ANNUAL REPORT OF UNDERGRADUATE RESEARCH FELLOWS

August, 2016 to May, 2017

COLLEGE OF BUSINESS AND TECHNOLOGY

SCHOOL OF BUSINESS ADMINISTRATION

Bach, Jordan

Major:
Business Administration

Faculty Mentor:
Janet Ratliff

Research/Project Title:
Perceptions and Concerns of Studying Abroad

Project Abstract/Summary:
The purpose of this study was to identify the perceptions and concerns of college students while studying abroad. The study was conducted with 52 Morehead State University college students from a variety of majors in both graduate and undergraduate levels. Data collection occurred in Spring 2016. Between these 52 students, there were two different educational study abroad experiences, one to England, Ireland, and Wales in May and one to Germany and Switzerland in June of 2016. The survey instrument used for this study was divided into nine categories: career and social, diversity and finance, language, importance of study abroad, academic learning, travel issues, individual multi-development, appreciation for travel, and overall satisfaction. This study demonstrated differences in gender and locations among the students who traveled on these two educational study abroad experiences. The results from the surveys provided us with information regarding what students valued most about studying abroad and what their perceptions and concerns were after learning a business-focused curriculum traveling abroad. The results of this research study indicated there was an experience gain for the students, as well as positive gains in social, personal, and career development. Research was supported by MSU Undergraduate Research Fellowship.

Project Dissemination:
Bach, J., Ratliff, J., & Chen, S. (2017, March). The Perceptions and Concerns of Studying Abroad, Poster Presentation, Posters at the Capitol, Frankfort, KY.

Bach, J., Ratliff, J., & Chen, S. (2017, April). The Perceptions and Concerns of Studying Abroad, Poster Presentation, Celebration of Student Scholarship, Morehead, KY.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
Plan to go to work in finance/accounting.

Davis, Tyler

Major:
Sport Management

Faculty Mentor:
Steve Chen

Research/Project Title:
The Perception of Black Student-Athletes' and Non-Athlete Students' Learning Experiences at a Predominately White Public Institution

Project Abstract/Summary:

Past literature indicated African-American minority students, particularly male student-athletes are often stereotyped and experienced discriminatory treatments in their institution (Brooke et al, 2013; Carter-Francique et al., 2013; Littleton, 2003). This study examined African-American students' learning experienceat a regional public university in Appalachia for the purpose of improving the existing academic support services and creating a safe diverse learning environment for racial minority students. The respondent included 92 black students (42 males, 50 females) with 65% were upper-division classmen and 33% were student-athletes. They were invited to voluntarily participate in the survey via face-to-face contact by the investigators or email invitation sent by the Athletic Department. The self-created survey based on the aforementioned literature contained 33 items that covered 22 five-point scale questions (with seven constructs, 1 = strongly disagree and 5 = strongly agree), four open-ended questions, seven questions related to demographic information (i.e., gender, major, class level, and student-athlete status, etc.). The seven constructs reflecting students' experience addressed areas such as: (1) academic concerns and support (3.68 + 1.42), and (7) food service (2.71 + 1.27). In general, respondents did not feel that they were grossly discriminated by others. However, student-athletes expressed a higher rating in two constructs, racial tension and biased opinions from others. Male respondents also significantly expressed a greater level of racial tension than their female counterparts ($p<.05$). the most highly identified service that need to be improved were dinning services and social or cultural activities/events for minority students to involve. Recommendations for improving current services and ways for fostering an inclusive campus environment were further discussed.

Project Dissemination:

The researcher and mentor will plan to expand the study and submit the results for a future (national-level) conference. The mentor is currently taking a sabbatical leave.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Tyler has applied for the graduate program of University of Cincinnati and University of Connecticut.

Gebka, Sydney

Major:

Sport Management

Faculty Mentor:

Johnathan Nelson

Research/Project Title:

An Inductive Study of Perceived Susceptibility to Unethical Behavior

Project Abstract/Summary:

Ethics scandals and research provide evidence that everyone is capable of making unethical decisions. Despite this though, many people tend to think of themselves as highly ethical. However, there is often a gap between how ethical people are compared to how ethical they perceive themselves to be. While research has focused on reasons why we fail to live up to our highest ethical ideals, we believe it is important to examine those situations where we are aware of the gap and our capacity to engage in unethical behavior. We referred to this awareness as perceived susceptibility to unethical behavior and conducted an inductive research study to develop a model of behaviors and outcomes associated with it. We examined the perceptions people have of themselves and the actions they take as a result of experiencing perceived susceptibility to unethical behavior. We discuss the implications of perceived susceptibility to unethical behavior for creating a greater openness for individuals to discuss ethical temptations, and to be more open to interventions for promoting ethical behavior.

Project Dissemination:

Gebka, S. & Nelson, J.K. (2017, March). An Inductive Study of Perceived Susceptibility to Unethical Behavior. Poster presented at the 2017 Annual Posters at the Capitol, Frankfort, KY.

Gebka, S. & Nelson, J.K. (2017, April). An Inductive Study of Perceived Susceptibility to Unethical Behavior. Presented at the 2017 Annual Celebration of Student Scholarship, Morehead, KY.

Awards and/or Honors:

Certificate of Exceptional Merit – 2017 MSU Celebration of Student Scholarship.

Post-Graduation Plans (Seniors only):

To pursue a career within a nonprofit organization.

Pennington, Bailee

Major:

Business Administration

Faculty Mentor:

Sarah Garven

Research/Project Title:

Roadmap to a PhD: Navigating the Application Process

Project Abstract/Summary:

This article serves as a roadmap for accounting practitioners and students who have made the decision to pursue a PhD in accounting and seek guidance in navigating the application process. In it we outline important decisions to make at the start of the process, common admission requirements that may prevent acceptance into a program, circumstances that may impede the progress of the application process, and how to position oneself to be a prime candidate for consideration.

Project Dissemination:

Pennington, Bailee R. and Garven, Sarah A. (2017, April). Roadmap to a PhD: Navigating the Application Process, poster, Celebration of Student Scholarship, Morehead, KY, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

SCHOOL OF ENGINEERING AND INFORMATION SYSTEMS

Garcia, Cody

Major:

Engineering Management

Faculty Mentor:

Nilesh Joshi

Research/Project Title:

An Automated Machine Vision Based Sorting System for Inspection of Industrial Fasteners

Project Abstract/Summary:

In automotive fastener industry, thousands of parts are shipped on a daily basis to fill customer orders. The sorting process before shipping is an important task to avoid accidental mixing of different parts from different orders. Majority of high volume parts are screened through large-scale, expensive sorting machines. On the other hand, some low volume parts are still hand sorted in the industry. It is cost and time prohibitive to send low volume parts through large machines that are tooled and programed to constantly run high volume orders. Thus, many companies use hand sorting techniques instead for low volume parts, which is very inefficient. Humans frequently make errors on monotonous tasks such as sorting tiny parts that are similar to one another. This becomes a quality control issue. The goal of this project was to design, build, and test a small and inexpensive sorting machine prototype that can replace many current hand sorting processes used on low volume products.

Project Dissemination:

Student, Garcia, D. and Professor, Joshi, N. (2017). An Automated Machine Vision Based Sorting System for Inspection of Industrial Fasteners. Celebration of Student Scholarship, Morehead, KY, April, 2017.

Awards and/or Honors:

Certificate of Merit at the Celebration of Student Scholarship, April 2017.

Outstanding Undergraduate Student Researcher Award by the School of Engineering and Information Systems, May 2017.

Post-Graduation Plans (Seniors only):

Currently have a part time position, seeking full time position.

Stanley, Adam

Major:

Engineering Technology

Faculty Mentor:

Sanghyun Lee

Research/Project Title:

Photovoltaics in Eastern Kentucky: The Feasibility Study of Abundant Renewable Energy Resources

Project Abstract/Summary:

In the present work, we systematically studied about renewable energy resources, in particular, solar energy for the application of photovoltaic panels in Eastern Kentucky including Morehead, KY. By analyzing data

from our PV cells at Morehead State University designed to follow the direction of the sun for optimized output and by incorporating MPPT charge controllers, we have constructed a maximum power algorithm that performs best for the location. Utilizing these, measurements of daily electricity production in comparison to the average power needed for household use has validated our research. With the advancements in solar cell technology what was once impossible is now reality, as solar power can easily power this region based on our data. Knowing this, being a prime location we can now push to enable the advancement of renewable energy production and become less dependent on fossil fuels, thus creating an infrastructure that will run off solar power.

Project Dissemination:

2nd Award in Engineering at the Kentucky Academy of Science Conference;
Presentation at the National Conference on Undergraduate Research at Memphis;
Presentation at the Poster-at-the-Capitol;
1st Award (Exceptional Merit) at the 2017 Celebration of Student Scholarship;
One journal submission (Impact Factor: 0.513, Energy and Environment).

Awards and/or Honors:

2nd Award in Engineering at the Kentucky Academy of Science Conference;
Accepted at the National Conference on Undergraduate Research in Memphis;
Accepted at the Poster-at-the-Capitol;
1st Award (Exceptional Merit) at the 2017 Celebration of Student Scholarship.

Post-Graduation Plans (Seniors only):

Industry or graduate school.

PUBLIC MANAGEMENT & GOVERNMENT

Fink, Sarah

Major:

Government

Faculty Mentor:

Michael Hail

Research/Project Title:

Federalism and National Security: Examining Social Media and Terrorism to Improve Management of Security Policy in the U.S. System of Intergovernmental Relations

Project Abstract/Summary:

An examination of government organization and the relationship to national security will be the primary focus of this research. The focus of this research will be an examination of federalism and government organization for the intergovernmental issues concerning security of national interest and how government security agencies have authority to examine social media for terrorism and do governments at each level have the tools for it. This research will address how terrorist groups gather information and recruit using social media. This approach will enable the discovery of fake terrorist recruiting accounts, along with detecting the signs of a fake social media account. The security management issues will be assessed comparatively within the U.S. system of federalism.

Project Dissemination:

Research findings were presented at the Annual 3rd Kentucky Intelligence Colloquium at the University of Kentucky.

Awards and/or Honors:

N/A.

Post-Graduation Plans (Seniors only):

Currently have a part time position, seeking full time position.

Razor, William

Major:

Government

Faculty Mentor:

Michael Hail

Research/Project Title:
Federalism and Homeland Security: Examining Public Management of Security Policy in the U.S. System of Intergovernmental Relations

Project Abstract/Summary:
An examination of state and local government organization and the relationship to national security will be the primary focus of this research. Exploring the operation and relationship of intergovernmental organizations in the policy process will include exploring cases and building data on interagency organization and policy and regulatory interactions. These will be assessed comparatively within the U.S. system of federalism.

Project Dissemination:
Research findings were presented at the Annual 3rd Kentucky Intelligence Colloquium at the University of Kentucky.

Awards and/or Honors:
Selected as one of the best research projects for a special panel at the 3rd Annual Kentucky Intelligence Colloquium at the University of Kentucky.

Post-Graduation Plans (Seniors only):
Attend graduate school in Government or MPA.

CAUDILL COLLEGE OF ARTS, HUMANITIES, AND SOCIAL SCIENCES

DEPARTMENT OF ART AND DESIGN

Bauman, Stephanie J.

Major:
Animal Science

Faculty Mentor:
Joy Gritton

Research/Project Title:
Getting Hands on With Our Food: Gardening for the Children at the Haldeman Community Center After School Program

Project Abstract/Summary:
Gardening is an enriching experience that allows children to reconnect with their food and see their hard work progress into a living plant that provides food and happiness. The project entailed establishing raised garden beds at the Haldeman Community Center for the children who attend the after school program. The goal was to allow the children to have hands-on experience and constructive instruction in gardening, as well as bring new life to the old school area, where the beds were located.

The Haldeman After School Program offers safe, child-centered, nurturing enrichment activities for elementary students Monday through Thursday during the months of September, October, March, and April at the Haldeman Community Center. Participating children enjoy physical games, a nutritous snack, planned learning activities, tutoring, and help with their homework.

The Haldeman Community Center's mission is to provide a place for those in the community to meet for fellowship, to provide children with a safe haven away from drugs, to foster the dramatic and musical arts by providing a place for their practice and performance, and to help sustain and enhance the year-round economic, educational, recreational and social well being of the community's residents.

Project Dissemination:
Bauman, Stephanie and Jamee Rogersl (2016, February). Creating Raised Gardens for the Haldeman Community Center After School Program: A Guide for Other After School Programs, Posters at the Capitol, Frankfort, KY, February, 2016.

Bauman, Stephanie and Jamee Rogers. (2016, March). Creating Raised Gardens for the Haldeman Community Center After School Program: A Guide for Other After School Programs, Appalachian Studies Association Annual Conference, Shepherdstown, West Virginia, March, 2016.

Bauman, Stephanie. (2017, April). Creating Raised Gardens for Children on a Budget: A Guide for Community Based Programs, Celebration of Student Scholarship, Morehead State University, Apirl 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Currently looking for a job in the Agriculture field.

Busby, Kristin

Major:

Studio Art

Faculty Mentor:

Jennifer Reis

Research/Project Title:

Arts Programming and Promotion

Project Abstract/Summary:

The Undergraduate Fellowship in Arts Programming and Promotion involves logistical planning, management and marketing of arts programming and services. Working within the arts programming hosted by the Claypool-Young Art Gallery, UR Fellow Kristin Busby focused on establishing and implementing Kentucky's only Americans for the Arts-affiliated Emerging Leaders Network at MSU (the Emerging Arts Leaders of Eastern Kentucky). Other advocacy work included attendance at Kentucky Arts Council's annual "Art Day" and facilitating student arts advocacy work, in MSU's Intro to Arts Admin course. She was involved with the coordination and management of art events during the 2016-2017 academic year, including assisting in art handling, receiving, and installation with six exhibitions and eight large-scale art events. Her work included hosting evening and weekend programming as well. This fellowship is designed to prepare a student to begin a career in arts administration or to pursue a degree in arts administration or museum studies. Supported by the CCAHSS and Department of A&D.

Project Dissemination:

Exhibitons and programming have been presented in the Claypool-Young Gallery and Strider Gallery in the Claypool-Young Art Gallery serving a local and regional audience. Special events took place during each exhibit including opening receptions and visiting artists. Publicity was published at the local and regional levels. Ms. Busby presented at the spring MSU showcase of Student Scholarship.

Awards and/or Honors:

Ms. Busby was awarded a competitive paid internship at the Whitney Museum in New York city in the Advancement Unit (development and fundraising). She will be the 2017 Student Commencement Speaker at MSU's graduation ceremony.

Post-Graduation Plans (Seniors only):

Ms. Busby will complete her summer internship in NYC and pursue another internship with Americans for the Arts in Washington, DC. Her Career plans focus on non-profit cultural leadership and advocacy.

Coffey, Waylan

Major:

Management/Art

Faculty Mentor:

Robyn Moore

Research/Project Title:

Photography Practicum: Learning the Basics of Managing a Fine Art Photography Darkroom

Project Abstract/Summary:

This research project provided the student with practical experience in the management of a fine art photography darkroom. The student learned how to mix and store photographic chemistry, provided assistance to undergraduate and graduate photography students, and generated ideas for improvements to the lab. The student also helped create a lab manual that specified best practices and operating procedures for the future photography lab monitors. The student also assisted students with digital printing and provided fine art finishing services such as mat cutting and other print presentation services.

Project Dissemination:

Waylan authored a first draft of the Photography Area Lab manual, which will be added to and updated by future monitors. He will be training the next Photography Area Lab Monitor and sharing the Lab Manual with her. It will be part of the new monitor's position to continue to update and improve the manual.

Awards and/or Honors:

Though there are no awards or honors as such available for this position, Waylan has provided invaluable assistance to countless photography students and to his faculty mentor during the 2016-17 academic year. His tireless commitment to both personal excellence and helping others is exceptional.

Post-Graduation Plans (Seniors only):

Waylan plans to move to Cincinnati and seek employment at the Cincinnati Art Museum. He plans to continue to work on his photography and other artistic endeavors. Waylan would like to share that his work in the arts has provided a significant positive impact on his career goals. He reports that he will take what he has learned in college and help give back to the communities in which he lives and continue to be an advocate for the arts.

Davis, Adam

Major:

Art

Faculty Mentor:

Jennifer Reis

Research/Project Title:

The Art of Exhibitions and Collection Management

Project Abstract/Summary:

The Undergraduate Fellowship in Exhibitions and Collections Management focuses on the logistical planning and administration of arts programming as well as collection management. Working within the arts programming hosted by the Claypool-Young Art Gallery, UR Fellow Adam Davis was involved in the coordination and management of art events during the 2015-16 academic year, including art handling, receiving, label creation, and installation with seven exhibitions. Outside of the gallery, he focused on collection management specifically with work on the University Art Collection Inventory Project, including photographic, narrative and numeric documentation of works in the collection. Additionally, he was involved with hosting evening and weekend events, as well as programming documentation for gallery promotion and assessment. This fellowship is designed to prepare a student to begin a career in arts administration or to pursue a degree in arts administration or museum studies, or an MFA in studio art. This project is supported by the Undergraduate Fellowship Program, the Department of Art & Design, and the Caudill College of Arts, Humanities, and Social Sciences.

Project Dissemination:

Nichols, Anna and Faith McNabb. (2017, February). The Haldeman Center: A Changing Legacy, 8th Annual Appalachian Research Symposium and Arts Showcase, University of Kentucky, February 2017.

McNabb, Faith. (2017, April). Art for Everyday Life at the Haldeman Community Center After School Program, Celebration of Student Scholarship, Morehead State University, April 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Will be applying to graduate programs.

Hutchinson, Michael

Major:

Studio Art/Creative Writing

Faculty Mentor:

Jennifer Reis

Research/Project Title:

The Art of Exhibitions

Project Abstract/Summary:

The Undergraduate Fellowship in The Art of Exhibitions focuses on the logistical planning, management and marketing of arts programming specific to large art and design exhibitions within a university context. Embedded within the arts programming hosted by the Claypool-Young Art Gallery, UR Michael Hutchinson focused on the coordination and management of art events during the Spring 2017 semester including the four large-scale student exhibitions, the annual sophomore, high school, senior and BFA exhibitions. Duties included artist relations, event management and hospitality, art handling, receiving, and exhibition design and installation. His work included hosting evening and weekend programming as well. This fellowship is designed to prepare a student to begin a career in arts administration or to pursue a degree in arts administration or museum studies. Supported by the CCAHSS and Department of A&D.

Project Dissemination:

Exhibitions and programming have been presented in the Claypool-Young Gallery and Strider Gallery in the Claypool-Young Art Gallery serving a local and regional audience. Special events took place during each exhibit including opening receptions and visiting artists. Publicity of arts programming was published at local and regional levels. Mr. Hutchinson presented at the spring MSU Celebration of Student Scholarship..

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Mr. Hutchinson will be moving to the Cincinnati area to pursue entry-level positions at cultural non-profit organizations.

Maness, Simon

Major:

Art/Math

Faculty Mentor:

Elizabeth Mesa-Gaido

Research/Project Title:

Inscape, a Collaborative, Inter-Disciplinary, Student-Centered Journal: Six Decades of Publishing Creative Productions at MSU

Project Abstract/Summary:

This project explores the development of MSU's Inscape publication, from its inception in 1957 by The Writers' Club at Morehead State College through to the present, in anticipation of its 60th year anniversary in 2017. Emphasis of research will be to document this student-centerd (editors and contributors), literary and visual arts journal utilizing the CCL archival, special collection. This project will (1) trace Inscape's history, including its initial development and changes over the years, as well as the title's origin and awards received (Kentucky Arts Commission and either an NEA or NEH around 1974); (2) document the contributions of artists, designers, and writers (including NPR Morning Edition host Steve Inskeep in the 1990 issue) over six decades, as well as MSU departments faculty and staff support of the dissemination of students' creative productions; and (3) analyze design, art, media and publishing trends over a sixty-year period.

In Fall 2017, the digital archiving was completed. 79 Inscape issues going back to 1957 are now digitally archived, every one of these is available for free download and viewing from anywhere in the world. ScholarWorks: http://scholarworks.moreheadstate.edu/inscape_magazine_archive/.

In Spring 2017, an Excel spreadsheet was created by Maness tracking 757 contributors by name, year and work from 28 issues of Inscape to be shared with the Office of Communications & Marketing, as well as the Inscape Foundation Account.

Abstract for 2016 Poster Presentation:

Since the inception of the publication Inscape in the year 1957, the magazine has undergone many progressions and changes over the last fifty-nine years. The 60th anniversary of Inscape is approaching in 2017, and in honor of such an occasion, a complete digital archive of every issue became a vision and a goal for this project. The primary emphasis of this project is to trace the history of Inscape, its origins and the meaning of its titular name, analyze the designs, media, aart and publishing trends over the vast timeline of Inscape, document the writers, editors, artists and all other individuals, students and faculty alike, who contributed greatly to the life of this magazine, and finally to show MSU's continued interest in investing in the creativity and creative productions of the students.

Project Dissemination:

In Fall 2017, the digital archiving was completed. 79 Inscape issues going back to 1957 are now digitally archived, every one of these is available for free download and viewing from anywhere in the world. ScholarWorks: http://scholarworks.moreheadstate.edu/inscape_magazine_archive/.

An Excel spreadsheet was created by maness tracking 757 contributors by name, year and work from 28 issues.

Maness, Simon (2016, April). Inscape, a collaborative, inter-disciplinary, student-centered journal: six decades of publishing creative productions at MSU, poster, Celebration of Student Scholarship, Morehead, KY, April 2016.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

McNabb, Faith

Major:

Art

Faculty Mentor:

Joy Gritton

Research/Project Title:

Art for Everyday Life at the Haldeman Community Center After School Program

Project Abstract/Summary:

This project allowed children participating in the haldeman Community Center After School program to explore the diverse ways that art and design are essential to everyday life. Working in a variety of media, many of which were inexpensive and readily available, the children experienced not only the rewarding aspects of creativity, but were also exposed to practical applications of design and career opportunities in the arts. Activities were also devised so as to foster collaboration between the diverse programming offered at the community center, including music, theatre, cooking, and gardening.

Project Dissemination:

Nichols, Anna and Faith McNabb. (2017, February). The Haldeman Center: A Changing Legacy, 8th Annual Appalachian Research Symposium and Arts Showcase, University of Kentucky, February 2017.

McNabb, Faith. (2017, April). Art for Everyday Life at the Haldeman Community Center After School Program, Celebration of Student Scholarship, Morehead State University, April 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Will be applying to graduate programs.

Morgan, Sarah

Major:

Traditional Music

Faculty Mentor:

Joy Gritton

Research/Project Title:

Participatory Folk Music as Community Builder at the Haldeman Community Center

Project Abstract/Summary:

This project took place over one semester at the Haldeman Community Center After School Program. The goal of the community-centered work was three-fold: to foster intergenerational connections and friendships; encourage and develop musical creativity in a stress-free environment; and encourage an attitude of regional pride and cultural identity through participatory folk music. Hands-on musical experience was encouraged in order to teach participating students that music doesn't have to be reserved for professional performers. Old ballads, folk songs, and spirituals were taught aurally, just as they have been passed down from generation to generation in the past. Since mountain dulcimers are a very child-friendly instruments (having only three strings and easy for small hands to play), this instrument was used to teach the basics of rhythmn, chords, and harmony in a relaxed environment.

Project Dissemination:

Morgan, Sarah. (2017, March) Song of the Mountains: Developing Regional Pride through Traditional Music, Appalachian Studies Association Annual Conference, Blacksburg, Virginia, March, 2017.

Morgan, Sarah. (2017, April) Participatory Folk Music as Community Builder at the Haldeman Community Center, Celebration of Student Scholarship, Morehead State University, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A.

Nichols, Anna

Major:

Convergent Media

Faculty Mentor:

Joy Gritton

Research/Project Title:

Children and Families of Appalachia: A Multimedia Expression

Project Abstract/Summary:

This project contributed to the Haldeman Community Center's mission by producing promotional and informational multimedia productions related to the community. This included materials that can be used on the center's website and in social media venues to help create awareness and enhance fund raising

efforts for this non-profit, documenting center activities (such as their After School Program), and recording and editing oral histories.

Project Dissemination:

Nichola, Anna. (2017, February). The Haldeman Center: A Changing Legacy, 8th Annual Appalachian Research Symposium and Arts Showcase, University of Kentucky, Lexington, KY, February 2017.

Nichols, Anna. (2017, April). Children and Families of Appalachia: A Multimedia Expression, Celebration of Student Scholarship, Morehead State University, April 2017.

Awards and/or Honors:

Department of Communication, Media and Languages' Outstanding Convergent Media Student.

Post-Graduation Plans (Seniors only):

Accepted to become an intern for Unison Ministries in Cuenca, Ecuador.

Smith, Kyle M.

Major:

Nursing

Faculty Mentor:

Joy Gritton

Research/Project Title:

A Lifetime of Healthy Living: Increasing Awareness of Healthy Lifestyles at the Haldeman Community Center

Project Abstract/Summary:

The health and well being of individuals are greatly impacted by the level of understanding of the human body they possess. The easiest way to promote healthy lifestyles is through proper education about the human body and how making healthy choices will positively affect the body. This project entailed implementing a primary prevention program with the children attending the Haldeman Community Center after school program. Information, demonstrations, and activities were presented in a way so as to increase an overall awareness of general health and foster proper diet, exercist, and lifestyle choices and modifications.

The Haldeman After School Program offers safe, child-centered, nurturing enrichment activities for elementary students Monday through Thursday during the months of September, October, March, and April at the haldeman Community Center. Participating children enjoy physical games, a nutritious snack, planned learning activities, tutoring, and help with their homework.

The Haldeman Community Center's mission is to provide a place for those in the community to meet for fellowship, to provide children with a safe haven away from drugs, to foster the dramatic and musical arts, by providing a place for their practice and performance and to help sustain and enhance the year-round economic, educational, recreational and social well being of the community's residents. They are located at 4399 Open Fork Road.

Project Dissemination:

Smith, Kyle. A Lifetime of Health Living: Unifying Awareness of Healthy Living Among Appalachia's Diversified Community, Posters at the Capitol, Frankfort, KY, February, 2016.

Smith, Kyle. A Lifetime of Healthy Living: Promoting Wellness AmongYouth in Appalachia's Diverse Communities, (poster) Celebration of student Scholarship, Morehead State University, March 2016.

Smith, Kyle. 2017. A Lifetime of Healthy Living: Increasing Awareness of healthy Lifestyles at the Haldeman Community Center, poster, Celebration of Student Scholarship, Morehead State University, April, 2017.

Awards and/or Honors:

Certificate of Merit, Celebration of Student Scholarship, College of Arts, Humanities, and Social Sciences division, Morehead State University, 2017..

Post-Graduation Plans (Seniors only):

Accepted into an emergency department fellowship/internship at the University of Kentucky Albert B. Chandler Hospital.

Department of Communication, Media and Languages

Anwar, Amina

Major:

Biomedical Science

Faculty Mentor:

Philip Krummrich

Research/Project Title:

An Anthology of Translations: A Semantic Awakening

Project Abstract/Summary:

Four students of the George M. Luckey Honors Program served as editors for an anthology of translated texts. Primarily, fictional works that had never been translated before were included since they further the availability of outstanding world literature. Translations are useful since they allow individuals to gain a broader worldview by increasing understanding, appreciation and respect for other cultures. The submissions were received in a variety of languages (Spanish, French and Latin and genres (poems, short stories, plays). Aspects of compiling these submissions into an anthology such as recruiting contributors, editing, formatting, publishing and the challenges they presented are addressed. This project achieved support from the George M. Luckey Honors Program.

Project Dissemination:

Amina A. and Professor, Dr. Philip Krummrich (2017, April). An Anthology of Translations: A Semantic Awakening, Celebration of Student Scholarship, Morehead, KY, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Cook, Sydney

Major:

Creative Writing

Faculty Mentor:

Philip Krummrich

Research/Project Title:

The Semantic Awakening: An Anthology of Translations

Project Abstract/Summary:

Four students of the George M. Luckey Honors Program served as editors for an anthology of translated texts. Primarily, fictional works that had never been translated before were included since they further the availability of outstanding world literature. Translations are useful since they allow individuals to gain a broader worldview by increasing understanding, appreciation and respect for other cultures. The submissions were received in a variety of languages (Spanish, French and Latin and genres (poems, short stories, plays). Aspects of compiling these submissions into an anthology such as recruiting contributors, editing, formatting, publishing and the challenges they presented are addressed. This project achieved support from the George M. Luckey Honors Program.

Project Dissemination:

The student, with her colleagues, made a poster presentaiton at the Celebration of Student Scholarship. The anthology has been completed, and will be printed and distributed in May 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Couch, Jeffery

Major:

Spanish

Faculty Mentor:

Philip Krummrich

Research/Project Title:

Developing Translational Skills

Project Abstract/Summary:

For my undergraduate research I chose a project in written translation as a way of developing my skills in my field. Upon completion of my translation I was approved for publication I a student anthology.

Project Dissemination:

The student made a poster presentation at the Celebration of Student Scholarship; his translation will be featured in a forthcoming volume entitled *The Semantic Awakenting*.

Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
The student is seeking a teaching position overseas before returning to pursue a MAT in Spanish.

Day, Hannah

Major:
Education
Faculty Mentor:
Donnell Murray
Research/Project Title:
An International Peer Mentoring Program at Morehead State University: The Results of Academic and Social Integration
Project Abstract/Summary:
The purpose of this program is to assist international students in their transition to Morehead State University. The founder of International Peer Mentoring Program (IPMP) saw a need in the international student community for assistance in academic and social integration. Each international student who requested to be part of this program, was matched with a peer mentor based on the results from the Jung personality test. While the focus of this program was to help international students, it has become so much more. Peer mentors and peer mentees participated in social outings, tutoring groups, and university events. This program resulted in international students gaining knowledge regarding academic support services and social groups around campus. What resulted were both peer mentors and peer meentees building relationships with other peer mentors and peer mentees. Both groups were also exposed to different cultures while teaching with the results being a huge learning environment. The results of the first year of IPMP are going to be used to revise for an even stronger academic and social integrationfor the peer mentee.
Project Dissemination:
Student Hannah Day, Student Joseph Brock Finley, Instructor Dr. Donnell Murray (April, 2017). An International Peer Mentoring Program at Morehead State University: The Results of Academic and Social Integration. Celebration of Student Scholarship, Morehead State University, Morehead, KY.
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
N/A

Finley, Joseph Brock

Major:
Healthcare Administration
Faculty Mentor:
Donnell Murray
Research/Project Title:
An International Peer Mentoring Program at Morehead State University: The Results of Academic and Social Integration
Project Abstract/Summary:
The purpose of this program is to assist international students in their transition to Morehead State University. The founder of International Peer Mentoring Program (IPMP) saw a need in the international student community for assistance in academic and social integration. Each international student who requested to be part of this program, was matched with a peer mentor based on the results from the Jung personality test. While the focus of this program was to help international students, it has become so much more. Peer mentors and peer mentees participated in social outings, tutoring groups, and university events. This program resulted in international students gaining knowledge regarding academic support services and social groups around campus. What resulted were both peer mentors and peer meentees building relationships with other peer mentors and peer mentees. Both groups were also exposed to different cultures while teaching with the results being a huge learning environment. The results of the first year of

IPMP are going to be used to revise for an even stronger academic and social integrationfor the peer mentee.

Project Dissemination:

Student Hannah Day, Student Joseph Brock Finley, Instructor Dr. Donnell Murray (April, 2017). An International Peer Mentoring Program at Morehead State University: The Results of Academic and Social Integration. Celebration of Student Scholarship, Morehead State University, Morehead, KY.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):
N/A

Hall, Jessica

Major:
Spanish
Faculty Mentor:
Philip Krummrich
Research/Project Title:
Helping Non-Native Speakers Adjust to the English-Language Classroom
Project Abstract/Summary:
The objective of this project was to determine if a need to establish bilingual classrooms exists, and if so, what is the best method to prepare our educators and to instruct our children? The hypothesis of this project is based upon the theory that children will learn best when put in a situation requiring them to communicate with others via interactive and hands-on activities such as games, crafts, and books. Essentially, the theory behind this hypothesis is that if children are able to do the things they would be doing on a daily basis and are intrigued in their environment and engaged in the activities in which they are participating, then they will be more likely to develop an interest and maintain their focus in learning Spanish as a foreign language.
Project Dissemination:
The student made a poster presentation at the Celebration of Student Scholarship.
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
N/A

Huang, Lin

Major:
Art and Design/Mathematics
Faculty Mentor:
Ann Andaloro
Research/Project Title:
Segment producer and writer for Hear Me Roar: The Lives and Issues of Modern Women a bi-monthly television program on MSU-TV
Project Abstract/Summary:
Creative Research Project: Lin helped produce and write MSU television program segments for Hear Me Roar. In this position she was mentored as a television producer, writer and feminist activist. She hosted a spotlight segment on Art. The segments created for the program were taken to conferences.
Project Dissemination:
The programming that Lin helped produce and write aired on MSU-TV during the Spring and Fall semesters. Hear Me Roar is available to unlimited potential viewers online through MSU's website. The program provided the audience an opportunity to gain a broader understanding of gender and multicultural issues. The program segments she produced were submitted to numerous college video award competitions including the Academy of Television Arts and Science College Emmy Awards and the NBS Student Video Awards. Lin maintained social media sites for Hear Me Roar.
Appalachian Studies Annual Conference, Spring 2017, presentation.
Kentucky Communication Association Conference, Fall 2017, presentaion.
Posters on the Hill, Washington, DC, Spring 2017, presentation.
Awards and/or Honors:
Posters on the Hill, Washington, DC, Spring 2017.
Post-Graduation Plans (Seniors only):
N/A

Milantoni, Silvia

Major:
Philosophy

Faculty Mentor:
Ann Andaloro

Research/Project Title:
Research and Creative Production Assistant for the Gender Studies Program

Project Abstract/Summary:
Silvia was an event planner for the Wilma Grote Symposium for the advancement of Women. She will coordinate the Judy Rodgers Art, Media and Writing Contest. She created content for the Gender Studies Website. She will event plan for the International Women's Day Celebration. She created a video the Appalachian Studies conference for Women in Traditional Music.

Project Dissemination:
MSU Gender Studies Website
Fourteenth Annual Appalachian Studies Conference
Wilma Grote Symposium for Women

Awards and/or Honors:
First Place Judy Rodgers Art, Media and Writing Competition

Post-Graduation Plans (Seniors only):
N/A

Von Mann, Elizabeth

Major:
Creative Writing

Faculty Mentor:
Philip Krummrich

Research/Project Title:
The Semantic Awakening: An Anthology of Translations

Project Abstract/Summary:
Four students of the George M. Luckey Honors Program served as editors for an anthology of translated texts. Primarily, fictional works that had never been translated before were included since they further the availability of outstanding world literature. Translations are useful since they allow individuals to gain a broader worldview by increasing understanding, appreciation and respect for other cultures. The submissions were received in a variety of languages (Spanish, French and Latin and genres (poems, short stories, plays). Aspects of compiling these submissions into an anthology such as recruiting contributors, editing, formatting, publishing and the challenges they presented are addressed. This project achieved support from the George M. Luckey Honors Program.

Project Dissemination:
The student, with her colleagues, made a poster presentation at the Celebration of Student Scholarship. The anthology has been completed, and will be printed and distributed in May 2017.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
N/A

Wallace, Madison

Major:
Strategic Communication

Faculty Mentor:
Morgan Getchell

Research/Project Title:
Resurrecting and Revitalizing Lambda Pi Eta at MSU

Project Abstract/Summary:

An organization is only as strong as its foundation. Therefore, reestablishing an organization like Lambda Pi Eta – a highly selective communications honors society for undergraduate students that have achieved a high level of academic excellence – requires an ample amount of time, energy, and planning. Public relations and event planning are critical elements in the success of building a strong foundation and were pivotal to the reestablishment of the Eta Epsilon chapter of Lambda Pi Eta.

Project Dissemination:

Poster presentation at the Celebration of Student Scholarship, Morehead State University, April 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Wile, Cailin

Major:

English

Faculty Mentor:

Philip Krummrich

Research/Project Title:

The Semantic Awakening: An Anthology of Translations

Project Abstract/Summary:

Four students of the George M. Luckey Honors Program served as editors for an anthology of translated texts. Primarily, fictional works that had never been translated before were included since they further the availability of outstanding world literature. Translations are useful since they allow individuals to gain a broader worldview by increasing understanding, appreciation and respect for other cultures. The submissions were received in a variety of languages (Spanish, French and Latin and genres (poems, short stories, plays). Aspects of compiling these submissions into an anthology such as recruiting contributors, editing, formatting, publishing and the challenges they presented are addressed. This project achieved support from the George M. Luckey Honors Program.

Project Dissemination:

The student, with her colleagues, made a poster presentation at the Celebration of Student Scholarship. The anthology has been completed, and will be printed and distributed in May 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Young, Natalie

Major:

Biomedical Science

Faculty Mentor:

Philip Krummrich

Research/Project Title:

The Effect of Dog Training on Dog Adoption

Project Abstract/Summary:

This research aims to study how training dogs at the local animal shelter affects their chances of getting adopted, as well as what training method works the most efficiently to do so. Field research was conducted at the Tri County Animal Shelter in Clearfield, Kentucky. With this field research, individual dogs were chosen and trained using a general training method. During and after their training, each potential adopter that showed an interest in that certain dog was given information on the behavioral progress the dog had made and the general demeanor of the dog. After sufficient field research had been conducted, additional data was gathered in regards to the success of similar programs, volunteer activity at various animal shelters in Kentucky, and more effective training methods. Upon completion of this research, the findings are to be presented and shared through several online outlets in the hopes that these methods of training

can be employed, saving the lives of shelter dogs. I would like to thank Louise Cooper from the Center for Regional Engagement for her contributions to this research.

Project Dissemination:
The student presented at the Celebration of Student Scholarship. As noted in her abstract, she also intends to make her findings widely available in the hope of improving dog adoption rataes..
Awards and/or Honors:
The student won an award for her poster presentation at the Celebration.
Post-Graduation Plans (Seniors only):
N/A.

KY Center for Traditional Music

Lindsey, Brandon

Major:
Electrical and Computer Engineering
Faculty Mentor:
Jesse Wells
Research/Project Title:
Digitalization and Organization of Banjo Newsletter Collection (Kentucky Music Archives)
Project Abstract/Summary:
The Kentucky Music Archives at the Kentucky Cener for Traditional Music houses many unique collections including a complete collection of the printed media Banjo Newsletter. Mr. Lindsey will be responsible for scanning the original documents at a high resolution for digital depository in the collection at the Kentucky Center for Traditional Music. He will also organize the collection by the categories of artist, style and instruction.
Project Dissemination:
The Banjo Newsletter Collection will be housed in the Kentucky Music Archives digital archive at the Kentucky Center for Traditional Music. These archives are accessible to the Morehead State University campus community and the general public in the Archive Suite at 185 East 1st Street.
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
N/A

Preston, Andrew

Major:
Traditional Music
Faculty Mentor:
Jesse Wells
Research/Project Title:
The Feminine Appalachia: Progressive Women in Folk Music, Then and Now
Project Abstract/Summary:
Through this project, a collection of rare previously undocumented songs from regional musicians will be organized detailing information about the origin (author), performer, and other unique factors. This research project will use the vast archival collection of traditional music at the Kentucky Center for Traditional Music at Morehead State University. This project will add to the archives of traditional music and create a valid source for credible lyrics and information of the regional music and musicians of Kentucky. The research will be conducted within the archives at the KCTM and other collections, such as the Berea College Archives.
Project Dissemination:
The results of this project are available to students of Morehead State University and the general public at large through the Kentucky Center for Traditional Music's Traditional Music Archives.
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
To actively tour as a professional musician and teaching private lessons on various instruments.

School of Music, Theatre and Dance

Casto, Morgan

Major:
Theatre

Faculty Mentor:
Greg Carlisle

Research/Project Title:
Time and Place and How You Hold Your Face: A Study of the Basic Accent Techniques Required by a Working Actor

Project Abstract/Summary:
In this study we will explore various accents that are commonly used in theatrical productions to establish time and place. We will compare the similarities and differences in the placement and vocal qualities required of each.

Project Dissemination:
This project will be presented and followed by a workshop at the completion of the study. Multiple students (of various majors and fields of study) will be given the opportunity to examine these different techniques to achieve a successful accent of their choice and will try to apply these techniques in an accent workshop..

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
Continuing to audition/Actress; Graduate Acting program (MFA).

Dennis, Katie

Major:
Theatre

Faculty Mentor:
Denise Watkins

Research/Project Title:
Cataloguing and Digitizing Costume History Slide Collection

Project Abstract/Summary:
Researcher will convert slides related to costume history to a digital format, and catalog them. Eventually they will be stored into a database for research purposes.

Project Dissemination:
Posters at the Capitol, Celebration of Student Scholarship.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
Graduate School for MFA in Costume Design at UNLV.

Foster, Olivia

Major:
Theatre

Faculty Mentor:
Denise Watkins

Research/Project Title:
Madrigal Feaste

Project Abstract/Summary:
Student researched performance style of Commedia Dell Arte, directed the theatre portion of the madrigal Feaste in the Commedia style, and assisted with the mounting of the Madrigal Feaste.

Project Dissemination:
Madrigal Feaste creative production.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):

Interviewing for stage management positions in NYC.

Johnson, Timothy Blake

Major:
Music Performance

Faculty Mentor:
Thomas Pappas

Research/Project Title:
Encycloreedia: A Beginning Guide to Oboe Reed Making

Project Abstract/Summary:
This study examines the process, techniques, and materials needed to make high quality oboe reeds. The oboe uses a double reed, or a piece of cane which has been folded in half and then tied onto a metal tube. The specific requirements of oboe reeds vary from person to person and so it is necessary for each serious oboist to learn how to make their own. The process is very difficult to learn and can only be learned through practice. All major texts on oboe reed making were studied to determine what was missing from each so that the issues could be resolved in this guide. This beginning guide provides the student with perparatory exercises designed to make the process easier to comprehend. Detailed photographs of the entire process, along with diagrams of oboe reeds are included to make the process understandable for the beginning student. Terminology relevant to the process has been explained in full as it pertains to each section of the text. The text is an important addition to existing reed making methods and serves to give beginning reed makers the tools to better their reed making without consistent access to a teacher. The project was made possible by the support of the Undergraduate Research Fellowship Program.

Project Dissemination:
Timothy Blake Johnson and Dr. Thomas Pappas. (2017, April). Encycloreedia: A Beginning Guide to Oboe Reed Making, poster, Celebration of Student Scholarship, Morehead, KY, April, 2017.

Timothy Blake Johnson and Dr. Thomas Pappas. (2017, April). Encycloreedia: A Beginning Guide to Oboe Reed Making, oral presentation, Celebration of Student Scholarship, Morehead, KY, April, 2017.

Awards and/or Honors:
Caudill College of Arts, Humanities, and Social Science Certificate of Exceptional Merit, Oral Presentation, Celebration of Student Scholarship, April, 2017.

Caudill College of Arts, Humanities, and Social Sciences Certificate of Exceptional Merit, Poster Presentation, Celebration of Student Scholarship, April, 2017.

Post-Graduation Plans (Seniors only):
Accepted into the Master of Music program at the University of Missouri-Kansas City Conservatory of Music and Dance.

Proctor, Darren

Major:
Music

Faculty Mentor:
Brian S. Mason

Research/Project Title:
TongueTied: A Greater Look into the South Indian Konnakol Language

Project Abstract/Summary:
The focus of this research project examines the South Indian Carnatic music language known as Konnakol, with the goal of showing the effect that Konnakol has in three specific areas: Classical Indian music, Contemporary Western music, and Modern Frame drumming. Research has been conducted through extensive study and practice of the Konnakol language, as well as the generation of connections between the three areas of the study. This research is supported by an Undergraduate Research Fellowship.

Project Dissemination:
MSU Percussion Studies Area Performance Class Presentation, Celebration of Student Scholarship Presentation.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
Graduate study at the California Institute of the Arts.

Tyree, John

Major:
Music Education

Faculty Mentor:
Brian S. Mason

Research/Project Title:
Neo-Romanticism in New Solo Marimba Literature

Project Abstract/Summary:
This research project will compile and study solo marimba literature written in the neo-romantic musical style. Research will focus on over-arching compositional techniques of the genre, form and structure, technical requirements for the performer, as well as similarities between marimba and piano solos written in similar style. These elements will be examined through score study of multiple works, seeking to identify defining characteristics of the genre by using samples from multiple percussion composers. Composers will also be interviewed to compare influences and musical backgrounds that may have had an affect on the evolution of this style.

Project Dissemination:
MSU Percussion Studies Area Performance Class Presentation.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
Graduate study at the Boston Conservatory of Music.

Wilkerson, Kathryn

Major:
Biomedical Science/Pre-Dentistry

Faculty Mentor:
Ann Andaloro

Research/Project Title:
Segment producer and Writer for Hear Me Roar: The Lives and Issues of Modern Women a Bi-Monthly Television Program on MSU-TV

Project Abstract/Summary:
Creative Research Project: Kathryn helped produce and write MSU television program segments for Hear Me Roar. In this position she was mentored as a television producer, writer and feminist activist. She hosted a spotlight segment on women's health and fitness. The segments created for the program were taken to conferences.

Project Dissemination:
The programming that Kathryn helped produce and write aired on MSU-TV during the Spring and Fall semesters. Hear Me Roar is available to unlimited potential viewers online through MSU's website. The program provided the audience an opportunity to gain a broader understanding of gender and multicultural issues. The program segments she produced were submitted to numerous college video award competitions including the Academy of Television Arts and Science College Emmy Awards and the NBS Student Video Awards.
Appalachian Studies Annual Conference, Spring 2017, presentation.
Kentucky Communication Association Conference, Fall 2017, presentation.
Posters on the Hill, Washington, DC, Spring 2017, presentation.

Awards and/or Honors:
First Place Judy Rodgers Award for Media

Post-Graduation Plans (Seniors only):
N/A

Yehilevsky, Gloria

Major:
Percussion

Faculty Mentor:

Brian S. Mason

Research/Project Title:

Perspectives on Guided Improvisation

Project Abstract/Summary:

Improvising music and playing classical repertoire tend to be viewed as opposites. However, the two complement each other, and can lend significant insight into new compositional and performance techniques. Being a good performer is no longer enough to excel as a 21st century musician, many more talents are necessary to succeed. For classical musicians, implementing inprovisation into regular practice will significantly enhance ability on any instrument, leading towards becoming a more prolific 21st century musician. The term guided improvisation refers to a form of improvisation within a composition which gives the performer source material and guidelines, but leaves the performer with an amount of freedom requiring him/her to make decisions in every performance, every time he/she plays a piece. Other ways to implement improvisational practice is through composition. A third practice, lying between gided improvisation and composition, is reworking an old work on a new instrument. Developing these skills through any means places a musician's mind in a different capacity than does playing something that is notated specifically, and helps connect gaps in performing and creativity which are not easily filled otherwise. This research is supported by the George M. Luckey Honors Program and an Undergraduate Research Fellowship.

Project Dissemination:

MSU Percussion Studies Area Performance Class Presentation, Celebration of Student Scholarship Presentation.

Awards and/or Honors:

Certificate of Merit.

Post-Graduation Plans (Seniors only):

Graduate study at the Birmingham Conservatiore, England.

DEPARTMENT OF HISTORY, PHILOSOPHY, POLITICS, INTERNATIONAL STUDIES AND LEGAL STUDIES

Dean, Jonathan

Major:

History

Faculty Mentor:

Alana Scott

Research/Project Title:

Alfred the Great or Not: History and memory in the Life of Alfred the Great, r. 871-899

Project Abstract/Summary:

Jonathan examined basic monographs of the period to gain an understanding of the context of early medeival England, then read relevant primary sources (beginning with *Asser's Life of Alfred the Great* and *The Anglo-Saxon Chronicle*) and secondary sources (such as Jacob Abbot's *Life of Alfred the Great*) to begin his focus on Alfred the Great. He completed a conference length paper, presented it at a conference, and then continued expanding the paper in order to submit it to an undergraduate journal.

Project Dissemination:

Jonathan presented his conference-length paper at the state history conference, the Phi Alpha Theta Regional History Conference, at the University of the Cumberlands on March 4, 2017. He is expanding the paper to submit to the *Kentucky Journal of Undergraduate Scholarship*.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Jonathan plans to attend graduate school in history or medieval studies.

Prowant, Max

Major:

Government/Spanish

Faculty Mentor:

Jonathan Pidluzny

Research/Project Title:

Project Abstract/Summary:

Fareed Zakaria's 1997 essay, "The Rise of Illiberal Democracy," and his subsequent *The Future of Freedom,* argued that liberalism is not a necessary or automatic outgrowth of democratic reforms. With the West's history in mind, Zakaria contended that free and fair elections result in liberal governance – where individual rights are protected and citizens are equal before the law – where certain political conditions are previously established: the rule of law, established property rights, and freedoms of speech, assembly, and religion. In spite of the high-profile failures of several recent democratizing efforts in the Arab Middle East – the only region of the world that counts not a single liberal democracy – few scholars have attempted similar historical analyses focused on particular cases in the Middle East. This paper investigates the failure of democratizing efforts in Egypt (where reforms were instigated by widespread internal frustrations) and Iraq (where reforms were driven by external actors) by analyzing the countries' histories, and their failed efforts at reform, through a Zakarian lens. This paper contends that efforts at reform failed to produce stable and liberal states because political stability, free-market capitalism, and organized civil society were absent.

Project Dissemination:

Prowant, Max. The Rise of Illiberal Democracy in the Middle East: A Zakarian Analysis of Failed Attempts at Democratization in Iraq and Egypt. Paper presented at the Southern Regional Honors Conference, Annual Meeting, 31 March, 2017, in Asheville, NC.

Prowant, Max. The Rise of Illiberal Democracy in the Middle East: A Zakarian Analysis of Failed Attempts at Democratization in Iraq and Egypt. Poster presentation at the Midwestern Political Science Association, Annual Meeting, 7 April, 2017, in Chicago, IL.

Prowant, Max. The Rise of Illiberal Democracy in the Middle East: A Zakarian Analysis of Failed Attempts at Democratization in Iraq and Egypt. Paper presentation at the Morehead State University Celebration of Student Scholarship, 28 April, 2017, in Morehead, KY.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Quillen, Henry

Major:

Government

Faculty Mentor:

Gregory McBrayer

Research/Project Title:

Philosophy and Political Founding in Plato's Laws

Project Abstract/Summary:

The question "What is law?" is never explicitly raised in Plato's Laws. The Minos, a Platonic dialogue named after the most-discussed lawgiver in the Laws, begins with this very question. In the Minos, Socrates says that "Law, then, wishes to be the discovery of what is;" but cannot the same be said of philsophy? On the next line, Socrates' interlocutor mistakes him for saying "law is the discovery of what is." Philosophy certainly would not make this mistake. In the Laws, just after one of the interlocutors reveals that he is to become a lawgiver, the Athenian Stranger asks "what must one think the city is going to be?" The Lawgiver – and the Laws – questions not being, but becoming. The Laws cannot ask "What is law?" because the questioning of what is depends on the being of law, which is the task of the interlocutors. This paper will follow the first three books – the prelude – of the Laws to argue that the nature of political founding as becoming is to blame for the absence of the question "What is law?" in Plato's dialogue about lawgiving. This research was funded with an Undergraduate Research Fellowship.

Project Dissemination:

Paper was presented at the Annual Celebration of Student Scholarship.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Mr. Quillen has been accepted to doctoral studies in Political Science at the University of Texas, Austin, and he plans to start there in the fall.

Syck, Tyler

Major:

Government/History

Faculty Mentor:

Jonathan Pidluzny

Research/Project Title:

The Dialectical Chief Executive: How the Jefferson-Hamilton Debate Shaped the Modern Presidency

Project Abstract/Summary:

The rivalry between Alexander Hamilton and Thomas jefferson helped shape the United States at the time the country was most malleable. The differences between their though gave rise to the American party system and the national political order. One finds, at the core of their dialogue, a fundamental disagreement about the scope and priorities of the federal of government. In the years following ratification of the U.S. Constitution, Jefferson advocated a much weaker federal government. He authored the Kentucky Resolution in 1798, which claimed the states maintained the power to mullify federal laws that, in their estimation, contravened the U.S. Constitution. He also opposed nationalizing economic measures, in part to protect the agrarian character of American society. Throughout Washington's administration, the two men disagreed on the scope of the president's power, particular in matters of war and diplomacy. This paper examines Hamilton and Jefferson's thought on the presidency and the scope and extent of executive authority. It will pay special attention to the areas on which they agreed, that the president must be a figure of considerable influence at the federal level, and where they disagreed, in particular with respect to the president's role as popular leader.

Project Dissemination:

Syck, Tyler. The Dialectical Chief Executive: How the Jefferson-Hamilton Debate Shaped the Modern Presidency. Poster presentation at the Midwestern Political Science Association, Annual Meeting, 7 April, 2017, in Chicago, IL.

Syck, Tyler. The Dialectical Chief Executive: How the Jefferson-Hamilton Debate Shaped the Modern Presidency. Paper presentation at the Morehead State University Celebration of Student Scholarship, 28 April, 2017, in Morehead, KY.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Department of Sociology, Social Work and Criminology

Belcher, Matt

Major:

Criminology

Faculty Mentor:

Elizabeth Perkins

Research/Project Title:

Exploring Young Adult Males' Vulnerability to the Sex Trafficking Industry in a Rural State

Project Abstract/Summary:

After drug-dealing, human trafficking is tied with illegal arms dealing as the second largest criminal industry in the world and is the fastest growing (HHS, 2006). Theis $32 billion-dollar-a-year industry is thought to affect more than 30 million people worldwide.

Our research project focuses on data collected through interviews with 40 homeless adult males aged 17-22, in Louisville, KY to achieve a clearer understanding of the nature and scope of male sex trafficking in the state of Kentucky. This information is providing us with a clearer picture of the amount and types of services male victims of sex trafficking require.

Our interview team has been conducting semi-structured, open-ended interviews with homeless young adult males about their background, spending habits, market involvement, customers, pimps, health and needs, experiences with police, and their future expectations. While this study focuses on sex trafficking we are also asking questions pertaining to labor trafficking as well. While it should be noted that our study is still

ongoing, preliminary data shows: 90 percent of men we interviewed had experienced long term or short term homelessness, 80 percent were currently struggling with substance abuse issues, and only 50 percent had completed high school.

Project Dissemination:
Celebration of Student Scholarship and Posters at the Capitol
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
N/A

Benitez, Ivan

Major:
Criminology
Faculty Mentor:
Rebecca S. Katz
Research/Project Title:
Black Lives Matter and Police Misconduct
Project Abstract/Summary:
Extant research illustrates the disproportionate negative effects of implicit racial bias in policing on young black males (Ridgeway, 2006). Specifically, Black males are more likely to be victims of police brutality than other groups (Gabrielson, Jones & Sagara, 2014; Blair, Judd, Chapleau, 2004). The result has been a growing sense of the illegitimacy of between law enforcement and residents of black communities. Using a mixed method approached we quantitatively analyzed the 2008 and 2011 Police Public Contact Survey, while qualitatively analyzing social media and news reports of the Black Lives Matter movement. Quantitative findings illustrate that being a young Black or Hispanic male predicted police use of excessive force. Furthermore, whites were more likely to believe that police searches were legal compared to Blacks and Hispanics. The shooting death of Trayvon Martin at the hands of Donald Zimmerman resulted in the inception of the Black Lives Matter Movement. However, the shooting death of Michael Brown in Ferguson Missouri and a number of subsequent shooting deaths of young black males by police around the nation have infused on-going protests and the growth the Black Lives Matter social movement aimed at improving civil rights for people of color, sexual minorities, and the poor.
Project Dissemination:
Presentation: American Society of Criminology Meetings: November 2016, New Orleans, Louisiana.
Poster Session: Annual Student Celebration of Scholarship, April, 2017.
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
Mr. Benitez graduates this May and has been accepted in the Masters program at Eastern Kentucky University for the Fall of 2017.

Laskovtsov, Albina

Major:
Criminology
Faculty Mentor:
Bernadette Barton/Rebecca Katz
Research/Project Title:
College Parties and Raunch Culture and Male Peer Support Theory: Murder and Sexual Assault
Project Abstract/Summary:
Barton: "Raunch" culture, sometimes called the sexualization of culture, describes a hyper-sexualized climate that oversexualizes women while encouraging women to sexualize other women and themselves. Raunch culture influences much of our social life. Drawing on observation at five parties, and interviews with 12 women about their experiences at college parties, this presentation explores manifestations of raunch culture at college parties. This research finds that some male party-goers display an aggressive entitlement to female bodies that we speculate is a consequence of sexist culture norms.

Katz: Grounded qualitative research of newspaper reports of campus sexual assaults, police sexual assaults, and murders revealed support for male peer support theory and masculinities theory identifying American partirachal culture and male homosocial groups as supportive of norms privileging male sexual aggression while devaluing female power and autonomy as explaining a number of rape on college campuses in fraternities, athletic clubs and among male police officers. Moreover, white privilege and devalueation of people of color in addition to cultural support of hegemonic masculinity and male privilege increased the likelihood of police violence against minorities. These group norms also privileged silence over reporting and prosecuting male sexual assault and homicide.

Project Dissemination:

Laskovtsov, Albina, Lawson, Amber and Professor Bernadette Barton. (2017). College Parties and Raunch Culture, poster, Posters at the Capitol, Frankfort, KY.

Male Peer Support Theory: Murder and Sexual Assault. This paper was also presented as a poster at the Annual American Association of Behavioral and Social Sciences in Las Vegas Nevada in February of 2017. We also have a paper accepted at the Annual Society of Criminology Meeting in Philadelphie in November of 2017. This paper is titled: Male Peer Support Theory: Murder and Sexual Assault. This paper is an expansion of our original paper and will include an international data set on campus sexual assaults.

Laskovtsov, Albina, Lawson, Amber and Professor Bernadette Barton. (2017). College Parties and Raunch Culture, presentation, Celebration of Student Scholarship, Morehead, KY, April, 2017.

A paper is also being currently drafted for publication.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Albina has been accepted into the graduate program in Criminal Justice at Seattle University beginning in January of 2018.

Lawson, Amber

Major:

Psychology

Faculty Mentor:

Bernadette Barton

Research/Project Title:

College Parties and Raunch Culture

Project Abstract/Summary:

Barton: "Raunch" culture, sometimes called the sexualization of culture, describes a hyper-sexualized climate that oversexualizes women while encouraging women to sexualize other women and themselves. Raunch culture influences much of our social life. Drawing on observation at five parties, and interviews with 12 women about their experiences at college parties, this presentation explores manifestations of raunch culture at college parties. This research finds that some male party-goers display an aggressive entitlement to female bodies that we speculate is a consequence of sexist cultural norms.

Project Dissemination:

Laskovtsov, Albina, Lawson, Amber and Professor Bernadette Barton. (2017). College Parties and Raunch Culture, poster, Posters at the Capitol, Frankfort, KY.

Laskovtsov, Albina, Lawson, Amber and Professor Bernadette Barton. (2017). College Parties and Raunch Culture, presentation, Celebration of Student Scholarship, Morehead, KY, April 2017.

A paper is also being currently drafted for publication.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Amber is planning to continue her studies in graduate school and is interested in the Master's program in Early Childhood Psychology at Eastern Kentucky University.

LeMaster, Tabatha

Major:
Criminology

Faculty Mentor:
Elizabeth Perkins

Research/Project Title:
PBHCI-VOA Utah

Project Abstract/Summary:
Volunteers of America, Utah (VOA Utah) is a human services nonprofit organization located in Salt Lake City (in northcentral Utah) whose mission is to reach and uplift those in greatest need. VOA Utah provides outpatient mental health and substance abuse treatment, homeless services and transitional housing, counseling for survivors and perpetrators of domestic violence, primary care, child care, and other recovery supports. VOA Utah requests $400,000 in PBHCI funds to support its proposed Cornerstone Integrated Services Project (CISP), with the purpose to improve the physical health status and overall wellness of adults with serious mental illness (SMI) living in Salt Lake County, Utah. This will be accomplished through a partnership with the Utah Department of Health's Health clinics of Utah. Health Clinics of Utah currently has a primary care clinic onsite of VOA Utah's Cornerstone Counseling Center (the community mental health center). Basic primary care services are delivered to Cornerstone's clients one day per week. With PBHCI funding, the partners will expand the size, scope and impacts of this medical clinic, progressively increasing the level of integration of behavioral health and primary care services from a current Level 3 to a Level 6 within four years.

Via a health home setting, program partners will provide holistic, evidence-based, culturally appropriate, integrated primary health care, mental health and/or substance abuse treatment, care coordination, integrated treatment planning, peer navigation support, prevention and health promotion activities and education, wraparound services, and comprehensive transitional care from inpatient to other settings, including appropriate follow-up, to ensure uninsured and underinsured adults with SMI gain access to care and enhanced opportunity for maximum health.

This program will imapct the health status of persons at highest risk of chronic conditions and diseases. Persons with SMI face substantial physical, psychological, educational, social and financial barriers to healthcare and optimal health. Utah ranks number one in the U.S. in terms of the number of people diagnosed with mental illness, and ranks in the top 10 of states with the highest percentage of persons with SMI. VOA Utah will provide services to 100-150 adults with SMI annually (500 over the four-year grant period). Most CISP consumers will be uninsured or underinsured; 60% are predicted to be male, 25% of minority race, 35% Hispanic, 40% Caucasian, and 10% of another race or mixed races. At least 25% of consumers may be ages 18-44. More than half will be tobacco and/or substance users. All will be diagnosed with or be at high risk for co-morbid conditions or chronic disease.

Projected outcomes: To increase access to primary care; offer prevention, early identification and intervention; ensure holistic care; and improve the overall health for adults with SMI.

Project Dissemination:
Student assisted in project start-up.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
N/A.

Shankle, Kevin

Major:
Criminology

Faculty Mentor:
Elizabeth Perkins

Research/Project Title:
Exploring Young Adult Males' Vulnerability to the Sex Trafficking Industry in a Rural State

Project Abstract/Summary:

After drug-dealing, human trafficking is tied with illegal arms dealing as the second largest criminal industry in the world and is the fastest growing (HHS, 2006). This $32 billion-dollar-a-year industry is thought to affect more than 30 million people worldwide.

Our research project focuses on data collected through interviews with 40 homeless audlt males aged 17-22, in Louisville, KY to achieve a clearer understanding of the nature and scope of male sex trafficking in the state of Kentucky. This information is providing us with a clearer picture of the amount and types of services male victims of sex trafficking require.

Out interview team has been conducting semi-structured, open-ended interviews with homeless young adult males about their background, spending habits, market involvement, customers, pimps, health and needs, experiences with police, and their future expectations. While this study focuses on sex trafficking we are also asking questions pertaining to labor trafficking as well. While it should be noted that our study is still ongoing, preliminary data shows: 90 percent of men we interviewed had experienced long term or short term homelessness, 80 percent were currently struggling with substance abuse issues, and only 50 percent had completed high school.

Project Dissemination:

Celebration of Student Scholarship and Posters at the Capitol

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

COLLEGE OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD, ELEMENTARY, AND SPECIAL EDUCATION

Bugg, Kaitlyn

Major:

Elementary Special Education

Faculty Mentor:

Kim Nettleton

Research/Project Title:

Building a Professional Development School and A Comparison of the Clinical Practice Performance and Other Measures of Teacher Education Candidates prepared in a Professional Partnership Model Versus a Traditional Teacher Preparation Program

Project Abstract/Summary:

The professional development school movement is growing and building one from the ground up is difficult. This research study will examine best practices for building enduring partnerships.

Project Dissemination:

Oral presentation to the faculty of the Early Childhood Education Department. The project is still undergoing research.

Grace, D., Mullins, C., & Bugg, K. (2017). A Comparison of the Clinical Practice Preformance and Other Measures of Teacher Education Candidates Prepared in a Professional Partnership Model Versus a Traditional Teacher Preparation Program. Morehead State University, Morehead, KY.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Mullins, Caitlyn

Major:

MSD/P-5

Faculty Mentor:

Daniel Grace

Research/Project Title:

A Comparison of the Clinical Practice Performance and Other Measures of Teacher Education Candidates Prepared in a Professional Partnership Network (PPN) Model v. a Traditional Teacher Preparation Program

Project Abstract/Summary:

Since 2011, cadres of of education candidates have experienced an "immersed" field experience as members of a Professional Partnership Network (PPN) for three consecutive semesters prior to their culminating clinical practice semester. The partnership between a school district and MSU has resulted in candidates accumulating several hundred hours in classrooms more than their peers in the traditional teacher education program. This study is investigating differences in performance between the "immersed" and traditional program candidates in their ability to meet standards of clinical practice performance as measured by university clinical practice supervisors from 2011 to 2016.

Project Dissemination:

Mullins, C., Bugg, K. & Grace, D. (2017). A Comparison of the Clinical Practice Performance of Teacher Education Candidates Prepared in a Partial Professional Partnership Network (PPN) model v. a Traditional teacher Preparation Program. Department of Early Childhood, Elementary and Special Education (ECESE) faculty on April 14, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Department of Foundational and Graduate Studies in Education

Shumate, Bryana

Major:

Biomedical Science

Faculty Mentor:

Tim Simpson

Research/Project Title:

Education in Antiquity: How the Ancient Roman Republic Shaped the American Founders

Project Abstract/Summary:

This paper will explain the impact of Rome on the Founding Fathers during the creation of the United States of America. First, I will explain how the Founding Fathers learned about Rome, including the use of the everyday vernacular and the school systems of the time. Second, I will explain why they viewed Rome as valuable, including the various problems and goals that the founders believed mirrored their own political situation. Third, I will explain what the founders specifically learned from Rome, including the use of public virtue and other Roman constructs. Finally, I will consider the relationship between Modern America and Rome, and the implications of such a relationship. Overall, this presentation will show that the Founding Fathers looked towards Rome as a most useful model for the creation of their own government.

Project Dissemination:

Bryana Sumate (2017). Education in Antiquity: How the Ancient Roman Republic Shaped the American Founders, presented at the Spring Kentucky Honors Roundtable Conference.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Department of Middle Grades and Secondary Education

Elswick, Justin

Major:

Secondary Math and Spanish P-12

Faculty Mentor:

Lesia Lennex

Research/Project Title:

Technology in the Secondary Schools

Project Abstract/Summary:

Research with 3D technologies and 1:1 initiatives in secondary (grades 8-12) school instruction involving the curriculum construction, delivery, and analysis of learning is intended for 2015-2016. We plan to construct, deliver, and analyze the learning and achievement of students within this school year so that curriculum development with 3D and 1:1 to be disseminated to professional communities.

The research successfully produced hydropower curriculum and related 3D technologies for projects in grades 6-12.

Project Dissemination:

Posters:

Elswick, J., & Lennex, L. (2017, April). 3D Engineering for Secondary Education. Celebration of Student Scholarship, Morehead State University.

Elswick, J., & Lennex, L. (2017, March). Technology Use by Chemistry and physics Teachers in Kentucky. Posters at the Capitol. Frankfort, KY. Council on Undergraduate Research.

Presentations:

Lennex, L., & Elswick, J. (2017, February). 3D Engineering Design for Middle and High School. Kentucky association for gifted Education. Lexington, KY. KAGE. https://llennex.wixsite.com/kage2017

Elswick, J., & Lennex, L. (2017, March). Grades 6-12 Engineering Project: Turbine Design. Society for Information Technology and Teacher Education. Austin, TX. AACE.

Lennex. L., & Elswick, J. (2017, March). Technology Use by Chemistry and Physics Teachers in Kentucky. Society for Information Technology and Teacher Education. Austin, TX. AACE.

Proceedings:

Haight, A.D., Lennex, L., Elswick, J., & Chapman, H. (2017). Grades 6-12 Engineering Project: Turbine Design. In Society for Information Technology and Teacher Education.

Elswick, J., & Lennex, L. (2017). Technology Use by Chemistry and Physics Teachers in Kentucky. In Society for Information Technology and Teacher Education.

Lennex, L., & Elswick, J. (2017, February). 3D Engineering Design for Middle and High School. Kentucky Association for Gifted Education. Lexington, KY. KAGE. https://llennex.wixsite.com/kage2017

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

COLLEGE OF SCIENCE

DEPARTMENT OF AGRICULTURAL SCIENCES

Clark, Chip

Major:

Veterinary Science

Faculty Mentor:

Patricia Harrelson

Research/Project Title:

Effects of Two-Step Weaning Duration on Behavior and Growth Parameters in Beef Cattle

Project Abstract/Summary:

Stress during weaning is two-fold, physical separation of the calf and dam along with the alteration of the calf's nutrition due to the prevention of nursing. At weaning, the calf will exhibit increased vocalizations and decreased appetite. One way to reduce the stress at weaning is to use a two-stage weaning method, where an anti-suckling device is placed in the nostrils of the calf for 4-7 days prior to weaning. This allows the calf to remain beside their dam, but unable to nurse. The use of this device has been shown to reduce the stress of the calf, however, has negatively impacted the calf's growth rate. During this study, anti-suckling devices were placed on calves either 4 or 2 days prior to weaning or no device was placed. We measured vocalizations and calf body weights. We observed a linear effect (P=0.006) in post-weaning average daily gain, as calves with no anti-suckling devices displayed the highest, and calves in 4-day treatment exhibited

the lowest growth rate. We observed a treatment by day interaction as calves without anti-suckling devices, vocalized more starting on the day of weaning and continued 3 days after ($P<0.0001$). This research was supported by MSU Undergraduate Research Fellowship.

Project Dissemination:

Deller, A.N., Clark, E.C., Harrelson, F.W., and P.L. Harrelson. (2016, April). Effects of Two-Stage Weaning Duration on Beef Cattle Growth and Vocalization, poster, Celebration of Student Scholarship, Morehead, KY, April, 2016.

Seim, L., Clark, E.C., Harrelson, P.L. and F. W. Harrelson. (2017, April). Impact of Two-Stage Weaning on Calf Growth, Behavior, and Vocalization, poster, Celebration of Student Scholarship, Morehead, KY, April, 2017.

E.O. Clark, P.L. Harrelson, and F.W. Harrelson, 2016. Effects of Two-Stage Weaning Duration on Beef Cattle Growth and Vocalization. J. Anim. Sci. 95(Suppl. 1):58. (Abstr.).

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Will attend veterinary school at Lincoln Memorial in Tennessee.

Dale, Jesseca

Major:

Veterinary Science

Faculty Mentor:

Sara Malone

Research/Project Title:

Bilateral Radiographic Asymmetries in Hoof Angle and a Potential Relationship with Performance in Thoroughbred Racehorses

Project Abstract/Summary:

There is evidence that uneven hoof angles are related to a decrease in performance and an increase in musculoskeletal injury. This study was designed to identify the incidence and severity of asymmetries in forelimb hoof angle of yearling Thoroughbreds. The purpose was to test the hypothesis that horses with larger asymmetry would have decreased performance during their subsequent racing careers. Forelimb radiographs of yearling Thoroughbred horses)n=75) were measured using ImageJ to identify dorsal hoof angle. An asymmetry index (ASI) was calculated for each yearling, to quantify the difference in hoof angle between the left and right forelimb. Subsequent performance data was collected from an online database after all horses had retired from racing. A one-sample t-test was used to test if the mean ASI was significantly different from zero. The ASI and performance were compared using a general linear regression and significance was set at $P<0.05$. Results are displayed as the mean ± SEM. The majority of horses (n=42) had a positive ASI indicating the right hoof was steeper in 56% of the horses. The mean ASI of 4.78 ± 0.45% was significantly different ($P<0.001$) from zero demonstrating asymmetry to study population with a right dominance. All horses showed an asymmetry ranging from 0.40% to 17.50%. The average sale price for the yearlings was 99,121.62 ± 23.650.97 AUD. Horses started racing at 2.9 ± 0.07 years and average career length was 715 ± 68 days. The horses earned 67,538 ± 22,480 AUD during their careers with 15.7 ± 1.5 wins. The horses made it into the top three placings 35.9 ± 3.3% of the time. No significant relationship was found between ASI and performance or between ASI and sale price. This is one of the first studies to quantify the magnitude of asymmetries in the hoof angles of young racehorses. Previous research has shown a radiographic difference in hoof angles and have identified a relationship between asymmetry and performance variables of horses competing in a variety of disciplines. This study measured hoof angle of yearling horses, which could change considerably before the onset of racing. However, previous results have shown that the magnitude of asymmetries tends to increase with age. Further studies could explore the relationship between current asymmetries of horses in race training and performance or the development of asymmetries with age.

Project Dissemination:

Accepted for a poster presentation at the Equine Science Society Meeting in MN. Lauren will present.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Seim, Lisa

Major:

Animal Science

Faculty Mentor:

Flint Harrelson/Patricia Harrelson

Research/Project Title:

Impact of Two-Stage Weaning on Calf Growth, Behavior, and Vocalization

Project Abstract/Summary:

Removal of the dam and main source of nutrition at weaning results in increased stress (vocalizations/activity) for calves. Two-stage weaning uses an anti-suckling device placed in the calf's nostrils 4-7 days prior to weaning to help alleviate stress. We hypothesized that with the use of anti-suckling devices, calves would vocalize and walk less, and not depress weight gain. Calves (n = 51) were utilized in a completely randomized design. Calves were stratified by weight and randomly assigned to 1 of 3 treatments; control, 2 days with device prior to weaning or 4 days with device prior to weaning. Data were analyzed using the MIXED procedure of SAS with sex and treatment, as fixed effects. No differences (P > 0.55) were observed for any growth parameters based upon treatment. We observed a treatment x day interaction for calf vocalizations (P > 0.0001). For calf behavior, we observed a linear treatment effect for walking (P = 0.03). These results suggest that anti-suckling devices can be useful in reducing stress at weaning in cattle.

Project Dissemination:

Seim, Lisa L., Emery O. Clark, Katlyn R. Vencill, Drs. Patricia L. Harrelson and Flint W. Harrelson (2017, April). Impact of Two-Stage Weaning on Calf Growth, Behavior, and Vocalization, poster, Celebration of Student Scholarship, Morehead, KY, April, 2017.

Seim, Lisa L., Patricia L. Harrelson, Flint W. Harrelson (July, 2017). Impact of Two-Stage Weaning on Calf Growth Parameters, poster ASAS-CSAS Annual Meeting, Baltimore, MD, July, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Considering further education, therefore looking into graduate schools and different programs offered..

Vencill, Katlyn

Major:

Animal Science

Faculty Mentor:

Patricia Harrelson

Research/Project Title:

Effects of Two-Step Weaning Duration on Behavior and Growth Parameters in Beef Cattle

Project Abstract/Summary:

Removal of the dam and main source of nutrition at weaning results in increased stress (vocalizations/activity) for calves. Two-stage weaning uses an anti-suckling device placed in the calf's nostrils 4-7 days prior to weaning to help alleviate stress. We hypothesized that with the use of anti-suckling devices, calves would vocalize and walk less and not depress weight gain. Calves (n=51) were utilized in a completely randomized design. Calves were stratified by weight and randomly assigned to 1 of 3 treatments; control, 2 days with device prior to weaning or 4 days with device prior to weaning. Data were analyzed using the MIXED procedure of SAS with sex and treatment, as fixed effects. No differences (*P>0.55)* wereobserved for any growth parameters based upon treatment. We observed a treatment × day interaction for calf vocalizations (P<0.0001). For calf behavior, we observed a linear treatment effect for eating *(P=0.0162).* These results suggest that anti-suckling devices can be useful in reducing stress at weaning in cattle. This research was supported by MSU Undergraduate Research Fellowship.

Project Dissemination:

Seim, L.L., E.O. Clark, K.R. Vencill, P.L. Harrelson, and F.W. Harrelson. 2017. Impact of two-stage weaning on calf growth, behavior, and vocalizations. Poster presentation, MSU Celebration of Student Scholarship, Morehead, KY, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Student will not graduate until December of 2017. The student plans to enter the animal nutrition/genetics field.

Zembrodt, Lauren

Major:
Veterinary Science

Faculty Mentor:
Sara Malone

Research/Project Title:
Bilateral Radiographic Asymmetries in Hoof Angle and a Potential Relationship with Performance in Thoroughbred Racehorses

Project Abstract/Summary:
There is evidence that uneven hoof angles are related to a decrease in performance and an increase in musculoskeletal injury. This study was designed to identify the incidence and severity of asymmetries in forelimb hoof angle of yearling Thoroughbreds. The purpose was to test the hypothesis that horses with larger asymmetry would have decreased performance during their subsequent racing careers. Forelimb radiographs of yearling Thoroughbred horses (n=75) were measured using ImageJ to identify dorsal hoof angle. An asymmetry index (ASI) was calculated for each yearling, to quantify the difference in hoof angle between the left and right forelimb. Subsequent performance data was collected from an online database after all horses had retired from racing. A one-sample t-test was used to test if the mean ASI was significantly different from zero. The ASI and performance were compared using a general linear regression and significance was set at $P<0.05$. Results are displayed as the mean ± SEM. The majority of horses (n=42) had a positive ASI indicating the right hoof was steeper in 56% of the horses. The mean ASI of 4.78 ± 0.45 % was significantly different ($P<0.001$) from zero demonstrating asymmetry in the study population with a right dominance. All horses showed an asymmetry ranging from 0.40% to 17.50%. The average sale price for the yearlings was 99,121.62 ± 23,650.97 AUD. Horses started racing at 2.9 ± 0.07 years and average career length was 715 ± 68 days. The horses earned 67,538 ± 22,480 AUD during their careers with 15.7 ± 1.5 wins. The horses made it into the top three placings 35.9 ± 3.3 % of the time. No significant relationship was found between ASI and performance or between ASI and sale price. This is one of the first studies to quantify the magnitude of asymmetries in the hoof angles of young racehorses. Previous research has shown a radiographic difference in hoof angles and have identified a relationship between asymmetry and performance variables of horses competing in a variety of disciplines. This study measured hoof angle of yearling horses, which could change considerably before the onset of racing. However, previous results have shown that the magnitude of asymmetries tends to increase with age. Further studies could explore the relationship between current asymmetries of horses in race training and performance or the development of asymmetries with age. Accepted for a poster presentation at the Equine Science Society meeting in MN. Lauren will present.

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
N/A

DEPARTMENT OF BIOLOGY AND CHEMISTRY

Dale, Jesseca

Major:
Biology

Faculty Mentor:
Allen C. Risk

Research/Project Title:
Comparison of Species Richness of Lichens in Arboreal and Terrestrial Zones at Eagle Lake Watershed, Morehead, KY

Project Abstract/Summary:

Lichens are a symbiotic relationship between two separate organisms, algae and fungus. The dominant partner that gives the lichen physical characteristics is the fungus. Lichens perform many important ecological roles in forests including nitrogen fixation, removal of heavy metals, and providing nesting material for organisms. Since forests are three dimensional, determination of lichen richness is difficult because lichens are found on the ground and in the trees. This research, which is in its initial stages, compared lichen species richness on the ground with that in the trees by use of single and double rope techniques within a single 20X20 meter plot. Numerous samples were collected from soil, rocks, woody debris, understory shrubs/trees, and overstory trees. Preliminary results show that numerous species of lichens only occur in tree crowns within the plot. The most widely distributed lichens were *Punctelia reducta*, *Flavoparmelia carperata*, and *Parmotrema hypotropum*. This research was supported by the Undergraduate Research Fellowship of Morehead State University.

Project Dissemination:

Dale, J.R. and A.C. Risk, 2017. Comparison of Species Richness of Lichens in Arboreal and Terrestrial Zones at Eagle Lake Watershed, Morehead, Kentucky. Celebration of Student Scholarship, Morehead State University. 26 April. Poster Presentation.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

McDonald, Kendall

Major:

Biology

Faculty Mentor:

Allen C. Risk

Research/Project Title:

Macro lichens of Eagle Lake Watershed, Rowan County, KY

Project Abstract/Summary:

In Kentucky, lichens are understudied, with only a few inventories conducted including those in Mammoth Cave, Land between the Lakes, and various counties in northern and eastern regions of the state. This study focused on the Eagle lake watershed locaed in Rowan County, Kentucky. Specimens were collected within an elevation range of 800-1240 feet, in various forest and community types, and on bark, rock and soil subtrates. The 149 collected and identified specimens comprised 58 species, 23 genera and included several rare species (for Kentucky). Eight North American biogeographical distribution patterns were represented: 54% east-temperate, 19% were Appalachian-Great Lakes, 12% pan-temperate, 5% east-temperate/Pacific Northwest, 4% Appalachian-Great Lakes/Pacific Northwest, 2% Coastal Plain, 2% east-temperate/boreal, and 2% southeast. This research was supported by an Undergraduate Research Fellowship at Morehead State University.

Project Dissemination:

McDonald, K.B. and A.C. Risk. 2017. Macrolichens of the Eagle Lake Watershed, Rowan County, KY. Association of Southeasern Biologist Meeting, Montgomery, Alabama. 30 March – 1 April. Poster Presentation.

McDonald, K.B. and A.C. R isk. 2017. Macrolichens of the Eagle Lake Watershed, Rowan County, KY. Celebration of Student Scholarship, Morehead State University. 26 April. Oral Presentation.

Awards and/or Honors:

Merit Award. 2017 Celebration of Student Scholarship, Morehead State University.

Post-Graduation Plans (Seniors only):

Seeking employment in conservation, resource management.

Pollitt, Maggie

Major:

Biomedical Sciences

Faculty Mentor:

Kurt M. Gibbs

Research/Project Title:

Assessment of the Influence of Hoxd10 on Spinal Cord Regeneration in Xenopus Levis

Project Abstract/Summary:

During development, Hox genes play a significant role in regulating the anterior-posterior patterning of an organism. During the normal development of Xenopus laevis, the Hoxd10 gene is expressed in the unoperated tadpole and becomes downregulated in the unoperated juvenile animal. In the spinal cord injured tadpole, however, Hoxd10 expression is significantly downregulated, whereas no change in expression is observed in the juvenile animal. We hypothesized that this downregulation from the unoperated tadpole to the operated tadpole may affect the regenerative ability of tadpoles with spinal cord injury. To test this hypothesis, we analyzed Hoxd10 expression in the acute spinal cord injury paradigm using real-time PCR and in-situ hybridization. Using age matched control animals, we found that the decrease in Hoxd10 was a result of progressing development, not a specific response to injury.

Project Dissemination:

This work was presented as a poster presentation at the Morehead State University Celebration of Student Scholarship.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Watson, Linzi

Major:

Biomedical Science

Faculty Mentor:

Kurt M. Gibbs

Research/Project Title:

Characterizing the Inflammatory Response After Spinal Cord Injury in Xenopus Laevis

Project Abstract/Summary:

Anuran amphibians, such as Xenopus laevis, can regenerate central nervous system (CNS) axons as a tadpole but lose this ability during metamorphosis. The inflammatory response to spinal cord injury represents a significant obstacle to functional recovery in mammals and has yet to be characterized in Xenopus laevis. It is possible that the tadpole inflammatory response is reduced compared to that of adults as a result of developmental age. Another possibility is that tadpoles contain active genes capable of resolving the inflammatory response that are inactive after metamorphosis. To test these hypotheses, we examined the expression levels of pro-inflammatory cytokines (TNfa and IL1B) and anti-inflammatory molecules (CD206 and TGFB) in tadpole and adult frogs after spinal cord injury. By studying the immune response occurring in Xenopus laevis, we hope to gain a better understanding of the factors related to spinal cord regeneration after injury.

Project Dissemination:

This work was presented as a poster presentation at the MSU CSS. Additionally, this work part of a project (currently in progress) that will be published in a peer-reviewed journal in the coming year.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

After my graduation in May, I plan to attend graduate school in a physician assistant program.

Department of Earth and Space Science

Curnutte, Johnathon

Major:

Space Science

Faculty Mentor:

Ben Malphrus

Research/Project Title:

Development & Testing of an APRS Relay System for MSU Shuttle Service (Disclaimer: Due to changes in the program requirements, my project was changed midway through the year).

Project Abstract/Summary:

The purpose of this project is to create a two-way tactical real-time digital communications ground station using the Automatic Packet Reporting System Internet System (APRS-IS). This ground station will be able to communicate between each of the five Morehead State University (MSU) shuttles and the stops upon their routes. Within a small margin of error, the system will accurately provide an estimated time of arrival of the closest shuttle to each respective bus stop. This communications system will be composed of an APRS ground station found at the top of Satellite Hill as well as individual tracker units placed within each shuttle. A Raspberry Pi 3 equipped with 32 gigabytes of storage, High-Definition Multimedia Interface (HDMI), an Adafruit Ultimate Global Positioning System (GPS) Breakout – 66 Channel with Ten Hertz Updates, a Terminal Node Controller (TNC) Pi-2, a seven-inch Raspberry Pi touchscreen display, and a dual band radio, specifically: TYT-TH 9800 two-way radio will compose the individual tracking unit for each shuttle. Associate Professor Robert James Twiggs has agreed to mentor this project. A functional link between the Satellite Hill ground station and the individual tracker unit will be created, a commercial amateur radio operator license will be obtained, a LED sign will be installed at, at least one bus stop, the tracking information will be fed into a website, and the groundworks for a cellular device application capable of relying real-time locations and information regarding the shuttles will be laid out.

The original goals of this project proved to be idealistic. The work completed on this project produced a functioning tracker unit and heavily detailed documentation allowing for replication of the design and completion of the original goals.

Project Dissemination:

Curnutte, Johnathon P. (2017, May). Development & Testing of an APRS Relay System for MSU Shuttle Service, Senior Thesis Final Presentation. Morehead, Kentucky, May, 2017. Oral Presentation.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Upon graduation, I intend to take a few months to fully analyze the next direction in which I intend on taking my life. I do not know for certain the next task I shall take on, but I can say that within the next year I intend to find a job that offers to pay for my graduate schooling. Within two years I intend to begin a graduate school program.

Ernst, Sonny

Major:

Phys. Astro. Area

Faculty Mentor:

Thomas Pannuti

Research/Project Title:

Analysis of Green Bank Telescope Observations of the Rotating Radio Transient (RRAT) J1955+10 using PRESTO and GUPPI

Project Abstract/Summary:

Working with Dr. Pannuti, Sonny installed the PRESTO software package on one of the Linux boxes in Dr. Pannuti's undergraduate Linux research laboratory in the Space Science Center. This software package is the standard package used in the field of pulsar astronomy and is utilized for the analysis of observations conducted with premier radio observatories like the Green Bank Telescope (GBT). After installing the software package, Sonny conducted analyses of the observations made of his source to determine values for both the rotation period of J1955+10 as well as its first period derivative. While the measurement of the first quantity was successful, the data was insufficient for the measurement of the second quantity. Adopting the median value for the first period derivatives measured for other rotating radio transients, Sonny derived measurements for a minimum magnetic field strength and the characteristic age of J1955+10. These results indicated that – like other sources in the class – J1955+10 is an old neutron star with a weak magnetic field.

Sonny also collaborated with Dr. Pannuti in a successful observing proposal that secured observing time on the GBT to conduct timing observations of two candidate neutron stars identified in X-ray observations of the Galactic supernova remnants CTB 1 AND 3C 396. Lastly, Sonny also continued to be an ambassador for

the Pulsar Search Collaboratory: in this role, he worked with jennifer Carter of the Craft Academy to mentor students in the Academy in the analysis of observations made of pulsars with the GBT.

Project Dissemination:

Sonny Ernst and Dr. Thomas G. Pannuti (2017). Analysis of Green Bank Telescope Observations of the Rotating Radio Transient (RRAT) J1955+10 using PRESTO and GUPPI. Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2017.

Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
N/A

Gardner, Kristina

Major:
Geology
Faculty Mentor:
Jen O'Keefe
Research/Project Title:
Palynology Processing and Fungal palynology in Support of the US gulf Coast Palynostratigraphy Project: Samples from Tahitian Village, Bastrop, TX
Project Abstract/Summary:
The US Gulf Coast Palynostratigraphy Project was proposed in a presentation at the 2016 meeting of AASP-The Palynological Society to resolve significant issues related to the biozonation of onshore – deep water Gulf of Mexico Basin samples. The first step in addressing this very large-scale problem is to revise existing biozonations for Wilcox – Jackson group sediments; we are starting with the upper Wilcox Group, and concentrating our efforts on sediments thought to contain the Paleocene-Eocene Thermal Maximum (PETM). Associated with pollen and spore work to be completed by O'Keefe and Demchuk and Dinoflagellate work to be completed by Demchuk and Dennison, this URF will concentrate efforts, along with O'Keefe, in identifying biostratigraphically useful fungal remains present in the sediments. The URF was responsible for working on samples from in and around "Tahitian Village," a subdivision of Bastrop, TX. Palynological processing of 25 samples from "Tahitian Village" was completed. Photomicrographs were obtained from every slide and the URF is well on her way to learning how to identify fungi and other palynomorphs. Preliminary results were presented as a poster at the 2017 Celebration of Student Scholarship and as a talk at the Ohio Valley Organic Petrographers' Meeting in Carbondale, IL. This is extraordinary progress for a URF who has not ever worked on a palynology project before this semester!
Project Dissemination:
Gardner, K., O'Keefe, J., Denison, C., Demchuk, T., 2017. Extracting Pollen Spores, and Algae from Paleocene and Eocene Sediments. 2017 Celebration of Student Scholarship, April 26, 2017, Morehead State University, Morehead, KY.
O'Keefe, J., Gardner, K., Denison, C., Demchuk, T., 2017. Preliminary Organic Petrography and Paleoecology of New Exposures of Upper wilcox Group Coals, Texas. 7th Annual Meeting of the Ohio Valley Organic Petrographers. April 11, 2017, southern Illinois University at Carbondale, Carbondale, IL.
Awards and/or Honors:
N/A
Post-Graduation Plans (Seniors only):
N/A

Huffman, Timothy

Major:
Astrophysics
Faculty Mentor:
Thomas Pannuti
Research/Project Title:
An Analysis of Archival Observations made of the Nearby Face-on Spiral Galaxy NGC 3184 with the Chandra X-ray Observatory
Project Abstract/Summary:
This on-going project centers on analyzing archival X-ray observations made of the nearby face-on spiral galaxy NGC 3184 with the *Chandra* X-ray Observatory. NGC 3184 is a prominent nearby spiral galaxy with an elevated star formation rate as evidenced by the remarkably high number (six) of historical supernovae observed in the galaxy. Such a high star formation rate is expected to result in a large population of discrete X-ray sources (namely X-ray binaries and supernova remnants) that may be detected by an X-ray

observatory like Chandra, which has robust flux sensitivity coupled coupled with unparalleled angular resolution. Three archived observations (with a total effective exposure time of over 100 kiloseconds) have been downloaded and analyzed. Timothy's work has centered on running source-detection tools to identify discrete X-ray sources in the galaxy and running flux-variability tools that determine (on a statistical basis) whether a source has changed its flux during the observation. Approximately 50 discrete sources have been identified and the light curves extracted of approximately one-quarter of all of the X-ray sources feature robust statistical evidence for variability during the course of at least one observation. A detailed analysis of these X-ray sources – including searches for variability in their fluxes between the individual observations – is still underway.

Project Dissemination:

Cadence Payne and Dr. Thomas G. Pannuti. 2017. An Analysis of Archival Observations made of the Nearby Face-On Spiral Galaxy NGC 3184 with the Chandra. Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Payne, Cadence

Major:

Space Science Area

Faculty Mentor:

Thomas Pannuti

Research/Project Title:

The Commissioning of a Hydrogen Maser for Scientific and Commercial Operations of the 21-Meter Space Tracking Antenna/Spatially-Resolved Spectroscopic Analysis of the Galactic Supernova Remnant G27.4+0.0 (Kesteven 73)

Project Abstract/Summary:

Cadence's fellowship had two purposes: the first purpose was to commission and integrate a hydrogen maser capable of extremely precise time measurements into the scientific and commercial operations of the 21-Meter Space Tracking Antenna (STA). The maser – donated by MIT and delivered to the Space Science Center in the spring of 2017 – is capable of making time measurements with a precision of better than 10^{-9} seconds and is a vital addition to the hardware currently in place for the STA. For both scientific and commercial applications, the maser establishes the time of arrival of signals from distant astronomical sources (for the former application) or of data packets from satellites (for the latter application). Cadence had commenced work on this maser while a summer researcher at the MIt Haystack Observatory in the summer of 2016 and – during that time – gained familiarity with the operation of this hardware. The maser was delivered to the Space Science Center in March 2017 and – with Cadence's assistance and participation – it has been integrated into the existing hardware for data collection by the STA. The development and testing of this hardware will continue in the near future.

When not working on the hydrogen maser, Cadence performed a spatially resolved spectroscopic analysis of the X-ray emission produced by the Galactic supernova remnant G27.4+0.0 (Kesteven 73) using an archived observation made of the source with the *Chandra* X-ray Observatory features the angular resolution to separate out these different components of the X-ray emission as well as to discern between different parts of the shell itself. Cadence extracted spectra for different regions of the rim and included an archival radio observation made of the source with the Very Large Array to search for synchrotron emission at X-ray energies from the rim. Cadence's spectroscopic analysis revealed that the spectral characteristics (temperature, ionization state and elemental abundances) varied little across the entire shell. In addition, there was little to no synchrotron emission at X-ray energies from the rim, indicating that cosmic-ray particles are accelerated to moderate energies (rather than extremely high energies) along with the expanding shock front of the SNR.

Project Dissemination:

Cadence Payne and Dr. Thomas G. Pannuti (2017, April). Spatially-Resolved Spectroscopic Analysis of the Galactic Supernova Remnant G27.4+0.0 (Kesteven 73). Celebration of Student Scholarship, Morehead State University, Morehead, KY, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Cadence has been accepted for graduate studies at the Department of Aeronautics and Astronautics at MIT in Cambridge, Massachusetts. She will enroll there and pursue graduate work in that department in the fall of 2017.

Wilczewski, Sarah

Major:

Space Science

Faculty Mentor:

Benjamin Malphrus

Research/Project Title:

Small Satellite Mission Operations at Morehead State University and Characterization of UHF and X-Band Feed Systems

Project Abstract/Summary:

Small satellite programs involving picosatellites, nanosatellites and microsatellites operating in low Earth orbit are increasing in number significantly due to new advanced capabilities being fielded on these small space platforms. National space agencies, small and large aerospace companies and universities have launched and are operating an ever-increasing number of CubeSats in particular. By the beginning of 2014, over 100 CubeSats will have flown, with exponentially increasing numbers in development, in part as a result of planned constellations each involving 10s of CubeSats. The rising number of CubeSat missions poses a challenge for mission operations, particularly for developers planning constellations of CubeSats. Services provided by commercial ground networks are often beyond the reach of CubeSat developers because of the significant costs associated with these services. Amateur radio-based ground stations operated by university groups and others are capable of servicing only low-bandwidth operations. Amateur radio-based ground stations become less than ideal for performing mission operations services with increasingly sophisticated payloads that require greater data throughput. A potential solution lies in the implementation of high gain ground stations operated by small-scale, cost-effective organizations like universities and small commercial ventures. One example is the 21 Meter Space Tracking Antenna operated by the Space Science Center at Morehead State University (MSU). The MSU 21-m Space Tracking Antenna is capable of providing telemetry, tracking, and command (TT&C) services for a wide variety of space missions but is particularly well-suited for servicing smallsats. The 21-m has the capacity to track satellites in low Earth orbit (LEO) with extremely low transmission power, as well as satellites at geostationary, lunar, and Earth-Sun Lagrangian orbits. The system currently operates at UHF, L-, S-, C-, X- and Ku-bands. The 21-m has extremely good surface (0.0166" RMS) and tracking accuracies (0.005° RMS at Ku-Band), and excellent pointing (<= 0.01° RMS). When combined with 21-m aperture area gains, this supports smallsat missions beyond LEO. The team has recently upgraded hardware and software systems to support remote operation by off-site operators, and has begun the process of upgrading the system to Space Link Extension (SLE) compliance. The instrument is primarily operated by undergraduate students who work in the associated laboratories. They gain hands-on training in space communications systems and techniques, turning our laboratories into educational environments for workforce training. The 21-m is also used as a test bed for advanced RF systems developed by faculty and collaborators. It has been employed in a growing portfolio of satellite missions serving as the primary high-bandwidth ground station for Kentucky Space LLC's KySat-1, Planet Lab's Dove-2, and Morehead State's Cosmic X-Ray Background NanoSatellite (CXBN). It has also served as a secondary ground station for the University of Roma GAUSS Group's EduSat missions. The system has been employed in the testing and calibration of the NASA Lunar Reconnaissance Orbiter synthetic aperture radar (mini-SAR) at X- and S-bands. This work will involve having Sarah operate downlink and uplink passes for current nanosatellite missions managed by the Space Science Center and missions for which the Center provides ground operation support, all of which are designed to train undergraduate students as the next workforce in support of the ground operations and satellite development industries. Future missions that anticipate using the 21-m, include CXBN-2, UniSat-5, KySat-2, and future Planet Labs Dove satellites. Additional work involves characterizing newly developed feed systems (UHF and X-band) via a series of empirical measurements including: G/T, Antenna Gain, Radiation Pattern, Noise Temperature, and 3dB beam width.

A lot has been accomplished throughout the duration of this project. The pointing accuracy of the 21-m at S-band was tested, and a procedure for this test was established so it can be repeated at X-band. A Network, Monitor and Control subsystem has been established and will be implemented once the equipment for the Deep Space Network arrives. New students have been trained to operate the Yagi antennas, and are in training to operate the 21-m.

Project Dissemination:

Wilczewski, Sarah (2017). Design of the Upgraded 21-meter Antenna Operator Interface for the Deep Space Network Cross Support. Senior thesis presentations, Morehead, KY, May, 2017.

Awards and/or Honors:

Outstanding Undergraduate in Space Science for the 2016-2017 academic year.

Post-Graduation Plans (Seniors only):

I will be spending this summer interning at the Jet Propulsion Laboratory, then will return to Morehead in the fall to start the Masters in Space Systems Engineering program.

DEPARTMENT OF KINESIOLOGY, HEALTH AND IMAGING SCIENCE

Guerrant, Joanna

Major:
Strategic Communications

Faculty Mentor:
Gina Gonzalez

Research/Project Title:
Motor Development and Skill Acquisition in Elementary Age Students

Project Abstract/Summary:
Mastering physical movement occurs through motor learning and experience. Motor development is needed for successful acquisition of sport and other physical skills. A lack of motor skills has been associated with decreased physical activity later in life, which has been linked to a variety of hypokinetic diseases. The current pilot experiment examined the differences in motor skill acquisition in college age students. Eighteen volunteers, ages 18-25 with no previous injuries and no previous martial arts experience, were recruited to learn, perform, and attempt to master a sidekick movement. Subjects were randomly assigned into one of three groups: visual feedback, auditory feedback or no feedback. After viewing an instructional video, subjects performed 20 trials while receiving only the type of coaching feedback assigned. Self-efficacy was recorded at baseline and after every fifth attempt and the research team determined at what trial, if at all, mastery was met from each individual. All feedback groups increased confidence from baseline with the auditory group increasing the most and the no feedback group increasing the least. At the end of 20 trials, the visual group was the most confident and the auditory feedback group was the least confident. Both genders increased confidence over 20 trials with males increasing by 7% and females increasing by 18%. Only 7 subjects achieved mastery (n=5 auditory group and n=2 visual group). Future research will include a larger scale examining skill acquisition across the lifespan, specifically the differences between elementary age students, college age students, and middle aged to older adults.

Project Dissemination:
Guerrant, J., & Gonzalez, G.H.B. (2016, Autumn). *Motor development and skill acquisition in elementary age students.* Posters at the Capitol, Frankfort, KY.

Guerrant, J., & Gonzalez, G.H.B. (2016, Autumn). *The Effects of Feedback on Mastery of a New Motor Skill: A Pilot Test.* Poster Presentation at KAHPERD Conference. Lexington, KY.

Guerrant, J., & Gonzalez, G.H.B. (2017, Spring) *Motor development and skill acquisition in elementary age students.* Published Abstract. KAHPERD Journal, 54 (2).

Awards and/or Honors:
N/A

Post-Graduation Plans (Seniors only):
To get a CSD degree in pursuit of speech pathology.

Hull, Allison

Major:
Kinesiology

Faculty Mentor:
Gina Gonzalez

Research/Project Title:
Dietary Supplement Attitudes and Behaviors in the Personal Training Profession

Project Abstract/Summary:
Dietary supplements are a growing multi-billion dollar industry. Supplement usage is widespread, however, due to a lack of FDA regulation, there are concerns with the safety and efficacy of many dietary supplements. Personal trainers are in a position to educate the public on dietary supplements; however, it is unknown how they approach this topic personally and professionally. The purpose of this study was to better understand behaviors and attitudes of personal trainers with respect to dietary supplements. After an extensive literature review, an instrument was created to reflect personal trainers' behaviors and attitudes. The instrument was pilot tested on a small group of professionals then disseminated to a larger sample. Forty-seven personal trainers completed the online survey (60% female and 40% male). When asked about personal and

professional practices, 73% said they currently take supplements but 66% said they never or seldom recommend/prescribe them to clients. Major sources of supplement information were scientific journals (n=25), internet (n=20), textbooks (n=15), and friend recommendations (n-14). When asked about supplements and their clients, 29 responded that they never or seldom recommend/prescribe supplements. Most participants believed that registered dieticians and medical doctors are qualified to recommend dietary supplements (83% and 62% respectively) but only 27.7% believe that personal trainers are qualified to recommend supplements. Reasons for behaviors and differences in attitudes and practices were discussed. This research is supported by an Undergraduate Research Fellowship provided by the Academic Honors Program.

Project Dissemination:

Hull, A., Pawley, R., & Gonzalez, G.H.B. (2016, Autumn). *Dietary supplement attitudes and behaviors in the personal training profession.* Posters at the Capitol. Frankfort, KY.

Hull, A., & Gonzalez, G.H.B. (2017, Spring). *Dietary supplement attitudes and behaviors in personal training profession.* St. Claire Research Day, Morehead, KY: St. Claire.

Hull, A., & Gonzalez, G.H.B. (2016, Autumn). *Dietary supplement attitudes and behaviors in the personal training profession.* Kentucky Health, Physical Education, Recreation and Dance Convention. Lexington, KY: KAHPERD.

Hull, A., & Gonzalez, G.H.B. (2017, Spring). *Dietary supplement attitudes and behaviors in the personal training profession.* Published Abstract. KAHPERD Journal, 54(2).

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

DEPARTMENT OF MATHEMATICS AND PHYSICS

Blackburn, James M.

Major:

Computational Physics

Faculty Mentor:

Jennifer Birriel

Research/Project Title:

Monitoring Night Sky Brightness in the Morehead, KY Area using Sky Quality Meters

Project Abstract/Summary:

Electroencephalography (EEG) has been used in psychological research for over a hundred years. Unfortunately throughout most Light pollution is a pervasive form of pollution due to excess artificial lighting of the night. It represents an economic and ecological problem that can be solved with relative ease. First, however, we must quantitatively document night-sky brightness and compare it to natural levels of night sky brightness. This project represents the second stage of a documenting of night-sky brightness in the Rowan County area: this includes the city of Morehead, Cave Run Lake, and parts of the surrounding Daniel Boone National Forest. Unihedron Sky Quality Meters are used to perform photometric measurements of brightness. The charged-coupled device (CCD) collects photons of light and the device converts this energy flux to an astronomical magnitude by using the known brightness of the standard star Vega which has a magnitude of 0.0. We also examine the spectral output and the effect of the spectral signature of night-time lighting on the color of the night sky.

Project Dissemination:

The student only worked on the project for 9 weeks since he replaced another student who quit the project and he was unable to present after having completed only 9 weeks of work.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

This student still has one year to complete his physics degree and has not made definitive plans for the future.

Hankins, James L.

Major:
Physics-Engineering
Faculty Mentor:
Jennifer Birriel
Research/Project Title:
Identifying, Cataloging and Restoring Vintage Physics Equipment at MSU

Project Abstract/Summary:

The Physics laboratories at Morehead State University pre-date the 1970s. There are several dozens of pieces of laboratory equipment that now qualify as antiques. Scientific equipment has a long and varied history and there are books and auctions for collectors. Our goal is collect, clean, refurbish and identify the antique physics pieces at MSU. These will be cataloged and put on display in cases in Lappin Hall and on a website hosted by MSU. The student will use the web and make visits to the UKy Physics Department which has its own collection of antique physics pieces on display.

Project Dissemination:

The student only worked on the project for 9 weeks since he replaced another student who quit the project and he was unable to present after having completed only 9 weeks of work.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

DEPARTMENT OF PSYCHOLOGY

Alley, Stephen

Major:

Psychology

Faculty Mentor:

Gregory Corso

Research/Project Title:

The Integration of Wireless Electroencephalography into Psychological Research of Attention and Driving Simulation

Project Abstract/Summary:

Electroencephalography (EEG) has been used in psychological research for over a hundred years. Unfortunately throughout most of history these devices were expensive and required large amounts of hardware and dedicated software to use. In recent years EEG devices costing around $100 have become commercially available. The new generation of EEG devices allows for the processing and recording of data to be achieved with standard computers, and commonly used scientific programing languages. This project provides a method for the integration of three technologies: MindWave by neurosky Inc, used to record EEG data; Inquisit 5.0 by Millisecond Software, a software package used to program psychological experiments and collect behavioral data from participants; and a Tobii eye tracker (model X2-30), used to collect eye-movement data. The integration of those three technologies will be used in data collection from traditional measures of attention like the TOVA and Conners continuous performance test, and a low fidelity driving simulation. The ability of researchers to link EEG, eye-movements, and traditional behavioral measures (e.g. response time, tracking error) in a low cost environment should provide for a richer understanding of human performance.

Project Dissemination:

Alley, S. & Corso, G.M. (April, 2017). The Integration of Wireless Electroencephalography into Psychological Research of Attention and Driving Simulation. Oral presentation, Carolina Psychology Conference, Dunn, NC.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

N/A

Ashley, Rebecca

Major:

Psychology

Faculty Mentor:

J.T. Blackledge

Research/Project Title:

Project Abstract/Summary:

The effects of two common therapeutic techniques on reducing the psychological distress elicited from a negatively self-evaluative body image statement generated by subjects were investigated. Subjects were asked to generate and write down a negative self-evaluative thought related to their body image that they found distressing, and to rate the degree of distress the thought elicited and how believable the thought was. In the first experimental condition, subjects were given a rationale designed to help them questions the veracity and applicability of negatively evaluative thoughts. They were then asked to engage in a commonly used cognitive defusion microintervention that involves violating standard language conventions. Subjects were asked to type the distressing thought into a word scrambling tool and scramble the letters in an effort to demonstrate the arbitrary nature of words. In the control condition, subjects were given a rationale that normalizes having negatively self-evaluative thoughts and describes some of the ways in which we often make inaccurate evaluations. Subjects were then asked to think logically and to look for evidence against their distressing thought. Similar effects on reduction of distress and believability were found in each condition.

Project Dissemination:

Ashley, Rebecca and Blackledge, JT (2017). Targeting Body Image Dissatisfaction with a Cognitive Defusion Microintervention. Oral presentation, Celebration of Student Scholarship, Morehead, KY, April, 2017.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Accepted into Morehead State University's MS in Clinical Psychology Program.

Bocook, Adam

Major:

Psychology

Faculty Mentor:

Tim Thornberry

Research/Project Title:

Examining Parent Smoking, Trauma, Reactivity, and Observed Parent-Child Interactions

Project Abstract/Summary:

This project examines the associations between parent smoking, trauma-related symptoms, and behaviors observed during a standardized behavior observation. In addition, this project expands on previous pilot data of a novel Reactivity Questionnaire by documenting activity in two parent populations – smokers and those with high levels of self-reported trauma-related symptoms. Data collection & analyses were ongoing when Adam changed labs.

Project Dissemination:

None on this project.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Graduate School.

Bocook, Adam

Major:

Psychology

Faculty Mentor:

Gregory Corso

Research/Project Title:

Divided Attention and the Dual-Task Paradigm

Project Abstract/Summary:

The dual-task paradigm takes place when one is asked to execute two tasks (primary and secondary) simultaneously, and the performance of these tasks affect either one or both tasks. In regards to how secondary tasks interfere with the performance on a primary task, Wickens (2002) proposed a four-

dimensional multiple resource model that predicts greater degrees of interference if tasks share stages of information processing, sensory modalities, codes, and perceptual channels (Wickens, 2002). Taking from Wickens' model, we designed a reactionary task (Whack-A-Mole) and a tracking task (Worm) which incorporate the visual modality and spatial coding needed to make responses. In addition to the dual-task, participants were also asked to complete two attention deficit hyperactive disorder (ADHD) diagnostic assessments. These assessments include the Test of Variables of Attention (TOVA) and the Continuous Performance Test (CPT). We have hypothesized that performance on the ADHD diagnostic assessments will correlate with performance on the dual-task. Preliminary analyses revealed a statistically significant correlation between performance on the TOVA and performance on the dual task, $r(8) = .80$, $p = .016$.

Project Dissemination:

Bocook, A. Smith, H., Corso, G.M. & Kelling, N. (April 2017). Divided attention and the dual-task paradigm. Oral presentation, Celebration of Student Scholarship, Morehead, KY.

Bocook, A., Smith, H., Corso, G.M. & Kelling, N. (April 2017). Divided attention and the dual-task paradigm. Oral presentation, Carolina Psychology Conference, Dunn, NC.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Graduate School.

Case, Samuel

Major:

Neuroscience

Faculty Mentor:

Ilsun White and Wesley White

Research/Project Title:

Effects of Alcohol and Psychostimulants on Activity Pattern During 20-24 Hour Post Injection

Project Abstract/Summary:

This project examined the effects of nicotine on the pattern of activity during 12 and 24 hours following treatment, and also compared the effects of amphetamine and morphine. Nicotine produced hypoactivity, with a minilar time courses of longer-term hypoactivity. Moreover, nicotine-induced hypoactivity was blocked by dopamine D1 agonist. When addictive drugs share similar pharmacological properties, they are likely to produce a similar pattern of behavior, possibly a similar neural mechanisms.

Project Dissemination:

Samuel Case gave 2 first-authored presentations and 4 co-authored presentations at the scientific meetings, local and state-level. His research endeavor exceeded expectation at the level of 1st and 2nd year undergraduate student. Samuel Case's productivity during 2016-2017 academic year follows:

Samuel L. Case, Terra E. Riggs, Brianna K. Ward, Ilsun M. White, Wesley White (April 2017). A comparison of acute withdrawal from amphetamine, morphine, and nicotine in rats. Oral presentation at the Celebration of Student Scholarship, Morehead State University, Morehead, KY.

Terra E. Riggs, Brianna K. Ward, Samuel L. Case, Ilsun M. White, Wesley White (April 2017). Some characteristics of acute withdrawal from nicotine in rats. Poster presentation at the Celebration of Student Scholarship. Morehead State University, Morehead, KY.

Brianna K. Ward, Samuel L. Case, Terra E. Riggs, Ilsun M. White, Wesley White (April 2017). Flavor conditioning before and during acute withdrawal from amphetamine rats. Poster presentation at the Celebration of Student Scholarship. Morehead State University, Morehead, KY.

Terra E. Riggs, Samuel L. Case, Brianna K. Ward, Ilsun M. White, Wesley White (March 2017). Acute withdrawal from nicotine involves reduced activity and may be due to temporary disruption of a brain reward pathway. Poster presentation at the Posters at the Capitol, Frankfort, KY.

Brianna K. Ward, Samuel L. Case, Tesla M. Henderson, Ilsun M. White, Wesley White (November 2016). A method for assessing the capacity of amphetamine to produce an acute-withdrawal related negative state in rats. Poster presentation at the Kentucky Academy of Science Annual Meeting 2016, Louisville, KY.

Samuel L. Case, Terra E. Riggs, Brianna K. Ward, Ilsun M. White, Wesley White (November 2016). Nicotine may produce an acute-withdrawal related longer-term reduction in activity through a dopaminergic pathway in rats. Poster presentation at the Kentucky Academy of Science Annual Meeting 2016, Louisville, KY.

Awards and/or Honors:

A recipient of Neuroscience Scholarship, 2016-2017.
Second Place, KAS Undergraduate poster competition, Psychology category, November 2016.

Post-Graduation Plans (Seniors only):

Samuel Case is keenly interested in neuropharmacology, and his short-term postgraduate goal is to enter a PhD in Neuroscience.

Sami entered the MSU, Fall 2016. He was awarded a URF in August because he arrived at MSU early and he was trained before the semester started. Sami also participated in other research projects in the lab. His knowledge in neuropharmacological correlates of behavior is outstanding. Sami has completed 59 credit hours and he is expected to graduate early. This research experience will help in pursuing his academic and professional goals.

Dawson, Nicholas

Major:

Psychology

Faculty Mentor:

Tim Thornberry

Research/Project Title:

Examining Parent Smoking, Trauma, Reactivity, and Observed Parent-Child Interactions/The Roles of Perfectionism and Body Dissatisfaction in Eating Pathology

Project Abstract/Summary:

The first project examines the associations between parent smoking, trauma-related symptoms, and behaviors observed during a standardized behavior observation. In addition, this project expands on previous pilot data of a novel Reactivity Questionnaire by documenting reactivity in two parent populations – smokers and those with high levels of self-reported trauma-related symptoms. Data analysis is ongoing, but preliminary results suggest behavioral differences on average between parents who smoke versus those who do not smoke.

The second project explored perfectionism and eating pathology in MSU students. There has been a substantial body of research indicating that perfectionism is associated with a variety of psychological disturbances. More recently, perfectionism and body dissatisfaction have been found to associate with each other as well as with disordered eating (Boone, Soenens, & Braet, 2011; Graziano & Sikorski, 2014). It is critical that researchers explore the many factors involved in eating pathology in order to derive clinical inteventions and prevention strategies. Tissot and Crowther (2008) introduced a model wherein body dissatisfaction mediated the relationship between perfectionism and eating pathology, particularly bulimic symptoms. This ideal internalization also mediated the relationship between perfectionism and eating pathology but also mediated the association between perfectionism and body dissatisfaction. The current study aims to replicatesome of the findings of this study as well as examine the generalizatbility of some of the model's assumptions. We will also attempt to clarify self-esteem's role in this model since there are inconsistent findings about the construct's moderational influence between perfectionism and thin ideal internalization (Tissot & Crowther, 2008). An online survey will be conducted in which undergraduate students from a rural, southeasten university will receive psychology course credits for participating. The participants will complete questionnaires about perfectionism, eating pathology, body satisfaction, body esteem, thin ideal internalization, and self-esteem. We hypothesize that there will be a positive association between perfectionism and eating pathology, as measured by the Multidimensional perfectionism Scale and the Eating Attitudes Test-26, respectively (Hewitt & Flett, 1991;2004; Garner & Garfinkel, 1979). We further hypothesize that mediation analysis will reveal body dissatisfaction as a mediator in this relationship; this variable will be measured by the Body Shape Questionnaire, Body Image Avoidance Questionnaire, and differences between reported weight and ideal weight (Cooper, Taylor, Cooper & Fairburn, 1987; Rosen, Srebnik, Saltzberg, & Wendt, 1991). An additional mediation analysis is expected to show that thin ideal internalization, as measured by the Sociocultural Attitudes towards Appearance Questionnaire – 4, is a mediator between perfectionism and body dissatisfaction (Schafer et al., 2014). Through mediated regression analysis, we will analyze if self-esteem, as measured by the Rosenberg Self-Esteem Scale, moderates the relationship between perfectionism and thin ideal internalization (Rosenberg, 1965). The results will be discussed in terms of eating pathology development, its associated factors, and possible clinical implications.

Project Dissemination:

Dawson, N.* & Thornberry, T., (2017). The Roles of Perfectionism and Body Dissatisfaction in Eating Pathology. Poster presented at Southeastern Psychological Association's 63rd annual meeting, Atlanta, GA.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Graduate School: University of Kentucky – M.S. Counseling Psychology.

Gutierrez, James Nathaniel

Major:

Neuroscience

Faculty Mentor:

Ilsun White and Wesley White

Research/Project Title:

Effects of Alcohol and psychostimulants on Activity Pattern During 20-24 Hour Post Injection

Project Abstract/Summary:

This project examined the effects of nicotine on the pattern of activity during 12 and 24 hours following treatment, and also compared the effects of amphetamine and morphine. Nicotine produced hypoactivity, with a minilar time courses of longer-term hypoactivity. Moreover, nicotine-induced hypoactivity was blocked by dopamine D1 agonist. When addictive drugs share similar pharmacological properties, they are likely to produce a similar pattern of behavior, possibly a similar neural mechanisms.

Project Dissemination:

Samuel Case gave 2 first-authored presentations and 4 co-authored presentations at the scientific meetings, local and state-level. His research endeavor exceeded expectation at the level of 1st and 2nd year undergraduate student. Samuel Case's productivity during 2016-2017 academic year follows:

Samuel L. Case, Terra E. Riggs, Brianna K. Ward, Ilsun M. White, Wesley White (April 2017). A comparison of acute withdrawal from amphetamine, morphine, and nicotine in rats. Oral presentation at the Celebration of Student Scholarship, Morehead State University, Morehead, KY.

Terra E. Riggs, Brianna K. Ward, Samuel L. Case, Ilsun M. White, Wesley White (April 2017). Some characteristics of acute withdrawal from nicotine in rats. Poster presentation at the Celebration of Student Scholarship. Morehead State University, Morehead, KY.

Brianna K. Ward, Samuel L. Case, Terra E. Riggs, Ilsun M. White, Wesley White (April 2017). Flavor conditioning before and during acute withdrawal from amphetamine rats. Poster presentation at the Celebration of Student Scholarship. Morehead State University, Morehead, KY.

Terra E. Riggs, Samuel L. Case, Brianna K. Ward, Ilsun M. White, Wesley White (March 2017). Acute withdrawal from nicotine involves reduced activity and may be due to temporary disruption of a brain reward pathway. Poster presentation at the Posters at the Capitol, Frankfort, KY.

Brianna K. Ward, Samuel L. Case, Tesla M. Henderson, Ilsun M. White, Wesley White (November 2016). A method for assessing the capacity of amphetamine to produce an acute-withdrawal related negative state in rats. Poster presentation at the Kentucky Academy of Science Annual Meeting 2016, Louisville, KY.

Samuel L. Case, Terra E. Riggs, Brianna K. Ward, Ilsun M. White, Wesley White (November 2016). Nicotine may produce an acute-withdrawal related longer-term reduction in activity through a dopaminergic pathway in rats. Poster presentation at the Kentucky Academy of Science Annual Meeting 2016, Louisville, KY.

Awards and/or Honors:

A recipient of Neuroscience Scholarship, 2016-2017.

Second Place, KAS Undergraduate poster competition, Psychology category, November 2016.

Post-Graduation Plans (Seniors only):

Samuel Case is keenly interested in neuropharmacology, and his short-term postgraduate goal is to enter a PhD in Neuroscience.

Sami entered the MSU, Fall 2016. He was awarded a URF in August because he arrived at MSU early and he was trained before the semester started. Sami also participated in other research projects in the lab. His knowledge in neuropharmacological correlates of behavior is outstanding. Sami has completed 59 credit hours and he is expected to graduate early. This research experience will help in pursuing his academic and professional goals.

Gutierrez, James Nathaniel

Major:

Psychology

Faculty Mentor:

Shari Kidwell

Research/Project Title:

Mindfulness and Acceptance Approaches to Understanding Emotion-Related Processes in Adolescence

Project Abstract/Summary:

Mindfuness is a state of openness, acceptance, and awareness in which aversive thoughts and feelings have less of an impact on an individual (Baer, Smith & Allen, 2004). Modern cognitive-behavioral therapies, including Acceptance and Commitment Therapy (ACT: Hayes, Strosahl, & Wilson, 1999), utilize mindfulness techniques to enhance this mental state, leading to improvements in the regulation of negative affect and, thereby decreasing symptoms. The current study examined the association of trait-based mindfulness (i.e., an individual's tendency to be mindful) and adolescent's patterns of regulating sadness and anger. Twenty-one 16 to 18 year olds (9 female) were interviewed about their emotional experiences. A team of students, led by nathan and Dr. Kidwell, completed a preliminary sorting of the interviews through identifying qualitative similarities and differences in both observable behavior and content. A suprisingly small number (n=2) of teens believed talking about these feelings with their caregivers was worthwhile. The majority of teens were classified as having dysregulated expressions of either sadness and/or anger. For example, these teens described isolating themselves when sad or breaking things when angry. Most such teens were acutely aware of their feelings, though some had more difficulty describing how they or others would know they were sad or angry. When examining the teen's self-reported trait-based mindfulness on two measures, there were no significant associations between mindfulness scores and emotion processing category from the interview. Power was low, but group means did suggest that teens with low-awareness of their feelings tended to report being highly accepting and mindfully present with their feelings. The inconsistency between such adolescent's interview and questionnaire responses calls into question the widespread use of self-report measures to gauge mindfulness in teens. In total, these results appear likely to have important implications for understanding and intervening with troubled adolescents. This work was supported by MSU Undergraduate Research Fellowships and an MSU RCPC grant.

Project Dissemination:

Gutierrez, James N., Henderson, Tesla M., Dawson, Nick A., Wilson, Kaitlyn B., & Kidwell, Shari L. (2017, April). Mindfulness and its association with emotional regulation in adolescence, poster, Celebration of Student Scholarship, Morehead, KY.

Henderson, Tesla M., Gutierrez, James N., Dawson, Nick A., Wilson, Kaitlyn B., & Kidwell, Shari L. (2017, April). Emotion regulation in correlation to attachment style, poster, Celebration of Student Scholarship, Morehead, KY.

Dr. Kidwell and her students are working together this summer to develop a quantitative rating scheme and will apply this and re-classify the emotions interviews. We strongly believe that the richness of this data will make it of interest to journals interested in the clinical implications of adolescent mindfulness and emotion regulation. Nathan will be centrally involved in this undertaking and will be a co-author on the manuscript.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

Nathan intends to apply to MSU's Clinical Psychology MS program within the next several years, where he can continue to study both ACT interventions and mindfulness/developmental risks for adolescent depression. We are grateful for the experience this URF has afforded him.

Hamm, Ashley

Major:

Psychology

Faculty Mentor:

Shari Kidwell

Research/Project Title:

Maternal Mental Health in Association with Postnatal Caregiver Sensitivity

Project Abstract/Summary:

Childhood Trauma can have a major deleterious impact on individuals, and data is accumulating that suggests this likely creates risk for future offspring. Specifically, parents with higher exposure to childhood trauma have been found to have increased likelihood of frightened, frightening, and dissociated behavior in interactions with their children, as well greater child protection involvement (Lieberman, 2007; Schechter, 2007). Increased sensitivity to infant emotional cues, in contrast, may decrease the likelihood of transmitting intergenerational risk. In this pilot study, three expectant/new mothers were given a series of

questionnaires, two being specific to trauma: the PTSD Checklist (Weathers et al., 2013) and Adverse Childhood Experiences (ACEs: CDC and kaiser-Permanente, 1995). These mothers had followed through on a referral by their nurse midwife for early intervention services. The quality of dyadic synchronous interaction, the mothers' sensitivity to her baby, and the baby's cooperativeness during play was evaluated using the CARE-Index (Crittenden, 1981). Babies ranged between 6 weeks and 4 months. The earliest, pre-intervention assessment data supports the hypothesis that mothers current PTSD symptoms and history of ACES exposure would be associated with their more sensitivity and dyadic interactions with their infants. That is, mother's elevated trauma symptoms and exposure appeared to be meaningfully related to their reduced, at-risk levels of sensitivity with their infants. These associations will be further explored via qualitative ratings of trauma resolution from intensive interviews, as well as through post-intervention measures. This work was supported by MSU Undergraduate Research Fellowships and an MSU AHRC grant.

Project Dissemination:

Hamm, Ashley N., Raymer, Madison V., Kidwell, Shari L., and Meritt, Frances. (2017, April). How maternal childhood trauma is related to parenting sensitivity to infant emotional cues, poster, Celebration of Student Scholarship, Morehead, KY.

Raymer, Madison V., Hamm, Ashley N., Kidwell, Shari L., and Meritt, Frances. (2017, April). Maternal Insight and Dyadic Synchrony, poster Celebration of Student Scholarship, Morehead, KY.

Kidwell, Shari L., Hamm, Ashley N., Raymer, Madison V., and Meritt, Frances (2017, May). Insecure attachment, trauma, and parenting sensitivity: Intergenerational implications for early intervention, poster, Appalachian Research Day, Hazard, KY (accepted).

Awards and/or Honors:

Ashley's poster was awarded a Certificate of Merit at the Celebration of Student Scholarship.

Post-Graduation Plans (Seniors only):

Ashley will be applying for graduate programs the coming year.

Howard, Hannah

Major:

Psychology

Faculty Mentor:

Ilsun White

Research/Project Title:

Involvement of the Prefrontal Cortex in Motivation

Project Abstract/Summary:

Motivation can be described as an internal drive that initiates and sustains goal directed behavior. Recent studies have shown that the prefrontal cortex may play a role in motivation through selective, internally driven processes. Using a rodent model, this project examined how the medial prefrontal cortex is involved in motivation. Rats received either bilateral NMDA or sham lesions to the medial prefrontal cortex. After a recovery period, rats were trained on the tasks Fixed Ratio-5 (FR5) and Fixed Ratio-20 (FR20) for 6 consecutive days with no treatment. Compared to controls, rats with prefrontal lesions showed a greater behavioral deficits in FR20, with a markedly increased response latencies. Greater behavioral deficits in FR20, which required a greater workload and sustained attention, suggest that the prefrontal cortex is involved in motivation through initiation of appetitive response when workload demand is greater.

Project Dissemination:

White, I.M., Howard, H.L., Abbott, Z.S., & White, W.O. (2016). Differential Involvement of the Prefrontal Cortex and the Amygdala in Motivation. Society for Neuroscience. Published Abstract.

White, W.O., Howard, H.L., Abbott, Z.S., Hager, K.M., Everman, K.L., & White, I.M. (2016). Medial Prefrontal Cortex is not Required for Amphetamine to Produce Acute-Withdrawal Related Hypoactivity in Rats. Society for Neuroscience. Published Abstract.

Hannah L. Howard, Ilsun M. White. Involvement of the Prefrontal Cortex in Motivation, Association for Psychological Science (APS), Chicago, IL, May 2016.

Ilsun M. White, Hannah L. Howard, Zachary Abbott, Wesley White. Do Stress Types Alter Memory Function? Association for Psychological Science (APS), Chicago, IL, May 2016.

Hannah L. Howard, Wesley White, Ilsun M. White. Sustained Motivation Requires an Intact Prefrontal Cortex. Celebration of Student Scholarship (CSS), Morehead State University, Morehead, KY, April 2016.

Madeline McCloud, Hannah Howard, Madison Hammonds, and Ilsun M. White. Brief Exposure to ecstasy in adolescence produces social withdrawal in rats, Celebration of Student Scholarship (CSS), Morehead State University, Morehead, KY, April 2016.

Tori Dennie, Zachary Abbott, Hannah Howard, Rachel Hudson, Terra Riggs, Madison Hammons, Madeline McCloud, Amy Florence, and Ilsun M. White. 2016 Regional Brain Drawing Contest, Celebration of Student Scholarship (CSS), Morehead State University, Morehead, KY, April, 2016.

Hannah L. Howard, Zachary Abbott, Wesley White, Ilsun M. White, Muscarinic Receptor Modulates Prefrontal Involvement in Motivation. Kentucky Chapter Society for Neuroscience, University of Louisville, April 2016.

Logan W. Fields, Hannah L. Howard, Jason T. McClurg, Wesley White, Acute Withdrawal from Drugs of Abuse in an Animal Model: Biomarkers and Mechanisms, Posters-at-the-Capitol, Frankfort, KY, February 2016.

Zachary Abbott, Hannah Howard, Wesley White, Ilsun M. White. Effects of Physiological and Pharmacological Stress on Simple Memory. Kentucky Academy of Science (KAS), Northern Kentucky University, Highland Heights, Kentucky, November 2015.

Awards and/or Honors:

Undergraduate Neuroscience Research Excellence Award, 2016.

Third Place, Undergraduate Poster, Physiology and Biochemistry Category, 2015, KAS.

Post-Graduation Plans (Seniors only):

A full time job in the field of Neuroscience.

A doctoral program in Physical Therapy (DPT).

Hudson, Rachel

Major:

Neuroscience

Faculty Mentor:

Ilsun White

Research/Project Title:

The Effects of Amygdala Lesion on METH-induced Behavior: Differential Modulation by D1 and D2

Project Abstract/Summary:

Influence of amygdala on METH-induced behavior was assessed, using a rodent model. Highly addictive drugs, such as methamphetamine (METH) and amphetamine, product hyperactivity by enhancing dopamine transmission in the brain. Recent studies suggest an important role of amygdala in drug abuse. In this project, we examined a precise role of the amygdala in METH-induced behavior and also examined differential modulation by D1 and D2 receptors. Male Wistar rats received sham or bilateral lesions in the amygdala. METH markedly enhanced activity. However, amygdala lesion failed to affect METH-induced hyperactivity. There was no difference between lesion and sham group. However, compared to sham controls, lesioned rats showed a significantly higher activity following a coadministration of D1+METH, but not D2+METH combination. Our data suggest that the amygdala function is modulated by dopamine D1 receptors.

Project Dissemination:

Rachel Hudson, Wesley White, and Ilsun M. White. Involvement of Amygdala in METH-induced Behavior: Differential Modulation by D1 and D2. 2016 Kentucky Academy of Science Annual Meeting, Louisville, KY, November, 2016.

Awards and/or Honors:

Third place, Undergraduate Poster, Physiology and Biochemistry Category, 2016 KAS.

Steven Wise, Neuroscience Scholarship, Spring 2016 (this student changed her major from Neuroscience to BioMed, after receiving the scholarship).

Post-Graduation Plans (Seniors only):

N/A

Raymer, Madison

Major:

Psychology

Faculty Mentor:

Shari Kidwell

Research/Project Title:

Maternal Insight and Dyadic Synchrony

Project Abstract/Summary:

Research has demonstrated that mother's ability to think insightfully about themselves and their babies are associated with a wide range of child pschosocial outcomes. Although several measures have been utilized to assess insightfulness, all utilize detailed structured interviews. The Working Model of the Child Interview (WMCI: Zeanah et al., 1994), used in the current study, has been associated with infant attachment, dyadic interactional quality, and maternal mental health. The WMCI explores the "meaning" a baby has to his or her parent by asking about perceptions of the relationship, the child, and parenting experiences. In this pilot study, the WMCI was administered to three expectant/new mothers' to assess mental representations of their babies. These mothers had followed through on a referral by their nurse midwife for early intervention services. The quality of dyadic synchronous interaction, the mothers' sensitivity to her baby, and the baby's cooperativeness during play was evaluated using the CARE-Index (Crittenden, 1981). Babies ranged between 6 weeks and 4 months. The earliest, pre-intervention assessment data supports the hypothesis that mothers with balanced, indightful representations would be more sensitive and would have more harmonious interactions with their infancts. That is, mother's qualitative categories for the WMCI (non-insightful) were associated with reduced, at-risk levels of sensitivity with their infants. These associations will be further explored via quantitative ratings and post-intervention measures. This work was supported by MSU Undergraduate Research Fellowship and an MSU AHRC grant.

Project Dissemination:

Raymer, Madison V., Hamm, Ashley N., Kidwell, Shari L., and Meritt, frances. (2017, April). Maternal Insight and Dyadic Synchrony, poster, Celebration of Student Scholarship, Morehead, KY.

Hamm, Ashley N., Raymer, Madison V., Kidwell, Shari L., and Meritt, Frances (2017, April). How Maternal Childhood Trauma is Related to Parenting Sensitivity to Infant Emotional Cues, poster, Celebration of Student Scholarship Morehead, KY.

Kidwell, Shari L., Hamm, Ashley N., Raymer, Madison V., and Meritt, Frances (2017, May). Insecure Attachment, Trauma, and Parenting Sensitivity: Intergenerational Implications for Early Intervention, poster, Appalachian Research Day, Hazard, KY (accepted).

Awards and/or Honors:

Madison received the 2016-2017 Outstanding Junior Psychology Student award. The poster on which she was a second author won a Certificate of merit at the Celebration of Student Scholarship.

Post-Graduation Plans (Seniors only):

Madison will be applying for graduate programs next year, as a senior.

Ward, Brianna

Major:

Neuroscience

Faculty Mentor:

Ilsun White and Wesley White

Research/Project Title:

Taste Aversion: Effects of Psychostimulants

Project Abstract/Summary:

Research has demonstrated that mother's ability to think insightfully about themselves and their babies are associated The purpose of this project was to develop a method to assess whether spontaneously occuring acute withdrawal from intermittently administered amphetaminewas accompanied by a negative affective state. This study adapted the taste aversion procedure, which involved presentation of a unique flavor followed by illness, suggesting that a unique flavor is the best predictor of illness. One flavor was given 12 hours (early dark period) or 18 hours (mid dark period) after saline. A second flavor was given 12 or 18 hours after amphetamine, times that should be prior to or in the midst of acute withdrawal, respectively. Hence a negative affective state is present following amphetamine, then intake of the solution should be reduced relative to intake of the solution following saline administration.We found that a unique flavor, scheduled 12 or 18 hours after amphetamine did not produce a flavor aversion. Acute withdrawal from amphetamine may not be associated with an intensely negative affective state.

Project Dissemination:

Brianna Ward gave 2 first0authored presentations and 5 co-authored presentations at the scientific meetings, local and state-level. Her research endeavor exceeded expectation at the level of 1st and 2nd year undergraduate.

Brianna K. Ward, Samuel L. Case, Terra E. Riggs, Ilsun M. White, Wesley White (April 2017). Flavor conditioning before and during acute withdrawal from amphetamine rats. Poster presentation at the Celebration of Student Scholarship. Morehead State University, Morehead, KY.

Jason McClurg, Brianna K. Ward, Chris Hobert, Rachel Hudson (April 2017). Withdrawal from Chronic Morphine Impairs Learning and Motivation. Poster presentation at the Celebration of student Scholarship. Morehead State University, Morehead, KY.

Samuel L. Case, Terra E. Riggs, Brianna K. Ward, Ilsun M. White, Wesley White (April 2017). A comparison of acute withdrawal from amphetamine, morphine, and nicotine in rats. Oral presentation at Celebration of Student Scholarship, Morehead State University, Morehead, KY.

Terra E. Riggs, Samuel L. Case, Brianna K. Ward, Ilsun M. White, Wesley White (March 2017). Acute withdrawal from nicotine involves reduced activity and may be due to temporary disruption of a brain reward pathway. Poster presentation at the Posters at the Capitol, Frankfort, KY.

Brianna K. Ward, Samuel L. Case, Tesla M. Henderson, Ilsun White, Wesley White (November 2016). A method for assessing the capacity of amphetamine to produce an acute-withdrawal related negative state in rats. Poster presentation at the Kentucky Academy of Science Annual Meeting 2016, Louisville, KY.

Terra E. Riggs, Brianna K. Ward, Samuel L. Case, Ilsun M. White, Wesley White (April 2017). Some characteristics of acute withdrawal from nicotine in rats. Poster presentation at the Celebration of Student Scholarship. Morehead State University, Morehead, KY.

Samuel L. Case, Terra E. Riggs, Brianna K. Ward, Ilsun M. White, Wesley White (November 2016). Nicotine may produce an acute0withdrawal related longer-term reduction in activity through a dopaminergic pathway in rats. Poster presentation at the Kentucky Academy of Science Annual Meeting 2016, Louisville, KY.

Awards and/or Honors:

Brianna Ward is a recipient of George Rebec Neuroscience scholarship, 2016-2017.

Post-Graduation Plans (Seniors only):

Brianna's long-term goal is to become a researcher to study Neurological disorders, including multiple sclerosis, fibromyalgia, Alzheimer's disease. Her short-term postgraduate goal is to enter a PhD in Neuroscience.

Brianna entered the MSU fall 2016. Initially, Brianna participated in research as a freshman volunteer, and she also participated in other research projects. This research experience expanded her knowledge in neuropharmacological correlates of behavior and further expand her interests in animal models of neurological disorders. Brianna has completed 60 credit hours and she is expected to graduate early. This research experience will help in pursuing her academic and professional goals.

Zumwalt, Taylor

Major:

Psychology

Faculty Mentor:

Tim Thornberry

Research/Project Title:

Examining Parent Smoking, Trauma, Reactivity, and Observed Parent-Child Interactions
Tracing Student Success: Correlating Demographic and Behavioral Factors with GPA
Supporting Student Success: Identifying Variables Linked to Academic Difficulties

Project Abstract/Summary:

The first project examines the associations between parent smoking, trauma-related symptoms, and behaviors observed during a standardized behavior observation. In addition, this project expands on previous pilot data or a novel Reactivity Questionnaire by documenting reactivity in two parent populations – smokers and those with high levels of self-reported trauma-related symptoms. Data analysis is ongoing, but preliminary results suggest behavioral differences on average between parents who smoke versus those who do not smoke.

The remaining projects centered around identifying various factors associated with academic success. In collaboration with the Office of Academic Advising and Retention, we surveyed students within the

academic probationary population and students within the general population. Participants were compared on several different factors including generational status, strategies of coping, and measures of socio-economic status.

Results indicated that those in academic probation were more likely to report living off campus and more likely to report not having access to a car. All other results were non-siginficant.

Project Dissemination:

Zumwalt, T.F. & Thornberry, T. (2017, April). Supporting Student Success: Identifying Variables Linked to Academic Difficulties. Podium presentation at Celebration of Student Scholarship, Morehead, KY.

Zumwalt, T.F. & Thornberry, T. (2017, March). Tracking Student Success: Correlating Demographic and Behavioral Factors with GPA. Poster presentation at Southeastern Psychological Association, Atlanta, GA.

Awards and/or Honors:

N/A

Post-Graduation Plans (Seniors only):

I will be attending Northern Kentucky University's graduate program in the fall, working toward earning a Master's of Social Work.

Student Index