

Abstracts

The 3rd Annual Student Scholars Symposium

April 3, 2014

1. Paper Presentation - Bible

Expel the Wicked Person from among You: A Study of 1 Corinthians Chapter 5.

John Paul Cooke and Mike Williams.

After an overview of the background and context of 1 Corinthians, this exegetical investigation examines interpretations of the 5th chapter in which Paul exhorts the Corinthians to expel a man from their community because of his incestuous relationship with his father's wife. It seeks to bring clarity to questions that arise from this passage. Why are the Corinthians proud? How is Paul present with the Corinthians in Spirit? And especially the issue of verse 5, how can Paul ask Christians to hand a man over to Satan for the destruction of his flesh? The argument is made that Paul's firm command for discipline is meant for the good of the Corinthian community and the man himself. Paul's desire is to turn a man from a sinful life and to preserve the holiness of God's community.

2. Paper Presentation - Bible (Graduate)

Homosexuality?

Nathan Turner and Lee Camp.

How should Christians view homosexuality? Should we condemn all practice of homosexuality as wrong? In my paper and presentation I want to explore three areas that cast doubt to Christianity's traditional interpretation of homosexual practice. Richard Hays in his book *The Moral Vision of the New Testament* offers a thorough examination of homosexuality from an evangelical standpoint. My goal is to show why Hays's conclusion is misguided. I will begin by briefly examining the move away from foundationalism. To rely simply on what the Bible says is inadequate because we forget the role we play as interpreters of scripture. Next, we will examine the Biblical texts dealing with homosexuality and offer a different interpretation, showing that there is room for doubt in the Biblical witness. Finally, I want to look primarily at experience as another important source of authority in determining an ethic about homosexuality. How Christians understand homosexuality is more complicated than most recognize. Therefore, we must either demonstrate how it is more loving to condemn homosexuality or be willing to shift our perspective on sexuality.

3. Paper Presentation - Biology

Epigenetic Regulation of CD-10 in Breast Cancer and its Role in Cell invasion.

Rammiz Khoury and Beth Conway.

Endothelin-1 (ET-1) is a 21 amino acid peptide that controls many aspects of cancer such as cell proliferation, adhesion, migration and invasion. The regulation of ET-1 is controlled by a zinc dependent metalloprotease known as CD-10/neprilysin. While high CD-10 levels in breast

cancer patients correlate with improved survival, little is known about the role of CD-10 in breast cancer invasion. Previous research in our lab has shown that mRNA and protein levels are lower in highly invasive cancer cell lines (MDA-MB-231) and higher in low invasive cancer cell lines (MCF-7). Based on those results, we hypothesized that mRNA levels of CD-10 are higher in normal epithelial breast cells (HuMEC), compared to the breast cancer cell lines MCF-7 and MDA-MB-231. We also hypothesized that the promoter region of CD-10 is hypermethylated in breast cancer cell lines compared to the normal cell lines, therefore causing the decrease in CD-10 expression in the cancerous cells. By using RT-PCR we showed that CD-10 mRNA is higher in HuMEC compared to MCF-7 and MDA-MB-231. Furthermore bisulfite conversion showed primary evidence that the CD-10 promoter region is hypermethylated in MDA-MB-231 and MCF-7 compared to HuMEC. For further analysis of the methylation status we treated MDA-MB-231 with 5-Azacytidine (AZA) and showed that the treatment increased the expression of CD-10 mRNA. We also used an in vitro invasion assay to show that the treatment also decreased the invasiveness of the cell lines. Taken together, our results suggest that CD-10 decreases breast cancer invasion and its down-regulation in cancer cells may be controlled by epigenetics.

4. Paper Presentation - Biology

Exon profile of Human Brain-Derived Neurotrophic Factor (BDNF) in Breast Epithelium Using HMEC, MCF-7, MDA-MB-231 and MCF-10A Cell Lines.

Joel Brennan McNeil and Jon Lowrance.

BDNF is a growth factor originally described in neurons. BDNF exhibits multiple functions including promoting cell survival, proliferation, and apoptosis all occurring in a variety of cell types. Published data indicates that hBDNF may play a role in cancer phenotypes. Previously, we have analyzed expression of hBDNF in MCF-7 and MDA-MB-231 that are human epithelial breast cancer cell lines. In order to determine the importance of hBDNF exon expression in these cells, the current study examined exon expression in two non-cancerous breast epithelial cell types, HMEC and MCF-10A. Our cDNA analysis revealed significant expression of exons 1, 2, 4, 7 and 9 over the control. In addition, several exons not expressed in the normal cells were observed in cancer cells. This data may allow for comparison of exon profiles of cancerous and normal cells of the same tissue type and better delineation of hBDNF function in different cell phenotypes, including cancer.

5. Paper Presentation - Biology

Immunoproteasome Subunit Expression in Response to TNF- α

Cameron MacQuarrie and Amanda Williams.

Proteasomes are cellular components responsible for degrading unnecessary proteins into peptides. These peptides bind to cellular components, known as MHC-1, and are taken to the cell surface allowing phagocytic cells to eliminate the defective cell. Immunoproteasomes are specialized proteasomes that react specifically to antigen proteins. An immunoproteasome has the same make-up as a normal proteasome, except 3 proteolytic subunits are replaced with

specialized subunits (LMP-2, LMP-7, MECL-1) producing a greater quality and quantity of peptides for cell surface presentation. To activate the immunoproteasomes in vitro, TNF- α (a cytokine known to be released during viral infection) was introduced to a line of dendritic cells and a line of macrophages to mimic a viral infection. We were able to measure the expression level of these subunit proteins through western blot analysis. Our data shows the LMP-7 subunit is most highly expressed in the line of dendritic cells, while the MECL-1 subunit is most highly expressed in the macrophage cell line. This contrast in expression levels indicates potential differences in the cleaving preferences of these two cell types.

6. Paper Presentation – Biology

Immunoproteasome Subunit Expression Levels in Response to IFN- γ

Kristin Ali Keith and Amanda Williams.

Immunoproteasomes differ from proteasomes in 3 key subunits: LMP2, LMP7 and MECL1 and vary in cleaving preference - optimizing the efficacy of cleavage of the antigen for MHC-class 1 antigen presenting cells. The immunoproteasome specific antigen peptides are presented on the outer surface of the infected cell via immunoproteasome and MHC-1 processing allowing the T-cells to phagocyte the infected cell lines. We infected a dendritic cell line and a macrophage cell line with IFN- γ , a major cytokine involved in the induction of immunoproteasomes during viral infections, in order to study the expression levels of the immunoproteasome-specific subunits with the use of Western Blot protocol. The results suggest that immunoproteasome subunit expression may be affected by cell type. Our data shows that in the dendritic cell line LMP7 expression peaks at 48 hours, while in the macrophage cell line LMP7 expression peaks at 8 hours. In addition to this the second highest expression level found in the dendritic cell line was LMP2, while in the macrophage cell line was MECL1. In conclusion, our data indicates a potential difference in cleaving preference between the two cell types.

7. Paper Presentation - Biology

Investigation of Endothelial Cell Activation by Synthetic Laminin and Collagen Peptides.

Noah Richardson and Beth Conway.

Angiogenesis is necessary for tumor growth and progression in solid cancers. Prostate-Specific Membrane Antigen (PSMA) is a transmembrane glutamate carboxypeptidase expressed on tumor-associated vasculature that positively regulates angiogenesis in a laminin-dependent manner. Previous research in our lab has demonstrated that small peptides generated by digestion of human placental laminin with recombinant matrix metalloprotease-2 (MMP-2) and PSMA efficiently activate primary endothelial cells and angiogenesis. Our aim was to identify the specific fragments that activate endothelial cell adhesion. Mass spectrometry analysis revealed a number of laminin and collagen peptide sequences within this mixture; fragments were then

selected, chemically synthesized, and tested for activation potential. Here, we report that 2 selected synthetic peptides, one from collagen and one from laminin, failed to activate primary endothelial cell adhesion. However, a synthetic dipeptide, LQ, with putative MMP-2/PSMA cleavage sites activates endothelial cell adhesion efficiently. Further testing of additional peptides is ongoing.

8. Paper Presentation - Biology

Laminin Peptide QSLDL: A New Role in Tumor Angiogenesis.

Daniel Hutchison and Beth Conway.

Prior research has shown that Prostate Specific Membrane Antigen (PSMA), originally noted for its role in prostate cancer vasculature, is a cell-surface protease that regulates blood vessel formation via laminin and integrin-1 pathways. Laminin has been shown to be a substrate for sequential cleavage by matrix metalloprotease-2 (MMP-2) and PSMA, which results in a mixture of peptides that have been shown to increase cell adhesion and migration in vitro. The peptides were sequenced and individual peptides were chosen based on their respective motifs for PSMA. Using a cell adhesion assay to symbolize proclivity to angiogenesis, the QSLDL peptide was shown to increase cell adhesion in vitro, potentially leading to more findings on the role of QSLDL in tumor angiogenesis in certain cancers.

9. Paper Presentation – Chemical and Biomolecular Engineering, University of Tennessee

Melting/Freezing Points of High Concentrations of AlCl₃ in a Saturated Chloroaluminate Ionic Liquid.

Richard Groves and Mengqi Zhang.

Melting/freezing points of AlCl₃ in saturated chloroaluminate ionic liquids (Molar ratio 2:1 AlCl₃: 1-methyl-3-ethyl imidazolium chloride (EMIC)) are measured by differential scanning calorimetry (DSC). A critical range of temperature data (45-130?) for AlCl₃ dissolution and precipitation from saturated chloroaluminate ionic liquids is obtained. This range of temperature data is of significance to control phase transition of AlCl₃ in saturated chloroaluminate ionic liquids. By applying the chloroaluminate ionic liquids to electrolytes for energy storage usage, solid AlCl₃ can be partially dissolved and precipitated out during the charging/discharging cycle of energy storage equipment. Therefore, the energy density of the electrolytes is expected to be greatly improved.

10. Paper Presentation - Chemistry and Biochemistry

Water Quality Analysis of Montgomery Bell State Park.

Brandon Beers, Patrick Parker, Ryan Bowen and Matthew Vergne.

Montgomery Bell State Park is located seven miles east of Dickson in the community of Burns, Tennessee. For the past several years, the park has become popular for various activities such as hiking, fishing, camping, and golf. The park staff at Montgomery Bell has taken the initiative to address the park's environmental concerns. In recent years, the Frank G. Clement Golf Course located at Montgomery Bell was recognized as a Groundwater Guardian Green Site. This accolade is presented to green spaces that maintain water quality by monitoring chemical use, water use, pollution, and uphold environmental standards. One of the main areas of interest has been the use of fertilizers and chemicals on the grounds that affect water quality. In order to assist the park staff, the Advanced Integrated Laboratory students continued a project with the park to analyze water quality, which was originally started in the Fall 2013 by the Instrumental Methods of Analysis class. Water samples were collected from multiple sites throughout the park including: Lake Woodhaven, Lake Acorn, Creech Hollow Lake, small ponds on the golf course, runoff sources near old iron mines, and multiple streams. The water samples were analyzed using Ion Chromatography (IC) for common ions and Inductively-Coupled Plasma Emission Spectroscopy (ICP-ES) for metal ions. This research will help the park staff to continue their accreditation through the Groundwater Foundation by assessing the park's water quality.

11. Paper Presentation - Communication

Coexistence: Why it is Possible and How it Can be Reality.

Samha Siddiqui, Shilpa Naruka, Angad Madra and Kevin Abraham

This presentation will mainly focus on how communities with distinct cultural and religious values can coexist. The motivation behind this research develops from a personal interest in global resolution of conflicts and disillusionment of Islam as religion of violence. Drawing from historical events the importance of coexistence will be briefly explained, so that inference can be drawn about how coexistence can be made possible in this day and age. Lastly, the presentation will include a dance performance that will express how political barriers can be breached through similarities in the human need for love.

12. Paper Presentation - Computing and Informatics

Creating an Inexpensive Raspberry Pi Computational Cluster for Small Schools.

Charles Humphreys and Kenneth Mayer.

The principle objective of this study is to demonstrate the ability to build an inexpensive Raspberry Pi cluster for schools that are unable to afford larger high performance computing clusters (HPCC). The era of big data is upon us and schools are interested in taking full advantage of teaching about the importance of it to future students. The specific problem with these large HPCCs is the cost barrier -- a turnkey solution can still run a school ten thousand

dollars. Having access to a low cost HPCC will provide educators and students a hands-on means of learning principles essential to modern computing environments. The low cost HPCC will be built using commercial off the shelf parts (COTS). Specifically, three Raspberry Pi computing devices, a home router, and three Ethernet cables will be purchased. Raspberry Pis are an excellent choice because they are widely available, have low power requirements, utilize low cost SD cards for storage, provide USB and HDMI ports, and a wired 10/100Mbps Ethernet port for the low price of \$350 U.S. The product of this research will be to create a complete walkthrough of all necessary setup steps for both hardware/software, keep costs low, and provide performance data so that schools can realize a small setup to kick off instruction.

13. Paper Presentation - Education (Graduate)

Increasing the Duration of Play Behavior in Children with Autism.

Heidi Snow and Amber Music.

The role of modeling play and the environmental arrangement of toys will be evaluated by the appropriate engagement with toys. Four different students with an Autism diagnosis (ages 18- 42 months) will be selected for the study. Data will be collected for ten-second intervals across ten-minute play sessions on the frequency of engagement across each phase. The different phases will evaluate the effects of active modeling of play actions, the arrangement of toys into play quadrants, or both variables on the engagement in play behaviors. During the active modeling phase the teacher will provide frequent models of play sequences alongside the students. When evaluating the impact of the environmental arrangement, the toys are organized into play quadrants that reflect the four various play levels; functional play, reciprocal play, collaborative play, and functional-organized play. It is hypothesized that the results will demonstrate an increase in play engagement when both variables are incorporated. These results will support future research in play research.

14. Paper Presentation – English & Modern Languages

A Forgotten History: The Background of the English Language.

Allie Sockwell and Jan Harris.

Languages grow towards change, and these changes are created to meet the needs of its speakers. This paper focuses specifically on the English language and how it grown since its origination. Most of the terms used in the English language originated from other languages. In John Bemelmans Marciano's book Anonymity, popular words in the English language are covered, giving their backgrounds and people they were named after. The title is a word crafted by Marciano that is a combination of two other terms: eponymous and anonymous. The book emphasizes how many English words come from European influences, and that most of the terms backgrounds are based off of flaws or humor. This paper uses the book's illustration to show how different parts of the world overlap and languages continually grow and share with one another, such as the borrowing of words from French and Scandinavians in English. Along with the idea presented in Anonymity, the influence of past languages on present-day

English proves that we have forgotten the background of our own vocabulary. The words we use today, names of places, items, and ideas, all have a rich history waiting to be uncovered. Being reminded of our language's background helps strengthen our understanding, but more importantly, our love for the language.

15. Paper Presentation – English & Modern Languages

A Shift in Community Dynamic.

Leeanna Case, Katie Sealy and Stacia Watkins

This program delves into the new diversified community of the Lipscomb University Writing Studio through a presentation of research and exploration of how different majors can contribute to the writing studio. Surveying the strengths of employing English and non-English majors, as well as the weaknesses of employing non-English majors gives new insight to a promising and varied community. The new community dynamic of the Lipscomb University Writing Studio brings about an opportunity to showcase different methods to make each consultant prepared for any writing style as well as techniques for improving consultant skills across all levels of writing proficiencies.

16. Paper Presentation –English & Modern Languages

Creative Non-Fiction: "Tradition"

Grace Bennett and Jan Harris.

Grace Bennett's creative non-fiction piece "Tradition" chronicles a family composed of unrelenting creatures of habit. "Tradition" records the patterns of tradition that occur every holiday season in the Bennett family, from the Walk to Bethlehem, a simulation of the Nativity that happens in the backyard each Christmas Eve, to the painful family game of Trivial Pursuit that follows Thanksgiving dinner each year. Through Bennett's personal narration of these family events, "Tradition" presents a comic depiction of how a family operates at holiday gatherings but pays special attention to the strict regiment of traditions that dictates the order of events in the Bennett household on Thanksgiving Day in particular. In this short story, Bennett works to illustrate that family is held together by the practice of tradition despite that it is usually the force creating the most irritating and uncomfortable moments within a family.

17. Paper Presentation – English & Modern Languages

Dashed Dreams.

Alycia Gilbert and Kimberly Reed.

The American Dream has defined the United States since its founding, perpetuating the belief that average men can pull themselves into the upper crusts of society. As the country evolved, America's philosophy industrialized, and criticism of this transformation emerged in twentieth century literature. Arthur Miller, acclaimed playwright and social commentator, followed this

literary trend in his play *Death of a Salesman*. This paper reveals Miller's depiction of the distorted American Dream: futile, idolatrous, and debilitating. In creating and ruining Willy Lowman, a senile salesman collapsing under his insecurities, Miller criticizes the flawed psychology of the American Dream and presents a morbid expectation for American society. Simultaneously, Miller constructs Biff Lowman, Willy's rebellious and estranged son. I argue that Miller also uses Biff symbolically, personifying the original American Dream that pays thematic homage to the Old West and Romanticism. As Willy struggles with his shortcomings, Biff matures by recognizing the paradox that he is both unimportant and individual. Through the destruction of father and elevation of son, Miller advocates a return to past ideals and a societal rejection of the industrialized American Dream and its nightmarish consequences.

18. Paper Presentation – English & Modern Languages

Forensic and Recondite: History and Myth in C.S. Lewis's Life.

Cecelia Ramsey and Jan Harris.

In his inaugural lecture as The Chair of Medieval and Renaissance Literature at Cambridge, C.S. Lewis announced, "I am less like a botanist in a forest than a woman arranging a few cut flowers for the drawing-room". Lewis preferred to see himself less as a scientific, objective historian, and more as a specimen of a past mindset: one who enjoyed the flowers and tasted the fruits from the literature, savoring life-long companionship with his favorite authors. Lewis's academic training was founded in the Classics, but he found his longing for other worlds not in classical history, but in classical myths. Consequently, myth occupies a primary place in Lewis's writings, from the academic *Experiment in Criticism*, to the religious *Myth Became Fact*, to the Remythologization *Till We Have Faces: A Myth Retold*. However, these works were not fully articulated until after Lewis emerged from his atheistic worldview, closely followed by his Christian conversion. After Lewis' conversion, he was able to overcome a self-inflicted dichotomy and reconcile myth with fact, consequently developing a view of history as universal rather than particular.

19. Paper Presentation – English & Modern Languages

How King Alfred Preserved the West Saxon Dialect.

Will Chessor and Jan Harris.

The West Saxon dialect was one of four Old English dialects. The dialect's preservation can be mainly attributed to King Alfred, a native West Saxon speaker and King of the West Saxons. After several years of warring with the Danes, Alfred's reign finally brought peace. The Treaty of Alfred and Guthrum and the Danelaw created a politically stable land for language and education to flourish in Wessex. With the kingdom at peace, Alfred began enhancing his kingdom's court with books. He is known for preserving various pieces of Old English poetry, like *Beowulf*, by having his scribes translate the works into his West Saxon dialect from the original. Because of his desire to restore England to its literary past, Alfred's court was highly literate, and his West Saxon dialect was preserved in the translated texts. He also translated

works of prose and started the Anglo-Saxon Chronicle, an invaluable source of historical information written as a year-by-year record in the West Saxon dialect, which was distributed across England in several monasteries. The West Saxon dialect became the scholarly dialect because of Alfred's literate court, and the political stability and military power in Wessex. The dialect is now the basis for studying Old English, and it is predominately the dialect spoken when reading Old English texts. However, when the English language was once again on the rise, long after the Norman Invasion, another dialect arose to supersede the West Saxon dialect, ending its influence.

20. Paper presentation – English & Modern Languages

Jamaica Kincaid: Personal Identity in Another's Autobiographical Narrative.

Leeanna Case and Brandi Kellett

Jamaica Kincaid's autobiographical works create a space for oppressed people to stop harboring ill feelings towards a distant hegemony, and instead, speaks against the compliance of her own people. Kincaid's self-reclamation gives her agency to defy the foundational tenets of post-colonialism, becoming a distinct voice which positions herself as a subject in an objectified culture. Finding Kincaid's own identity within her mother's autobiographical story seems challenging, but Kincaid's prose and ability to intertwine her own narrative into *The Autobiography of My Mother* serves as a creative genius. The reader travels with the narrator as she asserts her agency among a dominated people. Kincaid resists power within *The Autobiography of My Mother* through acquiring education, overcoming oppression, facing gender inequality, and fostering relationships. This paper will explore the multiple facets where the reader hears Kincaid's defiant voice and expression of postcolonial thinking within the narrator's story.

21. Paper Presentation – English & Modern Languages

Meeting Islam.

Neely Baugh and Dana Carpenter.

Practiced by well over one billion people worldwide, Islam is one of the world's major religions, yet so much mystery, fear, and even ignorance surrounds the faith and its adherents in the United States. *Meeting Islam* is a creative non-fiction piece about my journey into learning more about the faith through the people who practice it. The piece includes an interview in the home of a Muslim family, my visit to a mosque, email exchanges with a Muslim man in India, as well as a creative re-telling of what it would be like to meet another faith as a person. *Meeting Islam* also deals with my own questions about how to understand and interact with other faiths and some of the visible attitudes of Christianity toward other faiths in the U.S. today. The piece is intended to be informative, eye-opening, and a starting point for peaceful interfaith dialogue and cooperation.

22. Paper Presentation – English & Modern Languages

"Prudence in Youth and Romance when Older": Anne Elliot's Education in Jane Austen's Persuasion.

Dominique Postma and Jan Harris.

Persuasion is a novel with an uncommon premise and an equally uncommon heroine. Rather than a traditional boy-meets-girl story with its progression to a happily-ever-after ending, Persuasion begins with love lost, explores second chances, and watches its heroine, Anne Elliot, surpass the social expectations that have been imposed on her. Chance, luck, and risk play a role in the novel's plot and its heroine development. Persuasion explores whether it is prudent for Anne to risk her precarious social standing for love, while taking into consideration what she has previously lost due to her fear of risk. In a society where communication between men and women is expressed through looking and discerning, Anne must wade through her fears of expression and exposure, and conquer suppressed feelings for Captain Wentworth to have the life she envisions for herself. By Persuasion's conclusion, Anne emerges as an Austenian heroine, who despite the strictures of patriarchal society of Regency nineteenth-century England, learns to express her emotions for Wentworth confidently. Wentworth, spends much of the novel seeking to grasp his own feelings, as well as Anne's, and reveals how the limitations of polite conversation frustrated not only woman's but also men's abilities to communicate. Wentworth and Anne spend eight years learning to trust their feelings, and applying the knowledge they gained through their past experiences. This education allows Anne and Wentworth to supersede social limitations and attain their mutual status as hero and heroine.

23. Paper Presentation – English & Modern Languages

Revisiting Romanticism: Knowledge and Morality in Developing Societies.

Tessa Hoefle and Jan Harris.

When a society suffers from a distinct division, there is a tendency to create arbitrary classifications: to subjugate one side to good and the other, evil. Although William Blake wrote post-Enlightenment poetry and Aravind Adiga, postmodern novel, both created works of literature that investigate the relationship between polarities in society at a critical point in history. These polarities construct not only different factions of a society, but factions with seemingly clear literary implications of good and evil. Blake's poetry polarizes "Songs of Innocence" challenged by speakers of "Songs of Experience". Likewise, as Adiga's protagonist moves from innocence to experience in the twenty-first century Indian caste system, he experiences a test of the ideals that place knowledge as the dynamic axis between the existence of good and evil. Just as the symbols of "Innocence" and "Experience" are deconstructed by the relationship between Blake's speakers, Adiga investigates the Indian concepts of "Light" and "Darkness" with imagery of gods, the imagination of the subordinated class, and the psychological implications of servitude. The result of both works is a deconstruction of classic concepts of knowledge and morality in modernizing societies.

24. Paper presentation – English & Modern Languages

Short Fiction: “Charcoal Portrait”

Grace Bennett and Jan Harris

Grace Bennett’s creative fiction piece “Charcoal Portrait” tells the story of a young woman, Olive, who the reader first meets as she is recovering from a surprise, and unwanted, visit from her eccentric parents. The detail-oriented nature of Bennett’s writing follows Olive through her memory of her parents’ visit, which is interrupted when another family member arrives unexpectedly. Through these interactions, the reader is made aware that Olive is estranged from her family, a conscious decision on her part. The unexpected visit of Olive’s sister August unleashes a new wave of painful memories for Olive, and the reader is given a chance to understand Olive’s current relationship with her family grows out of past grievances. “Charcoal Portrait” illustrates the power of memory and examines the dynamics of family relationships.

25. Paper presentation – English & Modern Languages

The Time I Got Stabbed By a Pirate.

Melissa Davis and Jan Harris.

Storytelling has been practiced and passed down since the beginning of time. Whether told through written or spoken word, stories remain an important piece of the storyteller’s individual history as well as the collective histories of those with whom he/she has come into contact. Through their stories, storytellers are given the opportunity to provide an audience with entertainment, spaces to reflect, freedom to connect with the story, and moments that allow for an escape from reality, if only for a little while. With my creative non-fiction piece, I intend to take on this important role as storyteller. The personal story I chose to record is certainly unique to my life but can hopefully relate on a larger scale to those who identify my discoveries within the story: that there are people who come into our lives and leave marks. Sometimes we can see them clearly, and sometimes we discover them over time, but they are there all the same. The story is in the title. I was definitely stabbed with a sword by a man dressed as a pirate (which provides the entertainment portion of this story), but I want to focus on the things that came out of this incident. I have been left with a mark, visible and invisible; physical and emotional.

26. Paper presentation - English & Modern Languages

Chaotic Camera, Chaotic World: Style as Metaphor in Deus e o diablo na terra do sol.

Madison Wray and Ted Parks.

During the 1960s, dictatorial military regimes were the norm in Latin America, forcing artists and intellectuals to search for new avenues of expression. In this hostile context, filmmakers and theorists such as Fernando Solanas and Octavio Getino introduced a revolutionary approach to film known as Third Cinema. With its creators working in places such as Argentina, Bolivia, Brazil, and Cuba, this cinematic current denounced neocolonialism and the Hollywood model of

making movies solely for entertainment and profit. Third Cinema strove to appeal to the masses by presenting the truth in order to inspire revolutionary action. In *Deus e o diablo na terra do sol* (Black God, White Devil, 1964), Brazilian filmmaker Glauber Rocha reflects this tendency in his jarring use of a hand-held camera as a metaphor for a chaotic and violent world. As this paper will demonstrate, what appears to be crude camerawork in a story of oppressive landowners and rebellious laborers becomes a vehicle of the director's sharp denunciation of a corrupt and unjust society.

27. Paper presentation - English & Modern Languages

The Laws of Life: Victorian Societal Constructs and Elizabeth Gaskell's North and South.
Jillianne Jerkins and Jan Harris.

Often, contemporary readers of nineteenth century English novels label the novel's characters as emotionally repressed in their speech, manners, and especially matters of the heart. However, these characters and the novels in which readers discover them emerge from a world dictated by strict rules of decorum and decency. Elizabeth Gaskell's *North and South* is an example of such a novel. Gaskell's characters, Lennox, Margaret, and Mr. Thornton, express emotions, but due to social restraints, they cannot always express them as openly or fully as their readers might like. Victorian society had very particular expectations of men and women and specific restrictions on their behavior. It is the tension between Gaskell's characters who are trapped within the confines of their social mores that increases the tension in the novel and makes its love story even more compelling. Gaskell's understanding of Victorian social codes, and the way in which she manipulates and breaks these codes to advance *North and South's* plot, shapes her character's development.

28. Paper presentation - English & Modern Languages

Bright Young Things or Vile Bodies?
Geneva Waynick and Jan Harris.

Evelyn Waugh satirizes the London party scene in the 1930s in his witty novel *Vile Bodies*. The hedonistic lifestyles of the characters demonstrates the reality of young people's lives during the time between World Wars. Waugh's antihero, Adam Fenwick-Symes, attends parties, remains intoxicated through most of the novel, and searches for a job as a writer in a culture that values the daily gossip column more than a piece of meaningful literature. Throughout Adam Fenwick-Symes's many struggles, he and Waugh's other characters show little or no emotion, even in moments of great personal crisis. Their lack of emotion, along with the dry manner in which Waugh satirizes these Bright Young Things' daily lives in the social world of London gives the novel a sense of ambiguity and boredom that some critics dislike. However, the social satire and critique Waugh creates in *Vile Bodies* is both tonally and structurally similar to contemporary television sitcoms about people living through the triumph and tragedies of their lives only to make a joke of them.

29. Paper Presentation – Family Studies

Coming to America: Stories of Refugee Students.

Emily Dunn and John Conger.

Drawing from my internship experience at Nashville International Center for Empowerment (NICE), I will present findings from narratives submitted by refugee high school students. These are political and religious refugees from North Africa. All of whom have transitioned to the United States and are enrolled in public school. Through their involvement in the NICE after-school program, they receive support in academics and their socio-emotional adjustment. This presentation will highlight their transitions using stories about their experiences.

30. Paper presentation – English & Modern Languages

Translation or Original?

Jennifer Greene and Valery Prill

So much is lost as a poem is translated from one language to the next. Translators who focus on the meter and rhyme scheme lose some of the meaning behind the poetry while those who translate poetry into prose neglect the beauty of a poem's rhythm and sound. My paper examines the methods translators used when translating poetry, focusing on French poetry in particular. It delves into the approaches of different translators, using sources such as Theodore Savory's "The Art of Translation." The paper also includes examples of various translations of French poems to examine whether the translations could be considered originals themselves. Can a translation clearly reflect the original language a poet used, or is it an entirely new poem in itself?

31. Paper presentation – History, Politics and Philosophy

Evil Incarnate, or, The Modern Witch: Witchcraft Trials in Seventeenth Century Germany and England.

Katie Sealy and Howard Miller

Prior to the mid-seventeenth century, witch-hunts and trials in Germany and England operated on opposite ends of the spectrum; Germany used much more aggressive techniques in hunting down and extracting confession from alleged witches while England forbade torture. This changed when self-appointed Witchfinder General, Matthew Hopkins, and his associate, John Stearne, began their persecutions in England. By analyzing the contrasting images of Germany and England pre-Witchfinder General, the notable shift that took place during Hopkins's witch-hunt becomes more evident; however, despite the violent influence of the English witchfinders, the German witch-hunts would prove much more detrimental and bloody. It becomes clear that it was the widespread acceptance of Roman-Inquisitorial methods of interrogation, a method in which the person was assumed guilty and torture was employed to extract confession that made the German witch hunting craze possible. The 'modern' witch with whom society is so familiar

came out of the Reformation era, when the final waves of witch-hunts and trials crashed into Europe and colonial America.

32. Paper presentation - History, Politics and Philosophy

Chiang Kai-shek's Dictatorship during the Nanking Decade: Reason to America's Non-Interference to the Chinese Civil War.

Caesar Tang and Tim Johnson.

While the United States and western democratic countries fighting committedly against communist expansion, Communist China was founded in October 1949. A key factor to this development was the lack of military assistance from the United States to the Nationalist Chinese government during the Chinese Civil War. The reason to this absence of support was due to the dictatorship of Chiang Kai-shek. While the U.S. openly proclaimed its advocacy of democracy, Chiang did nothing akin. Chiang's dictatorship began in the prewar era from 1927 to 1937, known as the Nanking Decade. For instance, Chiang authorized kidnaps of businessmen and their families, confiscated their properties, and falsely accused them as communists in order to have them donate military funds. He also transformed the Chinese Nationalist Party into his own army-backed political machine. He introduced the Blue Shirts, a fascist-like secret police that belongs to him exclusively. He proposed a constitution that restricted civil rights and the powers of citizens, centralized all power to the government, and gave himself strong executive powers with minimum check from other entities. This essentially made him a single dictator. Such policies became evidences that contradicted the U.S. policies of establishing democratic government, and this was why the United States provided minimum assistance to China. This was part of the reason China is a communist country today.

33. Paper presentation - History, Politics, and Philosophy

General Hood and the Effort to Retake Nashville.

Scott Bledsoe and Marc Swerdt.

Confederate General Robert E. Lee surrendered to Ulysses S. Grant on April 9, 1865, which effectively ended the American Civil War. While this event signaled the end to bloody conflict, the Confederacy had lost the war months ago. After a Union victory in Atlanta, Confederate forces under General John Bell Hood mounted a desperate and dangerous mission into Tennessee in the hopes of reclaiming the long captured city of Nashville. Hood hoped that by retaking the strategically vital city he could breathe life back into the weary and despondent South. While his intentions were grand and noble, Hood's Tennessee campaign was fraught with mistakes and blunders. From letting Northern troops slip right under his nose at Spring Hill, to bickering and dissension amongst his generals, John Bell Hood made numerous tactical errors in the Confederacy's last, frantic push to grasp a conflict that was slowly slipping through their hands.

34. Paper presentation - History, Politics and Philosophy

From Conspiracy to Party; The Anti-Masonic Party.

Emily Haas and Tim Johnson.

The anti-Masonic Party was a 19th century third party formed in opposition to Masonic associations. Although its signature issue was the opposition to secret societies, the party also took stands on many major political issues. While their political life was short-lived, they made a number of important contributions to the development of the American Party system. It was the first American third party, the first political party to hold a national nominating convention, and the first to offer the electorate a platform of party principles. American politics is a constant reaction to glaring moments in history and always whimsical to popular opinion.

35. Paper presentation - History, Politics, and Philosophy

Belief Miracles.

Emily Haas and Caleb Clanton.

Many arguments have been made that if there were a divine presence in the universe this divine entity, whatever it is, would make its presence known to us. Christians believe that there is a supernatural being outside of this universe, God, who proves His existence in ways that we've come to refer to as miracles. In this paper, I will address questions in an effort to sustain, not only the possibility, but also the high probability, that these events occur. I will argue that two conditions must be met for the justification of a miracle; proof the miraculous event has occurred and proof the miraculous event violated the laws of nature. The claim that a miracle is a violation of a law of nature has sometimes been used as part of an a priori argument against the possibilities of miracles, on the grounds that a violation is conceptually impossible. I will criticize these accounts and suggest, as Timothy Prichard has, that it is not clear what a violation of a law of nature might be. I suggest that a priori argument reflects an intellectual commitment that is widely held, though wrongly built in the argument itself. I will prove that a miracle is not contrary to the course of nature, use the burden of proof to contest David Hume's objection, and display that there is no reason to doubt the apostle's testimony concerning the miracles and resurrection of Jesus.

36. Paper presentation - Honors College

Over-sexualizing Sex.

Kelsey Jones and Paul Prill.

The porn industry never began with the intentions to liberate men and women. This facade of a new era and a generational pioneer produced today's Free Speech Coalition, the lobbyists for the American porn industry. Some may identify men as a whole as the creators, supporters, and soul demographic that devours the industry's products and provides a demand that in turn provides the supply. The addictive properties of pornography published in the Socioaffective Neuroscience

and Psychology journal prove that the industry can and is victimizing men. The diseases to which both men and women are exposed due to lack of contraceptive in filming acquiesce to the truth that this is not a gender problem. The 48% of the top 50 rented porn films that contain men calling women derogatory names and 88% of those same films that display physical aggression toward women might imply that porn is providing a pedestal for rapists and chauvinists to justify their skewed and disgusting view of women; however, I suggest that these films are just furthering the relational gap between women and men, reinforcing traditional gender stereotypes, promoting promiscuity, and building a chasm between men's real sexual desires and the fantasies they are programmed to enjoy. Men are losing touch with the women they love, and women are desperately trying to fit the modern mold that in order for women to be liberated they must be pornographic in their desire to be sexy and to enjoy sex.

37. Paper presentation - Intercultural Development

Promoting Cultural Diversity through Art.

Minh Nghiem and Lisa Steele

Art has always been a great way of communication, since the ancient world. Artists made the beauty out of things surrounding us in their unique way. Every artist has one's perspective and ability to see things differently. International artists coming from different cultural background, especially, could develop a strong sense of art appreciation because of their enriched experience. As a quickly growing campus that becomes a house of hundreds of international students and faculty, Lipscomb is a cultural diverse place. Now is the time when we should create our very own show that will display various kinds of art from Lipscomb's international artists. We need a place for them to show their talents.

38. Paper presentation - Intercultural Development

Welcome to Our World.

Minh Nghiem and Lisa Steele

WOW - Welcome to Our World - week is a brand new program that promotes cultural diversity on campus and in the community. It is co-sponsored by three cultural groups: KIT - Kappa Iota Theta, LIS - Lipscomb International Students, and Futuro - Professional Association for Latino College Students. Lipscomb University's first annual WOW week will be a week full of diversity, entertainment and education that will unify the Lipscomb community through food, music and art from different cultures. Our program includes: 1. World Buffet: Providing various dishes from different countries to Lipscomb faculty and students; 2. World View: A talk show series about International education at Lipscomb University, featuring Dr. Jim Thomas and Dr. Bennie Harris; 3. World of Service: A service day with Intercultural Development Department at Casa Azafran; 4. International Square Fair: An annual activity hosted by Lipscomb International Students that "brings" the world to Lipscomb. 5. World of Fashion - Fashion Show: One of the best Lipscomb's student activities that promises to be even more successful this year with KIT, LIS and Futuro. 6. World of Art: An art exhibition features international artists. 7. World

Showcase: The last day of WOW week closes with a super ceremony held at Collins Auditorium that brings artists and performers in the community to Lipscomb. Imagining everything happens in ONE week - WOW week!

39. Paper Presentation – Kinesiology (Graduate)

Effects of a Lifetime Wellness Course on Fitness Parameters in College Freshmen.

Jonathan Flinn, Kristen Oldham, Hannah Dewalt, Erin Gainey and Kent Johnson.

High levels of physical fitness are positively associated with academic success, self-esteem, and quality of life. Physical fitness testing is helpful in understanding one's physical fitness status before starting and after completing a fitness program. Lipscomb University offers a 2-credit course titled Lifetime Wellness, which is designed to help freshmen students create and implement an individualized exercise program. Lipscomb freshmen enrolled in Lifetime Wellness in the Fall of 2013 participated in a battery of physical fitness tests, before and after an 8 week individualized exercise program. The test included a timed 1.5 mile run, a 1 minute push-up test, a 1 minute sit-up test, and a sit-and-reach flexibility test. A paired t-test was used to compare pre-and post-test data from all Fall 2013 Lifetime Wellness classes (N=7 classes with each class).

40. Paper Presentation - Kinesiology (Graduate)

How do you like to exercise?

Elizabeth Hughes and Ruth Henry.

Exercise is one of the most important things a person can do to maintain good health, prevent disease and improve overall psychological well-being, yet so many Americans live a sedentary lifestyle. It seems that most people view exercise as dreaded and not enjoyable, but it doesn't have to be. Exercise can be fun and exciting if you find the right type of setting in which to participate. If we can change people's attitudes and feelings towards exercise it will be easier for them to stay committed to their health and fitness. The purpose of this study was to determine whether there is a difference in attitudes, feelings, and overall satisfaction between people who mostly participate in individual training versus those who mostly participate in group exercise classes. It was hypothesized that group exercise participants would be overall more satisfied. Twenty participants were randomly selected from the YMCA, with half being participants in a group exercise class and the other half were training alone on the wellness floor. Participants completed a semantic differential scale type survey asking about attitudes before, during and after exercise as well as perceived quality of workout and satisfaction of results achieved. Results of the independent t-test indicated that there was a significant difference between groups and that people who mostly participate in group exercise classes experienced more overall happiness and satisfaction than those who train alone. While there were many limitations to this study, this might be something future studies examine more in depth.

41. Paper presentation - Kinesiology (Graduate)

The effects of eight weeks of CrossFit training and consumption of an electrokinetically modified water on aerobic capacity, anaerobic power, and knee peak torque.

Hannah DeWalt, Erin Gainey and Kent Johnson.

The purpose of this study was to examine the effects of eight weeks of CrossFit training in combination with the consumption of electrokinetically modified water (EMW) on aerobic capacity, anaerobic power, and peak knee torque in CrossFit trained males. This study used a randomized, double-blind, placebo-controlled design. Twenty adult male CrossFit athletes (28.9 ± 4.69 years, 83.97 ± 12.87 kg, 12.5 ± 5.2 percent body fat) volunteered to participate. Participants were randomly assigned to a control (n=11) or EMW (n=9), and instructed to maintain their current training volume and drink a prescribed number of bottles (500ml) based on weight (<68kg = 2 bottles/day, 68.2kg-102.3kg= 3 bottles/day, >102.3kg = 4 bottles/day). The subjects performed a graded exercise treadmill VO₂max test, a peak knee torque flexion/extension test on a Biodex Isokinetic Machine at 120 sec⁻¹, and a 30-second Wingate test for anaerobic power before and after the 8-week training period. No significant differences ($P > 0.05$) were identified between groups on improvements in VO₂max (EMW= 1.7 ± 3.7 ml/kg/min vs. C= 0.0 ± 3.4 ml/kg/min), extensor knee peak torque (EMW= 6.4 ± 19.3 N/m vs. C= 1.4 ± 21.1 N/m), flexor knee peak torque (EMW= 4.8 ± 12.5 N/m vs. C= 8.8 ± 15.7 N/m), or peak power (EMW= 13.7 ± 45.1 W vs. C= 12.7 ± 70.0 W). The results indicate that 8-weeks of EMW consumption does not have any ergogenic effect on aerobic capacity, anaerobic capacity, or peak knee torque in male CrossFit athletes.

42. Paper presentation – Psychology & Counseling (Graduate)

Coping and Spiritual Response to Struggle.

Jennifer White and Chris Gonzalez.

After many years of neglect recent research within psychological science has begun to attend to the interaction between religious or spiritual influences on psychological well-being. Pioneering theories and studies have found that there are many significant relationships between spirituality and well-being. Much of the emerging research has found that an effective way to measure the psychological relationship with spirituality is in response to transition and struggle. The current study seeks to measure and categorize religious and spiritual responses to struggle in mainly launching adults within a university setting. It was hypothesized that data from the SRRSM would fall into two factors determined as either Adaptive or Maladaptive forms of religious coping. It was also hypothesized variance would be found in religious responses to struggle between males and females within the pooled participants. Data was taken from one section of a measure that was created to track many variables of spirituality in university students. Both hypotheses of the study were supported in that adaptive and maladaptive items did correlate distinctly into separate factors and there was statistical significant variance between student subgroups (males and females) response to struggle. The results imply significantly measurable elements and categories of religious coping and their potential interaction with positive and negative psychological dispositions.

43. Paper Presentation – English & Modern Languages

The Dictionaries of Samuel Johnson and James Murray.

Clair Flynn and Jan Harris.

The English Dictionary in its modern form did not appear in print and wide circulation until the publication of Dr. Samuel Johnson's 'A Dictionary of the English Language in 1755'. Dr. Johnson's Dictionary established the formatting standard for all English dictionaries that followed. In fact, the supremacy of Johnson's Dictionary was not challenged or surpassed for over a century. However, in the fall of 1857, London's Philological Society acknowledged the glaring absence of a dictionary that catalogued every English word, and proposed the creation of such a rigorous work. Eventually, the Philological Society's ambition would become The Oxford English Dictionary, and under the leadership of James Murray, the OED would replace Dr. Johnson's as the standard English dictionary. While the OED retains Johnson's basic formatting, it enlarged Johnson's project because not only does the OED catalogue and define words, it also allows English speakers to trace the expansion and growth of the language.

44. Paper Presentation - Music

Johann Sebastian Bach: The Evolution of an Encyclopedic Composer.

Zander Faidley and Donna King.

Johann Sebastian Bach is one of the few composers of classical music that has remained in the ever-shifting focus of the collective mind of modern man. He achieved this place by becoming the summation of the Baroque generation, a fore-bearer of the future of music, and attaining a legacy that has only grown with time. In this presentation, we will be exploring the development of Bach's compositional style, and see that Bach did not become who he was through individual genius, but through the studying of elder master composers and the influence wrought by his travels and residences. This will become evident through the examination of scores and the writings of Bach, his family, and contemporaries.

45. Paper Presentation – History, Politics and Philosophy

The Ethics Behind GMO Seed Patents.

Zachary Warrick, Richard Hunnicutt, Kenneth Wilson and Caleb Clanton.

In this presentation, we will be considering whether the patenting of GMO seeds by companies such as Monsanto is morally/ethically appropriate. We will examine this issue via the lens of utilitarian ethical theory. Utilitarianism provides a useful ethical framework by which to consider the 'goods' and 'ills' of GMO patenting in the larger context of our society and environment. In our presentation, we conclude that GMO patenting is not, in fact, morally appropriate under utilitarianism.

46. Paper Presentation - Psychology & Counseling (Graduate)

Attachment to God in Gender and Church of Christ Affiliation.

Brooke McAllister and Chris Gonzalez.

The Lipscomb Spirituality and Measurement Project is a research project conducted by researchers at Lipscomb on 2446 university students about various aspects of their spirituality. This paper reports findings from the survey on gender and attachment to God, as well as Church of Christ affiliation and attachment to God. Attachment theory, developed by John Bowlby and Mary Ainsworth, explores how humans are attached to their caregivers. Attachment to God measures the security of attachment to God as a caregiver. The Attachment to God Inventory was used to measure anxiety and avoidance in males and females, and Church of Christ and non-Church of Christ participants. Independent sample t-tests were used in each analysis to compare each group's attachment. These results are relevant to the university leaders and ministers who seek to assist students in developing closer relationships with God. The paper hypothesizes that females experience less anxiety and less avoidance than males in their attachment. Also, it hypothesizes that Church of Christ participants experience more avoidance, but less anxiety than non-Church of Christ participants. The hypotheses were partially supported. The results will be presented along with a discussion of the findings.

47. Paper Presentation – Psychology & Counseling

LSAMP Results Study: The Spiritual Role of the Mother and Father in the Lives of College Students.

Rainey Lankford and Chris Gonzalez.

Study Overview: 1,530 students at Lipscomb University took an online spirituality survey called the LSAMP (Lipscomb Spirituality and Measurement Project). The survey was centered on the spiritual health of the student and asked both quantitative and qualitative questions that gauged everything from attachment to God, to the spiritual nature of the relationships in a student's life. This study focuses specifically on the answers from students when asked about spiritual qualities in their relationships with their mother and with their father. When reviewing the results of the survey, it was observed that students consistently were least comfortable with their father in terms of spiritual matters. After examining the data through a series of statistical tests, it was found that a statistically significant difference existed between mother and father in terms of who students trusted more with spiritual matters. The mother was consistently more trusted than the father. Most of these students come from a Church of Christ background, where the father is expected to be the spiritual head of the household. However, these results show that students find their mother to be more spiritually nurturing and trustworthy than their father. The question that should be asked by ministers, elders, and really any men in the church family is how young people who need their guidance perceive them. Are they a spiritual nurturer who is always open and willing to answer questions, pray, and mentor younger Christians, especially their children, or as the results of this survey indicate, are they seen as a respected, yet unapproachable spiritual being in their college students' lives?

48. Paper Presentation - Theology

Back to the Basics: Revisiting a Traditional Interpretation of the Parable of the Unjust Steward.

Lauren Calvin and Mike Williams

This paper outlines some of the major issues of interpretation within the Parable of the Unjust Steward, considering several scholarly viewpoints about the length of the parable, the nature of the steward's debt reduction, and the irony of his commendation. Its argument is built somewhat from Landry and May's belief that the steward's actions actually restored honor to his master, which was viewed as more valuable than the wealth he lost. However, it disagrees with many scholars' far-fetched conclusions that seek to explain away the discomfort of this story, arguing instead that Jesus intended to cause discomfort in his hearers, and that this parable is one of the few that retains its rhetorical impact in our cultural context.

49. Performance - Bible

I Don't Know This Man.

John Paul Cooke and Mike Williams.

This sermon invites hearers to walk with Peter into the courtyard in Mark 14:66-72 where he denies Jesus. This story that initially can seem difficult to apply actually speaks a compelling word today as it becomes clear that we have more in common with Peter than we initially thought. This is a dramatic moment in Mark's narrative that once again challenges us, the audience, to ask ourselves "Who is Jesus?"

50. Performance – English & Modern Languages

Genesis.

Julia Rox and Jan Harris.

Julia Rox's collection of poems, *Genesis*, explores the tensions between innocence and experience. In the tradition of poets like William Blake, Rox takes us through Eden and back in time to a place where nothing had a name. Rox cautions her readers that once the process of naming begins, once we start parsing the meaning in the world around us, Creation grows light with words that brings us joy and pleasure, like magnolias and love. However, naming also brings humanity a language of heaviness full of dust and leaving. As Rox tells us, We are still children discovering, and the reader of Rox's poems discovers a balance between the innocence of a summer full of hot peaches and the taste of salt. Rox's poetry guides her readers through a world, our garden, that contains both, as she encourages us to appreciate the lessons each has to teach in this eden.

51. Performance - English & Modern Languages

Little Davis.

Emily Holly Davis and Jan Harris.

“Little Davis” is an honest insight into the life of the littlest sibling. A snarky first person narrator brings humor to stark dialogue in this short non-fiction piece. While the piece sees several different times in the narrator’s life, the momentum stays centered around her interactions with her older sister’s shadow. Seemingly minor moments in the protagonist’s life are used to illustrate the importance of even the smallest of gestures; a stray comment or an errant action can deeply impact the psyche of those touched. Using these small moments the author reveals the highly influential relationship between siblings.

52. Performance - English & Modern Languages

Misha.

Emily Holly Davis and Jan Harris.

The short fiction piece ‘Misha’ explores the complexity of mourning through the main character’s guilt over his failed marriage. Vivid imagery immerses the reader in memories of a marriage past while poignant parallels with the present keep the plot moving towards its climax. Interludes of dialogue keep the readers anchored in the present, giving them a foothold from which to relive the flashbacks. The narrative voice of ‘Misha’ is honest, yet tender in its telling of this man’s failure. This open voice engages the reader and softens the revelations in the piece, leading the reader to form their own opinion of the main character’s guilt.

53. Performance – English & Modern Languages

Natchez, Like Matches.

Nathan Buttrey and Stephen Prewitt.

We honeymooned in Natchez, Mississippi, in a house that once was an ole garconniere. The only rule was there was no smoking. But the fires burned and the smoke was set free. In 1860, Natchez was booming - more millionaires than New York City. Rich like Memphis - there on a bluff, and ready to rewrite her own history. Natchez survived the whole Civil War. An early surrender assured this for her. But our war wasn’t quite as civil. Our Natchez, like matches, burned out quickly. We toured the town, indulged in the carriage. The hoop skirt mafia runs a tight town. Nights we hung out, days we hung over. Folks complained when we came around. Still we kept dancing, prancing, and trancing, like we were the smoke that was set free. But driftwood burns too bright too fast. Our chances washed out with the Mississippi. Natchez survived the whole Civil War. An early surrender assured this for her. But our war wasn’t quite

as civil. Our Natchez, like matches, burned out quickly. Now that doesn't mean your Natchez is not perfect. Your Natchez may burn long and lovely. The only advice that I could tender is surrender to the union early. Natchez survived the whole Civil War. An early surrender assured this for her. But our war wasn't quite as civil. Our Natchez, like matches, burned out quickly.

54. Performance – English & Modern Languages

Popcorn Heart.

Katie Sealy and Jan Harris.

Popcorn Heart is a collection of poems that addresses the innocence of first love and its aftermath through fantastical yet familiar images. Its speaker looks inward and tries to find words to assess the descent into emotions that aren't quantifiable. Popcorn hearts, jigsaw puzzles, and velociraptors appear throughout the collection, re-imagining one of poetry's oft-approached topics. Popcorn Heart presents a sophisticated understanding of how humans experience love and learn to cope in its absence.

55. Performance – English & Modern Languages

River Summer.

Moriah Claud and Jan Harris.

The lyric voice in River Summer is reflective, as its speaker examines her life and memories looking for some way to synthesize her experiences. Even though some of these poems explore childhood, they resist the easy ploys of sentiment and self-indulgence. Nature and color fill the River Song poems with particular and imaginative details, reminding the reader how memories begin in the physical world, reminding the reader how the sunlight, the sound of tree branches, the murmur of a creek bed, and the light that pours through a stained glass window can carry as much truth as the loftier claims of poets and philosophers.

56. Performance - English and Modern Languages

"Dr. Robert Goodman, Professor of English."

Lindsey Brake and Jan Harris.

Lindsey Brake's fiction short story, 'Dr. Robert Goodman, Professor of English', details a day in the life of Dr. Robert Goodman, a professor at a Connecticut university in the 1960s. Brake's creative work tells of Dr. Robert's loneliness as a middle-aged bachelor and the regrets of his past that permeate his daily life. Had he married, he would have chosen Ruth, the girl he'd loved since childhood. However, Robert was drafted in World War II, and upon his return home, his younger brother George claimed Ruth as his wife. Robert never once mentioned his true feelings to Ruth, and he continues to wrestle with those feelings daily. Dr. Robert Goodman, Professor of English, reveals the power of regret and the tight, life-long grip in which love can hold us.

57. Performance – English & Modern Languages

Phonetics and Second-Language Acquisition: A Poetic Presentation.

Brendan Showen and Kelly Kidder.

The daily experience of the advanced second-language learner is marked by small improvements in vocabulary, pronunciation, and writing abilities, as well as by small reductions in the frequency of errors. Of the many challenges that the French language presents to non-native speakers, phonetics is among the most significant; French contains many sounds not found in English, and a word's orthography often only vaguely represents its pronunciation. Last semester, a phonetics course allowed me to explore the sounds of the French language through the medium of the International Phonetic Alphabet, a system of symbols designed to represent standardized production of sounds across languages. Analyzing how these sounds are produced and how they fit together into a comprehensible word or phrase furthered my acquisition of French substantially. Learning the sounds particular to a language allows for more accurate production of the words within that language, which contributes to enhanced verbal comprehensibility. Furthermore, the presentation of foreign-language poetry is an art-form unavailable to the student who has not rigorously studied the oral aspects that language. By demonstrating how French poetry can be transcribed into the IPA symbols that represent their constituent sounds, then by performing those poems, I hope to emphasize the role that phonetics instruction plays in the development of proper pronunciation and prosody in second-language acquisition, and in allowing the second-language learner to treat foreign poetry as an art-form.

58. Performance - Music

A Set of Nature Songs.

Zander Faidley, Christon Carney and Sally Reid.

A Set of Nature Songs is a collection of art songs that utilizes a set of four poems written by the composer with the intention of setting them to music. The overall tone of the text is contemplative with a *mélange* of conflicting mood each evocative of specific times of the year. The music hopes to evoke these shifts in perspective as it moves through the four poems in a variety of moods, textures and, tonicities. The first, Springs Repose, lolls in the embrace of the gentility of a calm day. The second, Lightning, contrasts as the seasons shift into the days of vicious storms. The poem does not directly engage the tumult of the storm, but the anxiety of its approach. Meteor Shower, the third in the set, brings the listener to a calm and clear night where man and his mortality are brought into an abstract focus. The set finishes with 'Wings and Ashes' a song that brings the people back to rest and prepares them for the return of the cycle of life, but ends before it fully arrives.

59. Performance - Music

Paganini: Pioneer of the Violin Virtuoso. Grace Kimbrough and Donna King.

Niccolo Paganini's radical approaches to technique and performance changed violin playing and inaugurated the career of the soloist. To demonstrate Paganini's innovation, I will investigate not only Paganini's music and technical style, but those of violinists active before and after his career. I will present evidence of Paganini's impact on other musicians by ample historical evidence and by my performances of selected violin works including a Paganini's Caprice as well as other violin works predating and postdating Paganini.

60. Performance – Psychology & Counseling

Crowds.

Rainey Lankford and Chris Gonzalez.

Argentinean, American, Armenian. A face I like, but is not pretty. A skin tone I don't know bouncing on a limp of unknown origins. A crooked smile below semitone eyes that are neither here nor there. I live in a hallway between music practice rooms. In each room- a Mozart, a Ma, a Wagner behind locked doors. I see the performance, I feel the vibration of enticing rhythm, but nothing is heard. What are you called? I want to shout? What do you love? Why do you move that way? What do you believe? But their answer is as silent as my lost question. The cavern pupils in their eyes plead to be explored, but all I can do is peer inside, wonder, and walk away; all I can do is read the cover of a book I can't buy. All I can do is taste. They are a million windows, they are a thousand houses. They are Van Gogh book covers, they are postcards from far away. They are a distant tune quickly blown away by the wind. They are a party seen from outside. I wish they would let me in, I wish I could learn the stories. I want to collect the stories, I need the stories. I need the stories, I need the stories. A boy asks me my name, and I don't answer. I can't be bothered, I need the stories.

61. Performance – Psychology & Counseling

Dinner with Mary May.

Rainey Lankford and Chris Gonzalez.

I craved something perfect, and so I bought a calf. I gave her the clearest water. I fed her the greenest grass. She became my very best friend, and I named her Mary-May. I played her my favorite songs, and read her books every day. We went on long hikes, and I told her of her beauty and grace. And I truly meant what I said when I said she had great taste. Once we spoke all night on the meaning of life, which was really quite a task. I told her it was friendship and kindness. She seemed to think it was eating grass. We sometimes fought over who was smarter, once even for a whole week. But I usually won those fights; but mainly because Mary-May couldn't speak. We grew old together, Mary-May and I. And our love grew much stronger. But then I remembered my craving, and knew we wouldn't last much longer. I ate my

best friend last Tuesday, and cried until just now. If you have a taste for beef, don't become best friends with a cow.

62. Performance – Psychology & Counseling

Worlds Dry Up.

Rainey Lankford and Chris Gonzalez.

This building will fall. Overgrown vines like veins will cover its brick, tribute to forgotten splendor. Decorations will decay. Picture frames will last longer than pictures. This fountain will crumble, bubbling over with dryness, decadence at its finest. Its cracks will whisper, let me die, and then it will and no one will notice. These people will vanish. Futures become presents become pasts become nothing. There won't be bones, there won't be ghosts. Bones to dust and blood dried like an empty fountain. People will walk along the ruins and attempt to make sense of alien letters on a sign. They will marvel that something from such a distant past could have possibly existed. They will wonder what it was like, wonder how these ancient people filled their days. They'll wonder what you were doing, when your world dried up.

63. Performance – Bible

A Second Touch.

Lauren Calvin and Mike Williams.

This sermon, based on the story in Mark 8:22-26 of Jesus healing a blind man with a second touch, explores the context of the passage and its symbolic meaning rooted in the themes of Mark's gospel. The heart of the message is found between the brackets of this story and the story of Blind Bartimaeus -- the chiasm is a rhetorical device Mark uses to illustrate the spiritual blindness of the disciples. After an experiential reading and exegetical interpretation of the text, the sermon invites hearers to explore its spiritual meaning for their own lives.

64. Poster Presentation -Biology (Graduate)

Characterization of microsatellite markers in Tennessee's feral pig population.

Kate Breidenstein, Rachel Chamberlin and Mary Sledge.

The use of microsatellite markers has been beneficial for revealing population structure in feral pigs. The use of microsatellite markers is advantageous because they are highly polymorphic and provide highly accurate levels of heterozygosity. To our knowledge, this study represents the first use of microsatellite markers in Tennessee's feral pig populations. As such, it is important to evaluate the microsatellite markers for their ability to document the genetic characteristics of this population. Microsatellites selected for use in this study were chosen because they were highly polymorphic in other feral pig studies and are genetically unlinked. DNA will be extracted from serum using a commercially available kit. Microsatellite markers will be amplified by

Polymerase Chain Reaction (PCR) and separated using capillary electrophoresis. Microsatellite data will be analyzed using the computer programs POPGENE 1.32 and FSTAT 2.9.3.2, which will calculate allelic richness, observed and expected heterozygosity and inbreeding coefficient (F_{is}). Understanding the genetic characteristics of the populations such as migration habits and mating patterns can lead to better management of feral pigs.

65. Poster Presentation - Biology (Graduate)

Semi-Quantitative Analysis & Localization of TDP2-Beta in *Danio rerio* Development.

Sean Saloga and Bonny Millimaki.

During processes such as replication and transcription, topoisomerases (TOPs) help to relieve the stress caused by supercoiling through DNA cleavage and relegation. If TOP2 becomes trapped on DNA, translocations can be caused by double-stranded cleavages and an inability to religate the strands. Tyrosyl DNA phosphodiesterase 2 (TDP2) prevents these abnormalities by removing any remaining TOP2 enzyme. TDP2 is also known to be involved in the Nodal signaling pathway during early embryogenesis. Additionally, TOP2 activity is required for proper neural development. Is TDP2 acting with TOP2 and Nodal in neural development? The first step in assessing the developmental role of TDP2 is determining the time and location of its expression. *Danio rerio*, or zebrafish, is a quintessential model for developmental biology because of the simplicity of care, their numerous offspring, and the molecular techniques available. More importantly, at least half of their genes are homologous to humans, including TDP2. One of the only differences is the duplication of the zebrafish genome, which has caused the two isoforms Tdp2, alpha and beta. Previous studies have encouraged our study of Tdp2. RNA extraction, cDNA synthesis, PCR amplification, and gel electrophoresis have shown that tdp2 is transcribed at time points from 6 to 48 hours post fertilization. Using an RNA probe against tdp2 mRNA we can detect which tissues express tdp2 through in situ hybridization. This will give us an understanding as to which tissues use Tdp2 during development. This study will help guide future investigations into the role of Tdp2 during early embryogenesis.

66. Presentation – Biology

The Search for Multiple Spliced Isoforms of Topoisomerase in *C. elegans*.

Jacob Akers and Bonny Millimaki.

Topoisomerase II (TOP-2) eliminates supercoils that occur during transcription and replication by breaking, moving and re-ligating double-stranded coils in genomic DNA. Traditionally utilized as a target for cancer treatment, an isoform of this protein has also been implicated as a transcription factor involved in neural development. There are two top-2 genes in mammals, which also form different protein isoforms. When the gene is knocked out in mice, they are able to develop embryonically, but will die shortly after birth because the diaphragm cannot allow ventilation due to a loss of neural innervation. Using a simplified model, *C. elegans*, may prove useful in understanding the relationship between TOP-2 protein and neural development. There is very little known alternative splicing in *C. elegans*. However, Topoisomerase I is known to

have only one gene in nematodes (opposed to two separate genes in humans), but *C. elegans* splices it into a and b subunits. Therefore, we would like to see if the top-2 gene product is spliced into separate a and b isoforms, in lieu of separate top-2 genes. Using Trizol-based methods, we have extracted RNA from *C. elegans*. Using this as a template for cDNA synthesis, we performed multiple PCRs on the DNA. If the mRNA has multiple isoforms, we should see multiple bands when the product is run on an agarose gel. After designing primers to bind to first and last exons of top-2, we found only one band, indicating no alternative splicing of top-2.

67. Poster Presentation -Biology (Graduate)

Using Microsatellites to Determine Genetic Population Structure of Feral Pigs in Tennessee
Becca Noel, Maddison Stanley and John Lewis.

Feral pigs (*Sus scrofa*) are identified as a triple threat to their environments due to their profound influence on local agriculture, public health, and biodiversity. Feral pig populations are present in 45 states, totaling more than 5 million pigs across the U.S. In the state of Tennessee, feral pigs are reported in greatest numbers on the Cumberland Plateau, around the Tennessee River in southwest Tennessee, and in the Appalachian region in eastern Tennessee. This wide distribution is partially attributed to illegal translocation for recreational hunting purposes. To better understand and manage feral pig populations, several groups have used microsatellite markers to understand their genetic distributions and interbreeding among subpopulations. The purpose of this study is to map the population structure of the feral pig population in Tennessee using microsatellite markers. DNA will be extracted from blood samples obtained from the Tennessee Wildlife Resources Agency (TWRA) and Polymerase Chain Reactions (PCR) will be carried out using 14 fluorescently labeled markers from the U.S. Pig Genome Coordination Program. Subsequent fragment analysis on the PCR products will allow us to compare allele frequencies among individuals and establish population clusters using STRUCTURE 2.3.4 and Bayesian Analysis of Population Structure (BAPS) 6.0. TWRA biologists, state veterinary officials, and landowners may use this information to determine the best method for management of feral pig populations in Tennessee to control population expansion, disease spread, and environmental and agricultural damage.

68. Poster Presentation - Computing and Informatics

Mobile Applications with a Purpose: Towards an Environment to Support Socially Responsible Mobile Application Development.

Samuel Owoyemi and Steve Nordstrom.

Several issues surround the lack of high quality mobile apps that advance the greater good of society. First, mobile development is difficult and requires the completion of a three-course sequence in order to be proficient. Further, it takes more than technical competence to create a great application, and often the ideas come from students outside of a traditional computer science or software engineering academic program. Finally, very few mobile applications strive to improve social or economic welfare primarily to the costs associated with development and

maintenance of such projects. Opportunities for students outside of computer science to develop mobile applications are rare in a traditional university setting. The demand for mobile applications is increasing as the needs for businesses, governments, and society increase. Portable computing devices are becoming increasingly pervasive, and solutions to social problems that might require mobile computing and connectivity are becoming increasingly feasible. Lipscomb University's School of Computing and Informatics has established a prototype laboratory facility to support the Mobile Applications for Purpose (MAP) initiative, which seeks to remove the boundaries toward the development of socially responsible mobile applications. The MAP platform equips and enables the creation of mobile applications by students of Lipscomb University regardless of their faculty or major through hardware resources, curriculum and training, and idea incubation. The MAP initiative provides the opportunity for students and faculty to use mobile applications as a mechanism to affect change both in mobile development education as well as societal impact.

69. Poster Presentation - Conflict Management (Graduate)

Mortal Conflict: A Case Study of the Mortal Instruments Series.

Megan Wooldridge and Phyllis Hildreth.

The Mortal Instruments series, written by Cassandra Clare, explores the lives and conflicts of a group of people known as Shadowhunters. The Shadowhunters are a cross between the blood of humans and the Angel Raziel. The book series discusses the Shadowhunter mission to protect humankind from the presence of demons in the world, and how they must also work together to protect their kind from destruction by Valentine Morgenstern. The series is a perfect case study in intrapersonal, societal, and organizational conflict. Many of the characters must reconcile their knowledge and beliefs of who they have always thought they were with the reality of who they are really meant to be. In order for Shadowhunters and humans to survive, all parties must ultimately decide which side of the battle has their allegiance.

70. Poster Presentation - Computing and Informatics

Multiple objects tracking with Camshift and Kalman Filter to count number of parking spaces available on campus.

Nicholas Varnado and Eddy Borera.

In this research, we have developed a computer vision model to determine the number of parking spaces available in an open parking while using only a camera as a sensor. To accomplish this we are tracking multiple moving objects and determining if they have either entered or exited a region of interest (ROI). We will attempt to count the number of parking spaces available by adding one to the number of cars in the parking lot when a car enters the ROI, subtracting one from the number of cars when one leaves the ROI, and obtaining the difference between a constant number of spaces in the ROI and the number of cars inside the ROI. Overall, our model uses open CV, a real-time computer vision library by Intel, to track moving contours in

successive video frames. Each incoming frame is analyzed with a background subtraction technique to detect moving objects (cars) in the foreground. Then, the CamShift algorithm is applied to track each detected object across frames. We also use the Kalman filter algorithm to estimate and correct car location in order to improve the tracking efficiency of the model. It will also allow our model to deal with random noises and occlusions, which are very common in image processing.

71. Poster Presentation - Finance and Economics

Burundi and Rwanda: Economy and Freedom.

Christopher Shay and Richard Grant.

This paper seeks to illustrate the impact of government deregulation on a country's economy. Specifically, it focuses on the potential consequences of free economy. Furthermore, it examines the chronological order between economy growth and economy freedom. The data are consistent with the theory that economic and political freedom precedes economic growth. Rwanda and Burundi were taken as proxy for the empirical analysis. Both countries exhibited strikingly similar cultural and geographical issues for the period analyzed. Differences arose in 2009 when Rwanda experienced an economic spurt; and Burundi lagged behind. The data used is from the Heritage Foundation Index of Economic Freedom and the International Monetary Fund, spanning from 1997 to 2014. To predict the economic growth in either country, a combination of time-series data and rating index are used. The variables studied were Gross Domestic Product, Inflation, and Investment growth among many others to predict economic growth. The results were conclusive, demonstrating a fluctuating economic growth pattern. Large discrepancies between the 2 countries' performances are observed after the changes in economic freedom index in 2009. In 2009, Rwanda had an insignificant decrease in overall freedom score from 54.2 to 54.1, whereas Burundi's increased from 46.1 to 48.7. Each country's economy growth had a positive relationship with its freedom index. After 2009, the gap widened between Burundi and Rwanda; and the relationship swapped. Burundi's freedom index plummeted, while Rwanda's increased. Their economic growth followed suit.

72. Poster Presentation - Management

Why businesses give back & how we're giving back.

Andrey Boyd, Hunter Mayberry, Ciere Lescure and Leanne Smith.

People in the business world often get a bad rap. Too often we focus on the bad side of business, the greed and the corruption. In this poster presentation we are focusing on one of the most positive sides of business, giving back. Everyone has heard of the generosity of businesses like Target, Starbucks, and Tom's. These are all for-profit organizations that give back to their local communities and globally. Why did businesses like these choose to give back in the first place, and why do they keep doing it? Has it given them market advantages? Or does it put them at a disadvantage? What about small local businesses that have higher stakes? Can they afford to be as generous and still financially survive? This section of our poster presentation will explore

what some local businesses are doing to meet that challenge. Finally, the last section of our poster presentation will explore how Lipscomb's College of Business students are preparing to address these questions. Here, we'll highlight current SALT (serving and learning together) initiatives in the COB that are helping tomorrow's business leaders lead both large and small companies in giving back.

73. Poster Presentation - Mathematics

Global Warming.

Meghan Anglim, Clint Bandy and Gary Hall.

As global warming remains a theory, people will continue to reside on both sides. There will always be folks who will go with the flow and believe what the news tells them. There will be people who won't let others' opinions decide their own. There will be people who are so scared of life that can be manipulated to do anything to help out with a possible problem. There will be people that will never truly understand what's going on and those who are so certain that it's true or that it's false. All we can do is hope that the media will work to reveal solid facts and that our government works within the peoples' best interest. Whether to believe in global warming or not is a personal decision that one should only make after thorough and unbiased investigation. Step away from the media and the political and environmental extremists and find out for yourself if global warming really is all it is hyped up to be.

74. Poster Presentation - Nursing

Lipscomb University School of Nursing Health and Service Day.

Chelsea Jarmoluk, Ashley Reid, Emily Sanford and Mary Hesselrode.

Lipscomb School of Nursing is based upon the idea of placing other's needs before your own. As nursing students, we have created this Lipscomb School of Nursing Service Day to allow our skills and our compassion to be used for the greater good. The Nashville community is a place in which many of the homeless population reside. These people are without adequate resources such as housing, food, clothing, and access to healthcare. Our project includes a day at the Nashville Rescue Mission Women's Campus in which we will perform various primary health screenings such as blood glucose and blood pressure assessments. These screenings are beneficial in aiding these residents to participate in evaluations that can better detect common health issues amongst the homeless population such as hypertension, diabetes, and malnutrition. We will also be providing these women and children with education seminars concerning several topics that they are faced with on a daily basis such as: nutrition, breast self-exams, children safety, WIC (food stamps), and overall women's health promotion and maintenance. We have created educational pamphlets for these women to take with them as a reference for later referral, and we have also set up an educational station for the children to learn about children's safety with coloring pages. Our intent is that this project will impact these women and children immensely. Our hope is to provide medical knowledge, preventative measures for illness, and steadfast compassion that will continue as Lipscomb School of Nursing so greatly exemplifies.

75. Poster Presentation - Nutrition (Graduate)

Beliefs and Acceptance of Sugar versus Sugar Substitutes in Southerners.

Beth Hendrixson and Anne Lowery.

Everyone is born with a sweet tooth. Research has shown that Americans on average consume 22 teaspoons of sugar a day. The food industry has accommodated for the public's cravings for sweets by developing alternative sweeteners in liquid, powder, and granulated forms. In the south, where sweet tea, banana pudding, and pecan pie are often a part of daily diets, sugar continues to be a staple. As sugar substitutes are increasingly more available for the consumer, personal preference in choosing a sweetener is often based on taste, calories, research, health gains, weight goals, or habit. Artificial sweeteners are a topic of constant debate and controversy in the literature and the media because use may not resolve health issues, can cause side effects and aftertaste, as well as consumers questioning the source or safety of the product. This research explores the acceptance, opinions, and concerns that many southerners have on the subject of sugar and sugar substitutes. Data was obtained for this self-funded project through a survey created on www.surveymonkey.com for 18 year old and above persons currently living in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, or Tennessee or who grew up in these states and are now living elsewhere. The survey was completed anonymously and voluntarily. The significance of these findings is important for dietitians to know concerning the public's opinions on sugar and sugar substitutes. Dietitians also should be informed on the latest research to be a voice of reason, while counseling patients.

76. Poster Presentation - Nutrition (Graduate)

Fueling the Fight: Nutrition and Local Jiu Jitsu Competitors.

Chuck Baldinger and Anne Lowery.

Brazilian Jiu Jitsu (BJJ) fighters engage in intense bouts of physical activity, but there is little research examining their nutritional habits pre- and post-competition to sustain optimal performance. The goal of this self-funded study is to determine trends of Nashville-based BJJ fighters regarding the prevalence, timing, and composition of pre- and post-competition meals/snacks. The hypothesis is that the pre- and post-competition food consumption of these athletes would correlate to the general recommendations of the International Society of Sports Nutrition's Position Stand: Nutrient Timing. The prediction being that high carbohydrate meals/snacks would be consumed prior to competition, and that high protein meals with substantial carbohydrate portions would be consumed post-competition. Two Nashville-based BJJ training schools distributed a paper survey to eighty students over the age of eighteen for voluntary and anonymous completion. The Likert-type scaled survey, with a description of the food items consumed, evaluated the prevalence, timing and nutrient profile of pre- and post-competition meals/snacks. Thirteen completed surveys were considered usable. General macronutrient content of the foods chosen for both pre- and post-competition consumption were analyzed through Microsoft Excel using descriptive statistics. The results indicate a well-

balanced nutritional profile of the foods frequently chosen, as well as proper timing for sport competition, confirming the initial hypothesis. However, because of the low participation rate and the unusable responses of some of the participants, a follow-up study would provide a better understanding of the specific nutrition habits of these athletes.

77. Poster Presentation - Nutrition (Graduate)

Perceptions and Use of Dietitian Services by Gastrointestinal Disease Patients.

Amanda Adcox and Anne Lowery.

Nutrition plays an integral role in the management of gastrointestinal (GI) diseases, but the extent to which patients with GI diseases are receiving nutrition therapy is unknown. The purpose of this self-funded study is to determine if services of registered dietitians (RDs) are being utilized by adult patients diagnosed with GI diseases, why GI patients decide not to consult RDs, and if the patients who consulted RDs felt that information provided to them was useful. One hundred copies of a flier containing a web link to a 12-question survey were available at an office of a GI specialist in Nashville, TN. While eighty-five fliers were handed out, only six participants completed the survey. Of the six, three utilized the services of an RD. All three respondents agreed that the information provided to them was useful, easy to follow, and helped them to manage their GI condition. The three respondents who had not sought the services of a RD reported not being able to afford out-of-pocket costs to see an RD, personal knowledge of nutrition management for their condition, physicians provided nutrition advice, and "other" as reasons for not seeking services of an RD. This research, despite low responses, provides baseline knowledge for dietitians regarding perceptions of GI patients in the Nashville, TN area. This information may be helpful in future efforts of RDs regarding marketing themselves to this population, the need for partnerships with GI physicians' offices, as well as demonstration of their value in the management of GI diseases.

78. Poster Presentation - Nutrition (Graduate)

Raised-Bed Gardens: A Sustainable Solutions for Nutritional Deficiencies in Africa.

Kristi Caldwell and Anne Lowery.

Nutritional deficiencies are common in the world, and are a leading cause of preventable health related problems in the poverty stricken communities of Africa. Healing Hands International is a Nashville based organization specializing in helping local and global communities to establish and grow a 50 x 3 raised bed-garden with drip-irrigation, to provide a sustainable food source. By combining Healing Hands International's mission purpose with nutritional counsel, this project has developed a raised-bed garden plan for the region of Africa in efforts to potentially reduce nutritional deficiencies common to this area. Literature review from the World Health Organization (WHO) identifies the most common nutritional deficiencies in Africa to be vitamin A, iron, and protein. Following identification of foods high in these nutrients, which could also be grown in a raised-bed garden with the resources available to the African community, the layout of the garden space was determined. Factors in planning the garden layout included food

yield per plant, mature plant dimensions, plant spacing, and germination timeframes. The developed garden design also considered the African soil, culturally accepted foods, and limited resources for construction needs. Foods identified for the garden include African eggplant, bambara bean, teff, amaranth, cowpea, maize, cassava, egusi, African potato, and yam. By establishing a region-specific garden plan, organizations such as Healing Hands International can assist Africans to build a sustainable food source that may reduce their incidence of nutritional deficiency related diseases such as, blindness, infections, iron deficiency anemia, protein-energy malnutrition, and even premature death.

79. Poster Presentation - Nutrition (Graduate)

The Availability of Halal Supplements in the United States.

Eram Albajri and Anne Lowery.

Halal describes any product that follows specific Islamic Laws. This word is becoming more common in the United States (U.S.) with increasing diversity of the population. As a result of this diversity, there is an increased demand for Halal products to meet the needs of Muslim patients. The purpose of this research is to assess Halal status of nutritional supplements for adult patients in the U.S. based on the Nutrition Care Manual Database formulary. Supplements were evaluated using the manufacturers' website information or direct communication via email. After excluding pediatric, non U.S. and discontinued supplements of the 535 products, a sample of 462 from 10 companies resulted. Only 10.8% (n=50) were considered Halal. These Halal supplements were further categorized based on administration methods of oral, tube fed or dual-purpose with a distribution of 54%, 20%, and 26%, respectively. The study results indicate a disproportionate number of Halal supplements available in the U.S. compared to non-Halal products. In addition, this study concludes that only three out of the ten companies represented in the sample of 462 supplemental products seek assistance and certification for Halal using Islamic agencies. This study should bring awareness of the limited resources available to U.S. dietitians for appropriate supplemental products to best serve Muslim patients following Islamic Law and a greater need for manufacturers of these products to consider ingredients and production process for Halal certification. Further research is needed to examine the availability of disease specific Halal supplements in the U.S. market.

80. Poster Presentation - Pharmaceutical Sciences (Graduate)

Analysis of Etoposide Resistant Topoisomerase IIa Mutants.

Elizabeth Gibson, Lisa Straughn and Joseph Deweese.

Topoisomerases are nuclear enzymes that regulate DNA topology and remove knots and tangles in the genetic material. While the anticancer agent etoposide is highly effective at inducing topoisomerase II-mediated DNA damage, etoposide is metabolized into catechol and quinone forms. To further study the mechanism of the metabolites, we are developing human topoisomerase IIa mutants with altered sensitivity to etoposide. Based upon published studies, we identified amino acid positions that may influence enzyme response to etoposide. Using

PCR-based mutagenesis, we mutated Gly462 to Ala, Asp463 to Glu, Arg487 to Lys, Ala429 deletion, Gly534 to Arg, Gly449 to Asp, and Pro716 to Leu. We used biochemical assays to analyze the DNA cleavage and relaxation activities of the enzymes. Our results demonstrate that six mutants are functional (R487K, D463E, A429, P716L, G534R, and G449D) and two mutants have activity too low to quantify (G462A and G449D). In the presence of etoposide, D463E and A429 cleave near wild-type (WT) levels, while R487K, P716L, and G534R respond less. R487K, P716L, and G534R have the lowest level of etoposide induced cleavage enhancement. When looking at DNA relaxation with each mutant in the presence of drug, A429 and P716L are stimulated to relax DNA, while R487K, D463E, and G534R are inhibited. Based upon cleavage enhancement in the presence of etoposide, R487K, P716L, and G534R are less sensitive to etoposide. These mutants will be used to analyze the activity and mechanism of the catechol and quinone metabolites of etoposide against topoisomerase II.

81. Poster Presentation - Pharmaceutical Sciences

Characterization of HU-331 as a topoisomerase II ATPase inhibitor.

Kellie Regal and Joseph Deweese.

Topoisomerases are essential enzymes that are involved in DNA metabolism. Due to the double-stranded DNA cleavage mechanism, topoisomerase II is an effective target for anticancer drugs. However, some agents cause toxicities and can lead to secondary cancers. A cannabinoid-based quinone HU-331 has been identified as a potential anticancer drug that demonstrates more potency in cancer cells with less off-target toxicity. HU-331 does not promote cell death via apoptosis, cell cycle arrest, caspase activation, or DNA strand breaks. However, the precise mechanism of action is poorly understood. We proposed that HU-331 inhibits human topoisomerase II's function by inhibiting the ATPase domain of the enzyme. We examined DNA cleavage, ligation, relaxation, and ATPase function of topoisomerase II in the presence of HU-331. Our results demonstrate that HU-331 inhibits topoisomerase II-mediated DNA relaxation at micromolar levels. We find that HU-331 does not induce DNA strand breaks, decreasing the risk of secondary cancers. When added prior to the DNA substrate, HU-331 blocks DNA cleavage and relaxation activities of topoisomerase II. Our results also show that HU-331 inhibits the ATPase function of topoisomerase II. Preliminary binding studies also indicate that HU-331 decreases the ability of topoisomerase II to bind DNA. We have thus far concluded that HU-331 impacts the catalytic activity of topoisomerase II by inhibiting the ATPase function. Future studies will explore the ability of HU-331 to abrogate cleavage and relaxation activities. We will also further clarify the impact of HU-331 on the enzyme:DNA interaction.

82. Poster Presentation –Pharmaceutical Sciences

Novel GlyT1 inhibitor chemotypes by scaffold hopping. Development of a [3.3.0]-based series and other piperidine bioisoteres.

Stephen Turner and Nate Daniels.

While treatments do currently exist for the positive symptoms of schizophrenia, an area that is lacking in treatment options is the negative symptoms of the illness. A promising target for treatment of these symptoms is the glycine transporter GlyT1. Glycine is known to be a co-agonist with glutamate for the NMDA receptor, which is currently thought to be involved in the brain signaling pathway disrupted in schizophrenia. Inhibiting GlyT1 has previously been shown to lead to increased glycine levels and increased NMDA signaling in the brain. By utilizing a scaffold hopping approach rather than a costly and time-consuming HTS process, novel inhibitor chemotypes of GlyT1, have been discovered. These novel chemotypes are based on a unique [3.3.0] ring system which frees further research into these compounds from potential hindrances due to current patents. These compounds show excellent GlyT1 potency and selectivity as well as modest CNS penetration, making them promising candidates for future drug research.

83. Poster Presentation – Psychology & Counseling (Graduate)

A Thematic Analysis of Student Veterans on a Small Liberal Arts College.

Rachael Marshall and Chris Gonzalez.

The United States has been at war for twelve years since September 11, 2001. The post 9/11 Veterans Education Assistance Act of 2008 gives education benefits to individuals who served on active duty on or after September 11, 2001. There is a lack of research on the outcomes of veteran education (SVA, 2013). This research will look at Student Veterans in a small liberal arts college environment and focus on their spiritual experiences on campus. This research will use thematic analysis borrowing from Glaser and Strauss to find their open response to questions about spiritual hindrances and helpers in campus life. The resulting themes found in the qualitative responses can possibly be used to better support student veterans on campus. More research on this expanding population could help with better allocation of resources to support student veterans.

84. Poster Presentation – Psychology & Counseling (Graduate)

The Emotional Effects of Reality Television Content on Psychophysiological Activity

Benjamin DeVore and Dale Alden

Reality television has become increasingly popular in recent years. With millions of people viewing reality shows every week, there is an increasing need for research on the psychological effects of this type of programming on viewers. By analyzing psychophysiologic reactivity to emotionally positive and negative content in reality television clips, neural affect can be indirectly measured. Forty two university students were analyzed using heart rate variability and electrodermal activity to assess changes in emotional responses to reality television content.

Significant differences were observed and imply general emotional reactivity to various reality television clips.

85. Poster Presentation – Nutrition (GRADUATE)

CrossFit and the Paleo Diet.

Jamie Mortimer and Anne Lowery.

CrossFit is a competitive exercise philosophy program that has rapidly gained popularity in the last decade. The CrossFit Inc. brand largely advocates for individuals to follow a Paleolithic style diet. The program states that modern diets are ill suited for our genetic composition and therefore, eating habits should instead mimic that of our ancestors. Because CrossFit and the Paleo diet have increased so greatly in popularity, nutrition professionals are likely to come in contact with individuals taking part in these health programs. Therefore, the purpose of this study is to provide registered dietitians with a better understanding of the specific nutritional needs for these individuals based on their activity level and eating practices. For this study, CrossFit affiliated gyms throughout Middle Tennessee were contacted and through the use of an online questionnaire, thirty-one CrossFit participants were surveyed in regard to their past and current diet and exercise habits. When analyzed for trends and frequency, the results show that participants possess consistent adherence and dedication to taking part in CrossFit workouts and feel strongly of its health benefits. As hypothesized, individuals feel urged by CrossFit leaders to eat in a Paleolithic style, but they adhere to Paleo practices at a moderate level. There are presently very minimal scientific studies focused on the physiological demands of CrossFit and the risks and benefits of the Paleo diet. Further research is needed to fully understand the specific nutritional needs during CrossFit participation and of the effects of the Paleo diet to one's health.

86. Poster Presentation –Pharmaceutical Sciences (Graduate)

Progress towards the Synthesis of Podophyllotoxin Analogs.

Sean Salonga and Susan Mercer.

DNA transcription and replication are rapidly occurring cellular processes required for growth and division. Due to the extreme length of chromosomes, DNA can become tangled, requiring the help of topoisomerases to relieve this stress through cleavage, strand passage, and religation. This requires a transient enzyme-DNA cleavage complex which has potential negative effects such as permanent strand breaks resulting in translocations, which can lead to cancers. Etoposide, a drug currently used to treat certain cancers, takes advantage of human topoisomerase II by poisoning the enzyme, causing enough DNA damage that the cancer cells undergo programmed cell death or apoptosis. Unfortunately, 2-20% of patients treated with etoposide develop a secondary acute myeloid leukemia, which needs to be addressed in order to decrease therapeutic risks and to improve long-term outcomes. In the human body, etoposide is metabolized into catechol and quinone forms by Cytochrome P450 enzyme 3A4 and cellular oxidases, respectively. In order to study the effects of the metabolites versus the parent etoposide, our aim is to synthesize analogs that prevent metabolism but retain overall drug

activity. Considering the significant expense of etoposide, its precursor podophyllotoxin was selected as a more cost-effective starting material in developing a synthetic strategy. As our synthetic strategy is halogenation of the phenols, a fluorinated analog was the first to be synthesized due to its promising effects in preventing drug metabolism. Compounds from the MEM protection and demethylation reactions were confirmed by MS and NMR, proving the initial steps successful towards a fluorinated podophyllotoxin analog.