5 percent increase projected at lower stocking densities. This research focuses on the Venturi/vortex technology as an alternative to other mechanisms of aerations.

Lillian Howerton is a senior biology major at the University of Arkansas - Fort Smith. She is a graduate of Ozark High School. She is interested in a career in medical research. Her research interests include tank culture aquaponics, biofilms, and antibiotic sensitivity in microbes. She plans on attending the University of Arkansas for Medical Sciences where she hopes to receive a medical degree with a focus on pediatrics. She is currently researching the biofilms of an aquaponics tank system.
Nuclear Fission: The Future of Energy
Presented by Jared Melton

For over a hundred years, we have been using different forms of fossil fuels to generate power. Coal, petroleum, and natural gas have been the primary fossil fuels used for generating electricity. Much debate has surfaced in recent times suggesting that the consumption of fossil fuels is unsustainable. Some scientists believe that nuclear fission is the power of the future. The nuclear fission process involves the release of a massive amount of energy in the form of heat to be used for electricity production. Fission produces over ten million times more usable energy per unit of mass than does chemical fuel, hence making it more attractive than fossil fuels. Nuclear fission was discovered in the early 20th century, thus, there is still much to learn about this attractive alternative to fossil fuels. The author will present a poster presentation based on a literary overview of the importance of nuclear fission as a primary means of generating energy.

Jared Melton resides in Lavaca, Arkansas. He is a chemistry major who is currently in his sophomore year at UAFS. His anticipated date of graduation is May 2016. After graduation, he intends to pursue law school and eventually become a patent lawyer.
Automated Splice Identification or Bust
Presented by Casandra Bright

Table 14

In recent years Trane has identified unreliable splice identification on their spine-fin machine as a major contributor to monetary loss. This loss calculation considers material waste, unit replacement costs, and damage to the company’s reputation. Since the spine-fin material is laid over the tubing with no gaps, visual inspection is not an option. Currently this guess-work identification is done by a single employee who simultaneously operates multiple spine-fin machines. Even their best operators are not totally effective in this regard, and subsequent product testing sometimes fails to identify faulty tubing. As a company that prides themselves in product quality and community involvement, Trane addressed this issue of quality control by contacting our creative project team. Developing and implementing a means by which these splices are accurately located and visibly marked ensures quality in product. Our design came from an overall goal of simplicity and reliability. We identify the splice with a proximity switch and deform the finned material with a pair of truncated sheaves. This contributes to low operation and maintenance costs—adding to the economic feasibility of our design.

Casandra Bright will obtain her honors B.S. in mechanical engineering this summer. Her plans include graduate school for mechanical engineering with a concentration in fluid dynamics or composite materials. She currently serves as a Sebastian Commons resident assistant, a mechanical engineering teaching assistant, and student section chair of The American Society of Mechanical Engineers (ASME) a UAFS. She is currently researching the effects of abrasion on dynamic rope as used in rock climbing.
Piezoelectric materials generate electric voltage when undergoing mechanical deformation. A device has been constructed to convert the mechanical deformation of a person walking into electrical energy using 10 piezoelectric generators. The device could be installed as a floor mat that would self-power small LED lights for convenience and safety. A special low power integrated circuit designed specifically for energy harvesting was researched and selected. A circuit prototype was tested and determined to work as expected. A series of 10 additional electronic circuit boards to interface with the individual piezo-electric crystals in the floor mat were designed. By utilizing these additional energy harvesting circuits, the goal is to produce a measurable and useful output from the device.

*Ralph Huneycutt graduated from Southside High School in Fort Smith, Arkansas. He is a junior pursuing a degree in mechanical engineering. After college he aspires to either go to graduate school to study industrial or mechanical engineering or get a job related to the mechanical engineering field. His interests in research include thermodynamics, fluids, heat transfer, vibrations, mechanics, composites, and controls. Some of the job fields he is interested in are HVAC, manufactory, and consulting.*
Neuroimaging Evidence
Presented by Karen Aspinwall

Table 16

When people hear the words brain scan they unconsciously think of someone who is receiving a diagnostic test to find answers to their illness. Rarely, do people reason that these diagnostic evaluations could be used in a court room as evidence for or against criminal actions. Images of the brain, such as those produced by Magnetic Resonance Imaging (MRI) and Computed Tomography (CT), have increasingly found their way in to court rooms across the country as evidence. Brain abnormalities such as tumors, lesions, and copious amounts of other issues discovered on these scans are being employed as a defense mechanism in court. Neuroimaging evidence is commonly used to portray a defendant as being mentally incompetent to stand trial or to bargain for a lesser sentence due to the findings on these images. The use of neuroimaging in court rooms has their fair share of critics and supporters with valid reasons for their opinions on both sides of the spectrum. As this type of evidence is increasingly displayed in court rooms, the laws in this country will need to be redefined, and lawmakers will need to become more knowledgeable in the neuroimaging science and what exactly their findings expound.

Karen Aspinwall is a 35-year-old Greenwood, Arkansas, resident. She is married to her husband of 12 years and a mother to 15-year-old son Cody. She graduated from Greenwood High School in 1997. She is currently enrolled in the radiography program and will graduate in May with an Associate of Applied Science in radiography. Previous to enrolling at the University of Arkansas - Fort Smith, she was a registered dental assistant in Greenwood. Her plans are to continue her education and apply for entrance into the diagnostic medical sonography program in the fall of 2014. Karen enjoys running, traveling, and watching her son play football and baseball.
PTSD
Presented by Quoc Le

Table 17

Post-traumatic stress disorder (PTSD) is one of the most common anxiety disorders. Anyone of any age can experience PTSD. It is triggered by traumatic events which associate with neurobiology alterations. Three categories of symptoms experienced by PTSD victims are re-experiencing, avoidance and numbing, and arousal symptoms. PTSD is a devastating condition that can be silently suffered throughout the victims’ lifetime if not properly diagnosed. With today's advanced technology, researchers are able to use neuroimaging methods to discover underlying factors behind PTSD, making it easier to treat this disorder.

Quoc Le graduated from Northside High School in 2011. He is currently enrolled in the radiography program and will graduate in May with an Associate of Applied Science in radiography. Quoc plans to further his education by applying to the UAFS diagnostic medical sonography program. He is currently employed by the Fort Smith Public Library. In his time off, Quoc enjoys watching sports and spending time with friends and family.
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<thead>
<tr>
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<tr>
<td>Allison Hall ................................................. 25</td>
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<tr>
<td>Allison Heppner .................................................. 26</td>
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<td>Brian Bailey .......................................................... 68</td>
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<td>Brittney Schlinker .................................................. 83</td>
</tr>
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<td>Brooke Miller ......................................................... 82</td>
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<td>Caleb Lambert ........................................................ 57</td>
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<td>Callie Craig ........................................................... 12</td>
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<td>Casandra Bright ...................................................... 66, 90</td>
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<td>Casey Frizzell ......................................................... 28</td>
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<td>Derek Parks .......................................................... 57</td>
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<td>Dusan Stojanovic ...................................................... 35</td>
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