



# CELEBRATION OF STUDENT RESEARCH AND CREATIVITY

APRIL 11-15, 2016

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**SPOTLIGHTING  
THE BEST OF  
STUDENT WORK**

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## LETTER FROM THE PRESIDENT

To Our Celebration 2016 Participants and Guests:

Welcome to Northern Kentucky University's annual Celebration of Student Research and Creativity, and congratulations to the students and faculty members participating this year. To our guests and visitors, thank you for joining us and supporting our students and our University.

This is our 14th year celebrating outstanding undergraduate and graduate research and creativity on our campus, and we are proud that the event has grown to become one of our premier annual academic activities.

Student research and creative work are important because they contribute to our knowledge, and these projects enable our students to apply what they learn in the classroom. This transdisciplinary, active learning is a defining feature of our University as we continue to develop service-learning courses, internships, co-op experiences, and opportunities for student research.

The student work we celebrate this week was done under the direct guidance of faculty mentors. These working relationships develop students' critical thinking and analytic skills, as well as oral and written communication skills needed to present their work. They also nurture the deep intellectual bond between our faculty and students – a core value of an NKU education.

The work you will see this week exemplifies the quality of the undergraduate research being conducted at NKU. Our students are future leaders in the development of the intellectual infrastructure of the Commonwealth. Their talent gives me great faith in the future of our region, our state, and our country.

Again, congratulations to all whose work is showcased in this year's Celebration, and many thanks to all who have helped make this week very memorable.

Sincerely,

A handwritten signature in black ink that reads "G Mearns". The signature is fluid and cursive, with the first letter of the first name being a large, stylized 'G'.

Geoffrey S. Mearns  
President



## LETTER FROM THE PROVOST

Dear Celebration Participants,

It is my great pleasure to welcome you to the Northern Kentucky University 2016 Celebration of Student Research and Creativity!

This year's event continues the remarkable tradition of outstanding scholarly and creative work produced by NKU students under the guidance and mentoring of the faculty. The Celebration of Student Research and Creativity is a wonderful opportunity for our students to display their work through poster presentations, oral presentations, interactive demonstrations, performances, and exhibits of artistic work with the campus community. The continued growth in the number of participants each year is a true testament to the dedication of our students and faculty.

The Celebration of Student Research and Creativity provides evidence of the close connection between students and faculty that has become a hallmark of the NKU educational experience. These opportunities enhance student learning via intense engagement and discovery in a chosen academic field. The work is challenging. Research takes time and effort, but the rewards of this form of experiential learning can be tremendous.

On behalf of President Geoffrey S. Mearns, the deans of our colleges, the chairs of our academic departments, and the entire NKU community, I congratulate you all on the research and creativity showcased during this annual celebration.

Sincerely,

A handwritten signature in black ink that reads "Sue Ott Rowlands". The signature is written in a cursive, flowing style.

Sue Ott Rowlands

Provost and Executive Vice President for Academic Affairs

# CELEBRATION SCHEDULE OF EVENTS

## THURSDAY, APRIL 7

### MAIN GALLERY, 3RD FLOOR GALLERY

3:30 p.m. .... BFA Studio Senior Art Exhibition I - Gallery Talk  
5-7 p.m. .... BFA Studio Senior Art Exhibition I - Opening Reception

## THURSDAY, APRIL 7 - FRIDAY, APRIL 15

### MAIN GALLERY, 3RD FLOOR GALLERY

9 a.m.-9 p.m. .... BFA Studio Senior Art Exhibition I

## MONDAY, APRIL 11

### PLAZA IN FRONT OF UNIVERSITY CENTER

10:30 a.m. .... Painting on the Plaza

### SOTA OPEN HOUSE

#### GREAVES CONCERT HALL

Noon-12:30 p.m. . Student Choreography Showcase  
1-1:50 p.m. .... Brass Choir  
2-2:50 p.m. .... Chamber Choir  
4-4:45 p.m. .... Improv Tour Troupe

### FINE ARTS GALLERY

5-7 p.m. .... Sponsor Wine and Cheese Reception

### GREAVES CONCERT HALL

7 p.m. .... String Area/Chamber Music Concert

## TUESDAY, APRIL 12

### STAUSS THEATRE

11 a.m.-Noon ..... Musical Theatre Tour Troupe  
1:45-2:45 p.m. .... Dance Tour Troupe

### SU BALLROOM, SU 108, 109, 104

12:30-2:45 p.m. ... Poster Session

### YORK STREET CAFE (NEWPORT, KY)

8 p.m. .... Spring Vocal Jazz Concert

## WEDNESDAY, APRIL 13

### SU 102

10 a.m.-Noon ..... Playwriting Showcase

### ORAL PRESENTATIONS

#### SC 302

Noon-1:40 p.m. .... Biological Sciences and Chemistry

#### SL 102

2-5 p.m. .... English; Sociology & Anthropology & Philosophy;  
World Languages & Literature; and Honors

### GH 124

2-4 p.m. .... Communication; Computer Science;  
Psychological Science

### GREAVES CONCERT HALL

7 p.m. .... Spring Keyboard Recital

## THURSDAY, APRIL 14

### POETRY OPEN MIC

#### SU 102

Noon-3 p.m. .... Loch Norse magazine; *True NKU*, which will feature the writing done during the Sam Quinones residency

#### SC 409

2-3 p.m. .... Haile Digital Planetarium: Star Lore from South Africa,  
Losing the Dark, and Experience the Aurora

### ORAL PRESENTATIONS

#### GH 124

2-5 p.m. .... Counseling, Social Work and Leadership;  
Economics and Finance; and Sports Business  
& Construction Management

## FRIDAY, APRIL 15

### DIGITORIUM

9-10 a.m. .... Documentary Photo Presentation  
2-4 p.m. .... Film Festival: *Econ Beats*, *4 Paws for Ability*,  
and *CMF*

### HAILE DIGITAL PLANETARIUM, SC 409

7:30 p.m. .... Improv Night

## THURSDAY, APRIL 21

### MAIN GALLERY, 3RD FLOOR GALLERY

3:30 p.m. .... BFA Studio Senior Art Exhibition II - Gallery Talk  
5-7 p.m. .... BFA Studio Senior Art Exhibition II - Opening Reception

## THURSDAY, APRIL 21 - FRIDAY, APRIL 29

### MAIN GALLERY, 3RD FLOOR GALLERY

9 a.m.-9 p.m. .... BFA Studio Senior Art Exhibition II

## THURSDAY, APRIL 21 - SUNDAY, MAY 1

### CORBETT THEATER

8 p.m. .... INTO THE WOODS  
(3 p.m. on Sunday)

# ARTISTIC PRESENTATIONS

## SENIOR FINE ARTS EXHIBITION DATES THIRD FLOOR GALLERY AND MAIN GALLERY

### APRIL 7-15 STUDENT EXHIBITS

GALLERY TALK: 3:30PM THURSDAY, APRIL 7

RECEPTION: 5-7PM THURSDAY, APRIL 7

Lindsay McCarty	Laurn Jones
Emma Clixby	Adam Schmidt
Ashley Fischesser	Taylor Daniels
Evan Sgouris	Randy Godawa

### APRIL 21-29 STUDENT EXHIBITS

GALLERY TALK: 3:30PM THURSDAY, APRIL 21ST

RECEPTION: 5-7PM THURSDAY, APRIL 21ST

Amy Hardesty	Havalyn Grace Ridge
Sarah Kendall	Jack Seiter
Tyler Gray	Iman Jabrah
Kara Bischoff	Jessica Martin

#### A-1: GIL BRUMMETT, JOSEPH LORENZON, JENNIFER MCMAHON, EMILY SHERRY

*Econ Beats: That's What Makes Consumption Work*

FACULTY SPONSOR(S): BRAD LIBIS, COMMUNICATION; ABDULLAH AL-BAHRANI, ECONOMICS & FINANCE

Abstract: Econ Beats is an interdisciplinary project between the Economics and Electronic Media and Broadcasting programs on campus. The goal is to create parody music video and write lyrics about economic terms learned in the class. Economics students pick the song a write the lyrics and the EMB students handle the production side of putting the video together along with input from their Econ counterparts. This helps the Economics students with entering into the national Rockonomix competition while the EMB students get the experience of working with a client outside their program.

#### A-2: MARIA DELLA BELLA, BRYN HIGH, ELLEN WAPPNER, HEIDI TROLL

*How Google Changed My Life*

FACULTY SPONSOR(S): SARA DRABIK, COMMUNICATION

Abstract: For our EMB 423 Documentary Production Course, we partnered with local non-profits Charitable Words and 4 Paws for Ability to tell the story of 4 Paws for Ability and the work they do to provide service dogs to children and veterans dealing with disability. This piece focuses on Malia, her family, and her service dog, Google. It explores the positive changes that Google brought to both Malia and her family. It is currently featured on the 4 Paws for Ability website.

#### A-3: PRODUCER SHARON FORD, DIRECTOR DAVID CAMPBELL, ASSISTANT DIRECTOR ANDREA HUBRICH, WRITER NATE RYAN, DIRECTOR OF PHOTOGRAPHY MIKE MCGLASSON, EDITOR VANESSA HOLLON, AUDIO BRIAN MURRAY

*The College Movie Festival*

FACULTY SPONSOR(S): CHRIS STROBEL, COMMUNICATION

Abstract: The College Movie Festival is a collaborative filmmaking competition between media programs in Greater Cincinnati. These are NKU's films from this year.

#### A-4: DIRECTOR ADAM FROELICH, PRODUCER NYCEA PATTERSON, SKYLER HEWINS, JARROD ELLIOTT

*The College Movie Festival*

FACULTY SPONSOR(S): CHRIS STROBEL, COMMUNICATION

Abstract: The College Movie Festival is a collaborative filmmaking competition between media programs in Greater Cincinnati. These are NKU's films from this year.

#### A-5: ALEXANDRA GILB, JACOB SIEDENBERG, LAUREN FRIZZELL, JESSICA MCGINNIS

*Matthew and Potter*

FACULTY SPONSOR(S): SARA DRABIK, COMMUNICATION

Abstract: For our EMB 423 Documentary Production Course, we partnered with local non-profits Charitable Words and 4 Paws for Ability to tell the story of 4 Paws for Ability and the work they do to provide service dogs to children and veterans dealing with disability. This piece focuses on Matthew, his family, and his service dog, Potter. It explores the positive changes that Potter brought to both Matthew and his family. It is currently featured on the 4 Paws for Ability website.

#### A-6: VANESSA HOLLON, KATHRYN COMBS, ZACHARY LAWRENCE, JOSHUA KELLINGHAUS

*4 Paws for Ability*

FACULTY SPONSOR(S): SARA DRABIK, COMMUNICATION

Abstract: For our EMB 423 Documentary Production Course, we partnered with local non-profits Charitable Words and 4 Paws for Ability to tell the story of 4 Paws for Ability and the work they do to provide service dogs to children and veterans dealing with disability. This piece focuses on the organization itself, its mission, employees, and current expansion into new facilities. It is currently featured on the 4 Paws for Ability website.

#### A-7: BRENNAN HORINE, SARAH KELLAM, NATHAN RYAN, CLARA FIGHTMASTER

*Battlefield: The Kim Edwards and Spice Story*

FACULTY SPONSOR(S): SARA DRABIK, COMMUNICATION

Abstract: For our EMB 423 Documentary Production Course, we partnered with local non-profits Charitable Words and 4 Paws for Ability to tell the story of 4 Paws for Ability and the work they do to provide service dogs to children and veterans dealing with disability. This piece focuses on Kim, a military veteran living with PTSD, and her service dog, Spice. It explores the positive changes that Spice brought to Kim's life. It is currently featured on the 4 Paws for Ability website.

#### A-8: PETER HUFFMAN, DAVID CRAMER, SHAE MCKEE, TYLER ROBERTS

*Econ Beats: Economics*

FACULTY SPONSOR(S): BRAD LIBIS, COMMUNICATION; ABDULLAH AL-BAHRANI, ECONOMICS & FINANCE

Abstract: Econ Beats is an interdisciplinary project between the Economics and Electronic Media Broadcasting programs on campus. The goal is to create parody music video and write lyrics about economic terms learned in the class. Economics students pick the song a write the lyrics and the EMB students handle the production side of putting the video together along with input from their Econ counterparts. This helps the Economics students with entering into the national Rockonomix competition while the EMB students get the experience of working with a client outside their program.

#### A-9: PRODUCER KASEY LONG, DIRECTOR BRYN HIGH, CO-DIRECTOR NATE SWITZER, WRITER TAYLOR CARTER, DIRECTOR OF PHOTOGRAPHY ZACH WALDRIDGE, EDITOR KYLE WILLARD, PRODUCTION SOUND MIXER ZACH LAWRENCE, CAMERA OPERATOR JEREMY SCRAGGS, PRODUCTION ASSISTANT MATTHEW ALEMANY

**The College Movie Festival**

FACULTY SPONSOR(S): CHRIS STROBEL, COMMUNICATION

Abstract: The College Movie Festival is a collaborative filmmaking competition between media programs in Greater Cincinnati. These are NKU's films from this year.

**A-10: PRODUCER SAM STEPHENSON, STEVE MAY, KAIRI FREUDENBERG, JORDAN MCDANIEL, EMILY WETTERICH, KALEY ALBAUGH****The College Movie Festival**

FACULTY SPONSOR(S): CHRIS STROBEL, COMMUNICATION

Abstract: The College Movie Festival is a collaborative filmmaking competition between media programs in Greater Cincinnati. These are NKU's films from this year.

**A-11: PRODUCER EMILY TINCHER, TYLER HONSCHOPP, MICHAEL MURPHY, EDEN FISCHER, LAKEISHA GAMBLE, IAN PAUL, ALEXANDER BENZING****The College Movie Festival**

FACULTY SPONSOR(S): CHRIS STROBEL, COMMUNICATION

Abstract: The College Movie Festival is a collaborative filmmaking competition between media programs in Greater Cincinnati. These are NKU's films from this year.

**A-12: JOSEPH TRENTMAN, KATELYN POPPE, PEYTON LARTER, NATHAN GARBIG****Econ Beats: Unemployment**

FACULTY SPONSOR(S): BRAD LIBIS, COMMUNICATION; ABDULLAH AL-BAHRANI, ECONOMICS &amp; FINANCE

Abstract: Econ Beats is an interdisciplinary project between the Economics and Electronic Media Broadcasting programs on campus. The goal is to create parody music video and write lyrics about economic terms learned in the class. Economics students pick the song a write the lyrics and the EMB students handle the production side of putting the video together along with input from their Econ counterparts. This helps the Economics students with entering into the national Rockonomix competition while the EMB students get the experience of working with a client outside their program.

**A-13: ALEX FROST****[moved to INTERACTIVE PRESENTATIONS I-15]****Steely Library Website Usability Analysis and Prototype**

FACULTY SPONSOR(S): SOOKYUNG CHO, COMMUNICATION

**A-14: KARA BISCHOFF****The Fears are paper crows**

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; BRETT SCHIESZER, VISUAL ARTS

Abstract: The show features nine screen prints that utilize bright eye catching color. The body of work is a self portrait series focusing on this relationship between the artist and a crow. The Prints are printed on 22 by 30 water color sheets. The portraits are heavily stylized and the prints have a hand drawn quality to them. An important focus is on the compositional elements and how the prints interact with each other on the wall.

**A-15: EMMA CLIXBY****Consumed**

FACULTY SPONSOR(S): ANA ENGLAND, VISUAL ARTS

Abstract: With a sculptural installation I plan to challenge the authenticity of the material possessions that so many people have chosen for their homes. I want to encourage my audience to question their sense of history, culture and reality. My ceramic dishes, Jello-esque forms, and home wares are made with the intentions of challenging the cultural anesthesia that our mass-produced society has induced on homes and their interior design. I want to contrast the artificiality of what has become



normal and show how consumerism has encouraged us to fill our homes with objects that have seemingly no use.

**A-16: TAYLOR DANIELS****Ode to Romanticism**

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS

Abstract: My exhibition, *Ode to Romanticism*, will include ten photographs, each depicting a different narrative. These narratives derive from different works of poetry during the Romantic period and afterwards. This period emphasized the importance of getting in touch with what makes us who we are: life, death, love, nature, emotions, imagination, and the overall complexities of the human condition. In order to create my own interpretations of these poems, I use Photoshop to compile multiple images into a single photo. My photographs give off a sense of being in a dreamlike scenario. This exhibition will allow viewers to embrace their imagination.

**A-17: ASHLEY FISCHESER****sentiment.**

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS;

MATTHEW ALBRITTON, VISUAL ARTS

Abstract: Photography is an empowering method of storytelling. Most of my work relies strongly on personal experiences that I rewrite visually for the viewer. Recently, my mother passed away unexpectedly in October of 2015. This is a photographic series exploring the spaces and objects that hold a strong sense of nostalgia for me and for her. The scenes are set and objects are placed to evoke thoughts and emotions for the viewer. I strive to make an image that will allow the viewer to be able to imagine themselves in the scene, but to envision their own story.

**A-18: RANDALL GODAWA****Corrupt/Construct, (Working Title) BFA Exhibition**

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; MARC LEONE, VISUAL ARTS

Abstract: My work is about process, the subconscious, the artist's mark and the use of my art as a tool for self-evaluation. The works in this series are mixed media in nature; a combination of watercolor, ballpoint pen, color pencils, and gouache on paper. The use of idiosyncratic male forms discuss masculinity, dystopian fears, and allegorical manifestations of the artist's anxieties. The works act to create a balance between the narrative that the subject matter infers and the personal story told through the application of marks, resulting in a process that is not only deliberate, but cathartic.

**A-19: HAVALYN GRACE RIDGES***Deliverance*

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS

Abstract: I plan for my exhibition to be an installation of a forest-like atmosphere. I use mild steel and ceramics as my main materials. Total I have four wall structures, multiple leaves on the wall, one piece that is against the wall and extends out onto the floor, and three pieces that are solely on the floor.

**A-20: TYLER GRAY***Abandonment of Reason*

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; STEVEN FINKE, VISUAL ARTS

Abstract: My work puts on display the broken electoral system in the United States and how large investors can sway elections with rampant greed, corruption, and how our culture reacts to it. Select individuals play different characters that portray extreme versions of themselves in a Gonzo-like atmosphere that depicts a possible dystopian future.

**A-21: LAURYN JONES***Specimen*

FACULTY SPONSOR(S): STEVEN FINKE STEVEN FINKE, VISUAL ARTS; ANA ENGLAND, VISUAL ARTS

Abstract: A collection of sculptural work created by Lauryn Jones. Each piece highlights an insect found in the Cincinnati / Northern Kentucky area. Lauryn utilizes many materials within a single sculpture including ceramic, copper, wood and steel.

**A-22: SARAH KENDALL***Material Girl: A Senior Exhibition*

FACULTY SPONSOR(S): ANA ENGLAND, VISUAL ARTS; DAVID KNIGHT, VISUAL ARTS

Abstract: The body of work in this exhibition focuses on feminist issues using the female figure. It is mostly large-scale sculptures depicting women in distress to speak to the greater topic of violence against them. I use mixed media, mainly crochet with wool and cotton, to create the works.

**A-23: JESSICA MARTIN***Suffocated*

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS

Abstract: I am currently in progress of making a picnic table out of concrete, metal, electronics and resin. With this piece I am trying to suffocate the electronics in materials to display them to make people aware of how much electronics are taking over our lives, ruining relationships, and just becoming addicting. The idea for the table piece came from my wonderful upbringing. My parents never let us use electronics at the dinner table. I believe this is the reason why I make art: my parents influence on me. I need to express these fundamentals and visions.

**A-24: LINDSAY MCCARTY***Fragility: A BFA Photography Exhibition*

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; MATTHEW ALBRITTON, VISUAL ARTS

Abstract: The mind is an extraordinary apparatus. It stores memories, scents, ideas, and protects you from harm even when you are in no danger by inducing fear. It was discovered that the brain can process images in approximately thirteen milliseconds while interpreting other pieces of information simultaneously. It's known the brain is amazing, but some of us also realize how crippling our minds become when they're unhealthy. This led me into a period of depression that led to extensive over-analyzation. This series helps represent the unstable mindset I call home and for you to see just how fragile some minds are.

**A-25: NICOLE NORMAN, CHRIS ADDIE, JESSICA COURTNEY, JODY FAUL, KRISTALYN HACKETT, TYLER HONSCHOPP, JABRAH IMAN, JUSTINE KRIEG, KRISTA RUDOLPH***Documentary Photography: Non-Profit Organizations in Newport*

FACULTY SPONSOR(S): MATTHEW ALBRITTON, VISUAL ARTS

Abstract: Each Fall semester, a course in documentary photography is offered. The class focuses on social documentary by having students volunteer for local nonprofit organizations. In the Fall 2015 semester, students in the class chose organizations in Newport, Kentucky as part of Project Hope: the 505 Initiative in collaboration with the Scripps Howard Center. Students found a broad array of non-profit organizations to volunteer with, including boys and girls clubs, a community theater, and a cancer research lab set up in an old school. On display will be multimedia projects that combine interviews with student photographs of their semester's experience.

**A-26: ADAM SCHMIDT***'inflōānsd/ by Adam Schmidt*

FACULTY SPONSOR(S): STEVEN FINKE, VISUAL ARTS; ANA ENGLAND, VISUAL ARTS

Abstract: I used traditional woodworking techniques, welding fabrication, mold making techniques, and hand building with clay to create this series of work that focuses on my family and the influence they have had on me throughout my life. There is a separate sculpture for my parents, grandparents, sister, and my Chihuahua. I brainstormed ideas before starting each piece by reflecting on the impact they have had on me or thinking back to a memory of them. The goal was to create a series about my family because I am so grateful for the support they have given me throughout my life.

**A-27: JACK SEITER***Brick*

FACULTY SPONSOR(S): KEVIN MUENTE, VISUAL ARTS

Abstract: My submissions will be oil painting. The size of any paintings I submit will be 9x12 in. They are paintings of realistic spaces depicted and composed in an abstract way. They are simple and of limited palette.

**A-28: EVAN SGOURIS***What are you afraid of? A photographic exhibition.*

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; MATTHEW ALBRITTON, VISUAL ARTS

Abstract: The word terror gets interpreted in many different ways. To me, terror is the lull between safety and danger. It is your brain reacting with fear even though there is no immediate threat. Fear is always with us, engrained at birth and reinforced throughout our lives. In my work, you will see a primal fear, not one that you have or may know of, but a representation of fear in its simplest form. You will see my characters are dealing with this constant state of terror as well as how it can be associated with a place or an idea.

**A-29: ASHLEY NIECE***The Importance of Animals in Japanese Folklore*

FACULTY SPONSOR(S): MAKOTO NAKAMURA, WORLD LANGUAGES &amp; LITERATURES

Abstract: Japanese folktales have a wide array of subjects, with animals being the main focal point within a great amount of these tales. Being a rural nation for most of its history, these animal folktales are very prominent in Japan. This is observed with a literary analysis and translation of a couple of stories, which are then presented so as to emphasize the role animals play within the stories.

# INTERACTIVE PRESENTATIONS

## I-1: ABIGAIL ANSTEAD, LINDSEY RUDD, FABIO SOUZA, DEREK DALEY, JAKE KAPPESSER, ALEC REYNOLDS

*Listening, learning, leading: A series on NKU's role in the heroin crisis*

FACULTY SPONSOR(S): MICHELE DAY, COMMUNICATION

Abstract: A regional heroin epidemic hits home for many at NKU. A semester-long series of stories published for *The Northerner*, the independent, student-run news organization, spotlights ways the university is involved. Topics include the potential of police officers carrying naloxone, students and faculty researching overdose prevention, the impact of heroin on the curriculum and members of the campus community involved in promoting understanding of addiction and advocating for treatment.

## I-2: G. TYLER ERNST

*Cues-Out Literacy: Emoticons, Ciphers, and Net Literacy Screening in a Digital World*

FACULTY SPONSOR(S): ALEXIS PULOS, COMMUNICATION

Abstract: Cues-Out Literacy is the study of the ways in which modern English is adjusting and evolving to accommodate a world in which more and more of our communication needs are being met through electronic intermediaries such as cellphones, smartphones, and other electronic computational devices. This growing reliance upon digital media has started to show the limits of the English language as English's need to exponentially lengthen itself in order to convey messages without nonverbal cues abuts with our increasing need to convey those thoughts through compact digital media.

## I-3: ALMA ONATE

*Love Untold*

FACULTY SPONSOR(S): MICHELE DAY, COMMUNICATION

Abstract: The theme of love has inspired countless works of art, poems, literary works, and even wars. But what is love and how do humans experience it? What does it mean to love? I set out to investigate these questions through a combination of photography and personal narratives. In this project, I interviewed strangers about their definition and experiences of love and compiled their stories into a project that seeks to question the societal assumptions of love.

## I-4: KELSEY FLOWER, CASEY CARTER

*The History of Voodoo*

FACULTY SPONSOR(S): TRUNG TRAN, HISTORY & GEOGRAPHY

Abstract: This project studied the origins of the religion called Voodoo that is commonly practiced in New Orleans, Louisiana. The purpose of this study was to discover how this religion came to America and the ways it is still practiced today. Some of the research was completed in New Orleans to conduct research on current institutions that practice some variation of Voodoo in order to observe the ways in which its practice has changed.

## I-5: ALLISON LINCOLN, TYLER SCRANTON, MATTHEW DORNBUSCH

*Amur Honeysuckle in North America*

FACULTY SPONSOR(S): TRUNG TRAN, HISTORY & GEOGRAPHY

Abstract: This presentation briefly examines *Lonicera mackii* in North America, more commonly known as Amur or Bush Honeysuckle. Although known to many, most do not realize that it is a major threat to native ecosystems. Native to East Asia, it was introduced to America in the late 1800s, but quickly grew out of control. No natural methods of controlling its growth exist in

the Americas, and its spread has had extremely negative effects on biodiversity, outcompeting native species. This story map serves as a brief introduction to the history, the negative effects, and treatment of amur honeysuckle in North America.

## I-6: EDITOR-IN-CHIEF CARRIE CROTZER, MANAGING EDITOR ABBY ANSTEAD, WEB EDITOR JAKE KAPPESSER, WEB EDITOR DEREK DALEY, WEB EDITOR BRENDAN RYAN

*Developing journalism through multiple lenses*

FACULTY SPONSOR(S): MICHELE DAY, COMMUNICATION

Abstract: The multimedia team of *The Northerner*, the independent, student-run news organization at NKU, explored campus safety, NKU's community connections and video game culture. The multimedia team combines journalistic reporting and writing with custom-designed web pages, interactive graphics, video and photo storytelling. The multi-week projects utilize strengths of students from journalism, electronic media and broadcasting, media informatics and computer science to create projects that impact the audience.

## I-7: MEGAN BECKERICH

*Corporate Ethics in Art*

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: The ethics of corporations is something that has been a point of discussion and critique for as long as merchantry has been a profession. Very rarely are corporations hailed as heroes, more often they are vilified for their negative attributes such as greed and lack of human compassion. Things like greed, influence, and corruption are often associated with corporations, and a main point of artistic work that discusses this subject matter. This presentation aims to answer the questions of how corporate ethics are portrayed in media, and from whose perspective the subject of corporate ethics is often portrayed.

## I-8: SHELBY CRUM

*The Art of Political Dissent*

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: Art is often used as a tool to convey political themes. The specific theme of this project is political dissent, which can be defined as the expression of discontent or resistance to those in power or the policies they create. The variety of artwork that either demonstrates or inspires political dissent is a large indicator of the significance of this concept. I explored four artworks, using the concepts of violence, oppression, and propaganda to guide my exploration of art about political dissent. Exposure to these four pieces of art can be helpful in understanding political dissent as a whole.

## I-9: LAUREN DALY

*The Atrocities of Conflict*

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: Human atrocities have plagued history, and the 20th century did not escape. Some of the deadliest consequences of all time occurred during that time, affecting human relations, economic well-being, and the potential for development. Political critiques of these atrocities have been depicted through artwork, allowing the viewer to observe the realities of these atrocities, encouraging an understanding of the variety of different ways people have been affected. This project focuses on loss of human life, the role of governments, and the push for transparency to expose what is truly occurring around the world today.

**I-10: CHRISTOPHER DRAKE*****Revolution***

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: Never doubt that a small group of thoughtful committed citizens can change the world, because it's the only thing that ever has. Revolutions can engender monumental, sweeping reforms that affect countless people, but they can also be as simple as to change a way of thinking. Through art, we can see revolutions through the lens of the artists and how they interpreted what was happening around them or how they influenced others to take action.

**I-11: ABBY MILLER*****Land of Confusion: Media of the Never-ending Arms Race***

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: The threat of nuclear holocaust has plagued humankind since the first mushroom cloud in 1945. For fifty years, the rest of the world waited anxiously as two superpowers postured on the edge of global destruction. Americans, living in the midst of a Cold War, faced the harsh possibilities of a stark future. Popular media captured their fears in novels, comics, movies, and songs, and helped them cope. Or, as one movie suggested, taught them to stop worrying and learn to love the bomb.

**I-12: KATHRYN SILLS*****The Politics of Gender Roles Portrayed through Art***

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: Art has served as an instrument to share political thoughts and opinions throughout history. My project uses four works of art of different mediums, time periods, and locations to show how gender roles as a political phenomenon have negatively affected global societies. The objectification of women, confining women to the private sphere, and the limits of gender inequality are the primary negative impacts that are portrayed and explained in the representative works of art.

**I-13: DEANNA WILLIAMS*****Loss of Individuality***

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: This presentation is a discussion of how true individuality is impossible to achieve. An individual's identity depends on political barriers that dictate human behavior. In this sense, no person is wholly individual because of political influence, or consequences if a person fails to follow the wishes of their society. Various artworks are used to demonstrate this idea that individuality is unobtainable, with particular attention to details such as lyrics in a song, or scenes from a movie. These help to signify the effects of political institutions on behavior in society and a person's identity.

**I-14: SYDNEY SMITH*****Spice for the neoliberal stew of cost externalization and fracking: an ecofeminist ebook***

FACULTY SPONSOR(S): GREG DEBLASIO, COMMUNICATION

Abstract: The culmination of this research is an ebook that takes the readers/viewers on an interactive journey through examples of environmental degradation caused by economic policy and practice. An ecofeminist perspective provides a critical lens to examine neoliberal attitudes concerning the natural environment and its exploitation generally, and toward fracking, specifically. The project is designed to surprise, inspire, and to encourage self reflection about business practices that seek to externalize costs at every turn.

**I-15: ALEX FROST*****Steely Library Website Usability Analysis and Prototype***

FACULTY SPONSOR(S): SOOKYUNG CHO, COMMUNICATION

Abstract: For this research I provide a prototype user interface design for NKU's Steely Library website, based on findings from a usability analysis. This project is motivated by the difficulties experienced when using the Steely website. I analyzed the Steely site according to Nielsen's 10 Usability Heuristics for User Interface Design (1995). The prototype webpage is a way to visualize the user interface changes and to showcase a new identity. Through this I greatly expanded my knowledge regarding UI and UX design. I hope that in the future my research can help to enhance the accessibility of the Steely Library website.



## ORAL PRESENTATIONS

ABSTRACTS ARE LISTED BY DEPARTMENT OF THE FIRST FACULTY SPONSOR.

### O-1: SARAH HOWARD

*Implications of Fluoridated water: How your oral health is being compromised*

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES

Abstract: Fluoridated water has been central to debate among health care professionals for 70 years. Fluoride is credited for decreases in dental carries but opponents suggest a link with various cancers. Fluoride appears to reduce growth of common cavity causing bacteria, but this has not been tested on true biofilms. Biofilms formed on teeth are a complex of species and vary in people. Bacteria from biofilms isolated from children's teeth were grown in blood agar containing Fluoride (0.0 mg/L, 0.5 mg/L, 1.0 mg/L and 2.0 mg/L). Water normally contains 0.7 mg/L. *Streptococcus mutans* the common cavity cause, was also tested.

### O-2: CHRISTINE ROUSH, COURTNEY ROUSH

*Limnological Assessment of Melody Lake, an Artificial Kentucky Lake*

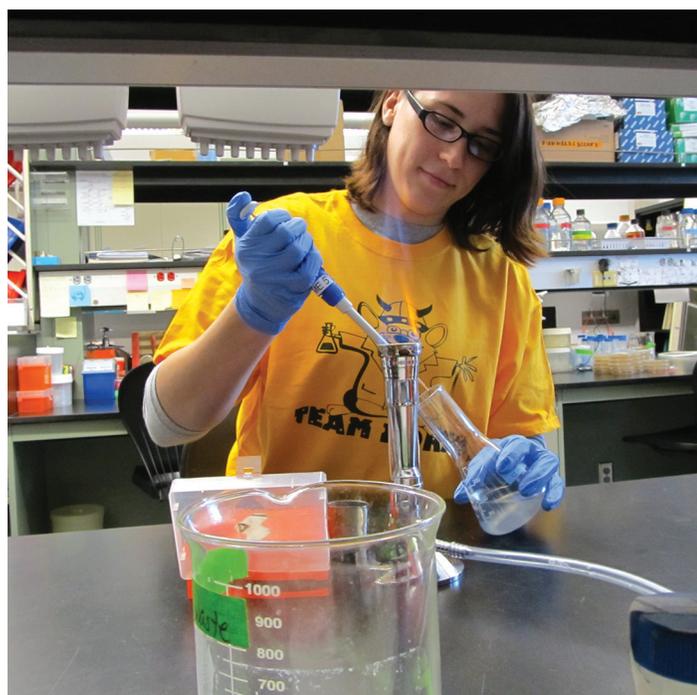
FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES; SARAH JOHNSON, BIOLOGICAL SCIENCES

Abstract: Located in Nelson County, KY is Melody Lake, a small, private residential lake. The objective of our research was to assess its overall water quality. We collected data from three sites using standard Limnological methods. We measured coliform bacteria, levels of oxygen, pH, conductivity, nitrates and phosphates and phytoplankton and zooplankton diversity. We discuss the data from each site that was evaluated using River on the Web Water Quality Calculator. We obtained a good water quality rating showing the water is healthy and safe for the residents of Melody Lake.

### O-3: MAXWELL BOYLE, RICHARD MCLANE

*The Synthesis of Analogues of a Naturally Occurring Diarylheptanoid*

FACULTY SPONSOR(S): AMBER ONORATO, CHEMISTRY, JOSEPH MESTER BIOLOGICAL SCIENCES



Abstract: Diarylheptanoids are a class of compounds that have gained interest due to the extensive study of their anti-oxidative and anti-inflammatory activities. This research proposes the synthesis of a series of novel diarylheptanoids for future therapeutic evaluation against inflammation. Starting with 3-(4-Hydroxyphenyl) propionic acid, a multistep synthesis was performed to ultimately produce DAH 1 and DAH 3. An analogous route will be used to create derivatives of the natural product which will be tested biologically and compared. The biological data acquired will then be used to guide the synthesis of future analogues.

### O-4: MOLLY BRUBAKER, EMILY CADY, HARLEY THORNTON

*Water Quality in the Dominican Republic*

FACULTY SPONSOR(S): CHARLISA DANIELS, CHEMISTRY

Abstract: Students participated in an Alternative Spring Break in the Dominican Republic. In alignment with the 2015-16 Book Connection program, the students joined Wine to Water, who helps supply local residents with water filtration systems and provides access to clean water. The present study focuses on queries the students had about the unfiltered water. Identifying containments, evaluating the filtration devices, and assessing the impact on the community were interests among the students. A range of chemical tests, including pH, turbidity, and conductivity were performed. Interviews of the local residents of varying expertise on the filtration device were conducted as well.

### O-5: TRAVIS SCHUYLER, MAEL COEURDRAY, KHADY MBOW

*Microwave-assisted synthesis of polystyrene-organoclay nanocomposites by surface-initiated polymerization from thiol-functionalized organoclays*

FACULTY SPONSOR(S): ISABELLE LAGADIC, CHEMISTRY

Abstract: The work presented focuses on the preparation of polystyrene-organoclay composites by radical-mediated surface-initiated polymerization of styrene from the surface of one-step prepared thiol-functionalized organoclays under microwave irradiation. Experimental conditions, (reaction times, solvents) were investigated. Characterizations of the composites indicated that: 1) the grafting of the polystyrene onto the surface of the organoclay layers occurred within 30 minutes of the reaction, 2) a mixture of a non-polar solvent, providing access to the SH reactive sites, and of a polar solvent, transferring microwave energy, was necessary for an efficient surface-initiated polymerization, resulting in a high content of grafted polystyrene (20-25 wt%).

### O-6: LAURA HAHN

*Feminism and Sexuality in Past and Present Day Popular Culture*

FACULTY SPONSOR(S): ZACHARY WELLS, COMMUNICATION

Abstract: This research dives into the controversial topic of feminism and sexuality, and the effect they have had in the history of popular culture, both past and present. The research presented was sourced mainly through academic journals and published literature from experts in the field of feminism and sexuality and how it has affected mainstream popular culture in areas such as film, television, music, and journalism. The goal of this research is to provide support that the feminist movement has changed the perspective on how the popular culture industry views female sexuality, and how over time it has become more accepted.

### O-7: BEN BOURGEOIS, BRIAN KONZMAN, LAUREN HENSLEY

*Medical Image Segmentation Using GPU Accelerated Convolutional Neural Networks*

FACULTY SPONSOR(S): KEVIN KIRBY, COMPUTER SCIENCE

Abstract: Convolutional neural networks are a machine learning technology often used for visual classification and segmentation because of their ability to detect features in images. We use

UC Berkeley's deep learning framework, Caffe, which utilizes NVIDIA GPUs to parallelize and significantly speed up training. We seek to train networks to segment MRI images. We alter hyperparameters of well-known, successful network frameworks, such as GoogLeNet, in an attempt to neural smith the networks to be more effective for this segmentation. We then demonstrate how NVIDIA's DIGITS platform helps us analyze and understand the networks we are training as training occurs.

**O-8: JESSICA SHARKEY**

***Group Art Therapy for Clients with Schizophrenia and Other Psychotic Disorders***

FACULTY SPONSOR(S): SUSANNAH COASTON, COUNSELING, SOCIAL WORK AND LEADERSHIP; GREGORY HATCHETT, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: This presentation focuses on the benefits of group therapy with an artistic component for clients who have experience with psychosis associated with schizophrenia, brief psychotic, schizophreniform, and schizoaffective disorders. The literature suggests that art therapy is effective in helping these clients express themselves and their experiences with psychosis. The literature also supports group therapy for clients with psychotic disorders in helping them with social skills and relating to other people.

**O-9: HAYLEY WRIGHT**

***Prep, Play, Pro: Group Counseling for Collegiate Student-Athletes***

FACULTY SPONSOR(S): SUSANNAH COASTON, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Sports are an incredible asset to the culture and feel of universities and cities. Athletes, the individuals who participate in the production of the sport industry, are often pressured to perform at their highest ability; however, many of them experience anxiety or depression in relation to performing well and dealing with the dynamic of the sport lifestyle. This makes it difficult to play to their full potential. This presentation focuses the need for counseling groups for athletes at the university level, as well as a group counseling curriculum to maximize performance in play drawn from the sport and counseling literature.

**O-10: MADISON SHIPLEY**

***Haiti and the Dominican Republic: Factors Influencing Inequality***

FACULTY SPONSOR(S): LINDA DYNAN, ECONOMICS & FINANCE

Abstract: Haiti and the Dominican Republic share the island of Hispaniola, off the southeastern coast of the United States. Although both countries are not wealthy, one, the Dominican Republic, has an economy that is growing. Haiti, on the other hand, is a country where most of its population lives in poverty, and a large majority live in extreme poverty. What factors cause these two nations (and many nations in general) to differ so drastically in terms of economic growth and prosperity? This paper seeks to identify what factors underlie the observed inequality between the Dominican Republic and Haiti.

**O-11: MARY FAULCONER**

***The Poet as the Prophet: An Exploration of Religious Ideology and Sexuality in Oscar Wilde's The Ballad of Reading Gaol***

FACULTY SPONSOR(S): ANDREA GAZZANIGA, ENGLISH

Abstract: On May 25, 1895, Oscar Wilde was sentenced to two years of hard labor for his involvement in a homosexual relationship with Lord Alfred Douglass. The charismatic man, who had soared to such great heights as a beloved writer of the late Victorian era, was then lowered from his pedestal and forced to live out the rest of his life as a social pariah. This presentation will examine the didactic nature of Wilde's post-prison work, illuminate the humanitarian nature of the artist's covenant, and offer insight into the psyche of the man himself.

**O-12: ELIZABETH GAUCK**

***Slight of Hand: The Matter of Hands in Titus Andronicus***

FACULTY SPONSOR(S): EMILY DETMER-GOEBEL, ENGLISH

Abstract: In *Titus Andronicus*, the dismemberment of the hand plays a crucial role to the play. While this disability may normally be perceived as having a negative impact, I argue that in *Titus* the loss of a hand can actually aid in applying a deeper meaning to the work as a whole—that losing a hand is not a disablement, but something that can actually benefit the characters, allowing them the means to find their inner strength and thrive. In my essay, I investigate the play's use of hands, paying particular attention to Lavinia and Titus before and after their dismemberment.

**O-13: BEN WALLACE**

***Monogamy and its Transcendence of Fan Counterculture***

FACULTY SPONSOR(S): APRIL CALLIS, HONORS

Abstract: Fan-written fiction of Western media, particularly fan works of a sexually explicit nature, tend to favor romantic partnerships that tackle societal taboos and challenge sexual prejudices; despite this, representation of non-monogamous relationships remains surprisingly and singularly low. By analyzing the history and psychology of fandom, this presentation questions how monogamy has remained the predominant relationship structure in fandom's liberal sexual counterculture. The viability of non-monogamous relationships in reality, the perception of such relationships both in- and outside of fan culture, and the strengths of monogamy as a literary convenience and romantic ideal serve as focus points of the discussion.

**O-14: TYLER MASON**

***The Relational Effects of Sports Rivalry: Differences by Age, Gender, and Education.***

FACULTY SPONSOR(S): JOE COBBS, MARKETING, SPORTS BUSINESS & CONSTRUCTION MANAGEMENT

Abstract: Previous research has demonstrated that rivalry enhances fans' negative social behaviors directed at opposing fans. While sports organizations often promote rivalry because of its positive influence on demand for games, the negative outcomes must also be taken into consideration for security planning. The purpose of this study is to explore how the impact of rivalry on social relationships differs by age, gender, and educational achievement. To address this question, I analyze survey data from over four thousand fans across four different sports. Results should help sport administrators to identify a demographic profile most prone to adverse reactions to rival fans.

**O-15: CONNOR MILLAY**

***Understanding Rivalry in the Era of League Expansion: How Rivalries Develop When History Is Limited***

FACULTY SPONSOR(S): JOE COBBS, MARKETING, SPORTS BUSINESS & CONSTRUCTION MANAGEMENT

Abstract: Rivalry positively influences sports attendance, broadcast ratings, and sponsorship demand. Previous research has investigated the elements that contribute to sports rivalries, including several related to team history. Yet, many teams have limited history in their current competitive environment. Through the lens of social identity theory, I investigate how rivalries develop when team history is limited in an era when sports leagues are expanding and intercollegiate conferences are realigning. Using results from fan surveys in both college football and professional sports, I explain how rivalries develop in new or reformulated sports leagues.

**O-16: MEGAN PICKETT*****Made By Mavis***

FACULTY SPONSOR(S): DAVID RASKA, MARKETING, SPORTS BUSINESS & CONSTRUCTION MANAGEMENT

Abstract: The problem I needed to solve for Made by Mavis was developing a complete branding strategy and creating strategies for driving trial and loyalty. Through secondary data research (generational analysis, competitive analysis) as well as qualitative research (client interview, observations), I was able to address the problem and present the client with a set of recommendations addressing it. My work received very positive reviews not only from the client but also a diverse group of experts from around the world, known as 360° Superhero Board.

**O-17: CASEY CRANE, CLIFFORD BROWN*****Amphetamine Impairs Working Memory in Adult Rats***

FACULTY SPONSOR(S): MARK BARDGETT, PSYCHOLOGICAL SCIENCE

Abstract: Dopamine neurotransmission in the frontal cortex appears to be an important neurobiological factor that regulates working memory, a cognitive process that may be impaired in attention hyperactivity deficit disorder (ADHD). This study used Long-Evans rats to determine the effects of D-amphetamine (AMPH), a drug that causes dopamine release and is used to treat ADHD, on working memory in rats. Using operant-based, delayed non-matching- and matching-to-sample spatial alternation tasks, it was found that high doses of AMPH decreased the number of trials completed, delayed the latency to begin the tasks, and decreased recall performance at short delays.

**O-18: ALEXANDER WEIGLEIN*****Religious Stereotypes About Christians, Muslims, and Atheists***

FACULTY SPONSOR(S): DOUG KRULL, PSYCHOLOGICAL SCIENCE

Abstract: Although there has been much interest in whether religiosity is associated with prejudice, less work has investigated how religious people are viewed by others. The current project investigated stereotypes of three religious groups. College students were surveyed to gauge their views on certain religious groups (Christians, Muslims, Atheists). Participants generated words they associated with these groups and estimated the likelihood that members of these groups would engage in various behaviors. Analysis revealed both positive and negative stereotypes about each religious group. A factor analysis found two main factors (good behaviors, bad behaviors). Group differences were affected by level of commitment.

**O-19: SIENNAMARISA BROWN*****Self-Presentation in Pro-Ana/Mia Online Discussion Forums***

FACULTY SPONSOR(S): JAIME MCCAULEY, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This study examines the ways in which profile pictures and usernames on pro eating disorder (pro-ED) websites illustrate participants' cultivation of a personal identity that is associated with their eating disordered behavior. The relationship between identity and self-presentation was measured using a survey of members on a pro-ED online discussion forum. After examining these aspects of web forum participation, results show that pro-ED web forum participants significantly identify with their eating disorders more than any other group identity. This information may be useful in developing outreach and potential treatment options for individuals with disordered eating behaviors.

**O-20: AMANDA MOSS*****A Link Between Water Deposits and Decreased Evidence of Burial Practices in the Early to Middle Iron Age Britain***

FACULTY SPONSOR(S): NICOLE ROTH, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY



Abstract: A characteristic of Iron Age Britain is a lack of burial evidence, leading some to argue in favor of water deposition to account for the missing population. This study will investigate the strength of this argument through a cross-cultural comparison with Viking and modern day Hindu burial practices to assess the ideological significance of watery contexts. In addition, this study will explore the ideological significance of Iron Age bog bodies to provide further context to water deposits. Concepts of liminality associated with watery contexts will also be explored.

**O-21: DREW TIMMONS*****Irish Fairy and Folk Tales***

FACULTY SPONSOR(S): MICHAEL SIMONTON, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: The author attempts to show that Irish fairy and folk tales are reflections of the Irish culture. He also will show that they change just as culture changes. He will explore the lessons of the folktales and what they say about the culture.

**O-22: MEGAN BECKERICH*****The Colorful Spirits of Japanese Folklore***

FACULTY SPONSOR(S): MAKOTO NAKAMURA, WORLD LANGUAGES & LITERATURES

Abstract: After translating a story known as *The Blue Will O'Wisp of Resentment*, I will analyze that particular story in relation to the value of folklore in Japanese culture. How stories such as the Will O'Wisp originated and evolved is an excellent way to study the changes in Japanese society throughout history. Folktales in Japan come in a variety of styles, but the way the stories are written and rewritten throughout history and how the styles have built upon each other in certain regions of Japan is a process that has contributed to the growth of Japanese society and culture.

# POSTER PRESENTATIONS

ABSTRACTS ARE LISTED BY DEPARTMENT OF THE FIRST FACULTY SPONSOR

## P-1: SAMUEL AMMERMAN

### *TOR Pathway Impact on Chromosome Stability*

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: This research project is aimed at looking at particular genes of interest within the TOR (Target of Rapamycin) pathway for impact on chromosome loss. The TOR pathway is a central regulator that controls cell growth and is highly conserved from yeast to humans. Many genes are associated with the TOR pathway, eight are the central focus for this project. These genes include EGO1, EGO3, GTR1, GTR2, TCO89, CDC60, VAM6, and LTV1. The protein products of these genes localize adjacent to the vacuole and play roles in determining the nutrient levels in the surrounding environment in order to regulate cell growth.

## P-2: MANUEL BAEZ, ALEXANDRA DAILEY, NICHOLAS DEMEO, BRIANNE DUNN, ALLISON LITMER, HANNAH MOHR, VALERIE RICE, CANDACE SEIBERT, JORDAN SMITH, NICOLE WARTMAN, CASSANDRA BRENDEL

### *Diving into the Biodiversity of Costa Rica*

FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES

Abstract: Over spring break of 2016, twelve biology students explored the tropical ecosystems of Costa Rica. Tropical Ecology (Bio 462) gave students the experience to travel to Costa Rica and gave them a hands on experience testing theoretical concepts they have learned throughout the semester. The students carried out field studies on 1) The rocky intertidal zone, 2) The Tropical biodiversity of birds throughout their travels, 3) An edge effects study in the Pacific rainforest, 4) A stream snail population study and lastly 5) A study on the ant community in the dry forest of Costa Rica.

## P-3: MONICA BOWLES

### *Impact of climate change on diatom composition in a lake in the high Andes of Ecuador*

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES

Abstract: Samples collected from the open water, shore and sediments of Lake Llaviucu in Ecuador since the 1990's were examined for diatoms. The lake was formed about 12000 YBP by a melting glacier and diatom composition has fluctuated in response to changes in the watershed both due to human activity and climate warming. We present here an iconography of the most common genera of diatoms found in this lake and discuss what diatoms, their diversity, and their distribution can tell us about climate change and historic lake conditions.

## P-4: CASSANDRA BRENDEL, VALERIE RICE

### *Impact of the Experimental Manipulations of Invasive Species on Pond Use by Amphibians*

FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES

Abstract: St. Anne Wetlands near Melbourne, Kentucky possesses multiple ephemeral ponds which are of use to a diverse number of amphibians and several invasive plant species. In order to understand the potential impacts of exotic invasive plants on habitat use by native amphibians, monitoring of amphibians in open and closed canopies near ponds with and without invasives are compared. These comparisons are assessed through application of field techniques and analyzed using statistical analyses. Field methods include checking pitfall traps, funnel traps, and Hyla tubes, haphazard sampling, marking and releasing of amphibians collected, and evaluating sound recordings of frog calls.

## P-5: NICHOLAS BRINKMAN, SHELBY CAUDILL

### *Methods Development for Microbiome Analysis of PCB-treated Mice*

FACULTY SPONSOR(S): CHRISTINE CURRAN, BIOLOGICAL SCIENCES

Abstract: Polychlorinated biphenyls (PCBs) are widespread pollutants found in the human food supply that cause cancer, birth defects, and deficits in learning and memory. The microbiome is a term used to describe the microbes that live in and on humans. Recently, scientists discovered that pollutants in our food can change the intestinal microbiome and harm human health. PCBs are among the pollutants suspected of changing the microbiome. We are developing a mouse model to examine the effects of PCB exposure during pregnancy and breast-feeding, because the developing fetus and newborns are most susceptible to PCB effects.

## P-6: MICHAEL CAROWAY

### *Investigating Apple's Effects on Genomic Stability in Yeast*

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Genomic instability generally reflects a high frequency of mutations in a cell's life cycle. Apples constitute minerals and vitamins that have antioxidant effects, which are known to stabilize free radical damage. In most eukaryotic organisms, aging is accompanied by age-related genomic instability. Recent studies have shown that the presence of whole apple extract increased lifespan of yeast. In this study, a yeast model system was used. Genomic instability was evaluated by detecting whole chromosome loss. Assays are underway in wild-type and DNA damage checkpoint deficient strains to determine the impact of apple extract.

## P-7: MEGAN CLERE, ABDULRAZQA ALRESHAIDAN

### *NKU Composting: The Diversion of Food Waste*

FACULTY SPONSOR(S): KRISTINE HOPFENSBERGER, BIOLOGICAL SCIENCES

Abstract: Composting is the process of redistributing abundant nutrients from food waste, such as fruits and vegetables, back into the environment. This process is also a way to divert food waste from going straight to landfills. The NKU Composting Team is preparing an action plan to implement pre-consumer composting within dining facilities at NKU. This will serve as a transdisciplinary collaboration – requiring a large group of people to work together, including dining staff, faculty members, students, and community volunteers. If NKU adopts this plan, it will be one step further into our sustainable future.

## P-8: MIRANDA COMBS

### *Observations into the Role of MSH4-MSH5 Heterodimer in Yeast Genomic Stability*

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: BRCA1, a breast cancer susceptibility gene in humans, has a conserved homolog in yeast known as RAD9. Previously collected data suggests heterozygous mutations of msh4 and/or msh5 in rad9-deficient strains cause greater genomic instability than in strains mutated for either gene alone. MSH5 associates with MSH4 to facilitate meiotic homologous recombination. Strains homozygously mutated for msh4 and msh5 are being created to observe the effects with complete absence of MSH4-MSH5 protein complex on genomic instability. Future directions include specifying any relationships between RAD9 and MSH4/MSH5 by varying Msh4p/Msh5p dosage in strains mutated for cell cycle checkpoint genes other than RAD9.

## P-9: A. DANIELLE CONNERS

### *Measuring the Impact of Alterations in Branched-Chain Amino Acid Availability on Genome Stability in Saccharomyces cerevisiae*

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Prior studies designed to detect haploinsufficiency impacting genome stability have shown that mutations in genes



involved in cellular metabolism increase genomic instability in *Saccharomyces cerevisiae*. We aim to characterize the full spectrum of genes within the biosynthetic and transport pathway of branched-chain amino acids that result in increases in chromosome loss when mutated. We began by creating heterozygous mutations by inserting a selectable marker cassette into the genes. Instability assays (sectoring and fluctuation analysis) were utilized to test for genomic instability. Future directions for this project are to determine the mechanism of action of the strains that show increased instability.

**P-10: MARISA DERENZO**  
**Metabolic Rate Analysis of The European Wall Lizard From Two Introduced North American Populations**  
 FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES  
 Abstract: The European Wall Lizard, *Podarcis muralis*, is native to Southern Europe. Over time these lizards were introduced into various locations, including two general environments in North America: Cincinnati, Ohio and Northern Kentucky in the United States, and Victoria and Saanich in the province of British Columbia. The objective was to compare the two North American populations by studying their metabolic rates. The lizard's VO<sub>2</sub> consumption and CO<sub>2</sub> production rates were measured at varying temperatures with an environmental chamber and a respirometry lab analyzer. Extended research can further uncover the difference between these two population's energy use and overall fitness.

**P-11: BRIANNE DUNN**  
***Microcystis morpho-species and their potential for toxin production***  
 FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES  
 Abstract: The purpose of this study is to find out if different morpho-species of *Microcystis* are more likely to be associated with the presence of toxins in the water. I am looking at water samples from the Ohio River and several lakes and ponds containing *Microcystis* to see if there is a correlation between the specific morpho-species and toxin production. An analysis of the species of *Microcystis* containing toxins can be used as a guide to inform the public of the potential for harmful blooms.

**P-12: KELLYN HOFFERT, CHEYENNE HENSLEY**  
**Testing For Genes Whose Mutation Increases Loss of Heterozygosity in a Yeast System**  
 FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES  
 Abstract: Loss of heterozygosity (LOH) is a phenomenon frequently observed in cancerous cells. Using the *Saccharomyces cerevisiae* deletion collection (SCDC) we hope to determine gene mutations that increase LOH events. Strains from the SCDC collection will be grown under nonselective conditions to allow LOH events to occur. These events will be identified by the ability of the SCDC strains to mate with an engineered haploid strain after LOH. The entire collection will be tested in duplicate, and genes that contain mutations that result in high numbers of LOH events will be further researched for their potential contribution to cancer incidence.

**P-13: LEENA IBRAHIM*****Targeted Anti-Inflammatory Effect of Synthetic Diarylheptanoids***

FACULTY SPONSOR(S): JOSEPH MESTER, BIOLOGICAL SCIENCES;  
AMBER ONORATO, CHEMISTRY

Abstract: Inflammation is one of the body's forms of protection, but chronic inflammation can be detrimental. This study examined the anti-inflammatory effect of novel synthetic diarylheptanoids (DAHs) and focused on gene expression in the prostanoid pathway. The effect of curcumin, a natural DAH, was also examined. Inflammatory gene expression was quantified by real-time polymerase chain reaction, after addition of the DAHs to cultures of lipopolysaccharide-stimulated human monocytes. Results from this study suggest that the synthetic DAHs have targeted effects on the prostanoid pathway, and would have an improved safety profile versus traditional nonsteroidal anti-inflammatory drugs and cyclooxygenase-2 (COX-2) inhibitors.

**P-14: COLLIN JOHNSON*****Analyzing sequence variation of centromeric regions from wild and lab isolates of *Saccharomyces cerevisiae****

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Centromeres in *Saccharomyces cerevisiae* are designated by ~125 base pairs of DNA called point centromeres. Centromeric regions of chromosomes are important in chromosome segregation for proper fidelity. This project uses bioinformatics tools to understand the sequence variation across 70 environmental and lab strains of *S. cerevisiae*. The sequences are processed and compared per chromosome separated by strain geographic origin. Visualizations of evolutionary relationships and alignments were made using Figtree. Motif analysis was done with Biopython running DREME. TATA binding motifs have been identified at 4 consistent locations and may be a target for testing of TBP binding affinity.

**P-15: ALLISON R. LITMER*****Food Preference in *Podarcis muralis* Based on Diet Content and Prey Abundance***

FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES

Abstract: Historically only found in central and southern Europe, the European wall lizard (*Podarcis muralis*) is an introduced species in Cincinnati, Ohio that has now expanded into northern Kentucky and Indiana. The objective of this study was to determine food preferences in *P. muralis*, and if they selectively forage by looking at prey taxa found in the diet and environment. Invertebrates were monitored at two sites, and stomach flushings were performed on lizards. Results indicated that the introduced population of *P. muralis* selectively forage primarily for voluminous taxa in the environment which is different from the diet of a native population.

**P-16: LAURA NAVAJA, KELSEY KLINEFELTER, KATHERINE OLLIER*****Gene Expression Changes in Mice Exposed to PCBs During Early Brain Development***

FACULTY SPONSOR(S): CHRISTINE CURRAN, BIOLOGICAL SCIENCES

Abstract: Polychlorinated biphenyls (PCBs) are persistent organic pollutants that cause learning and memory deficits and motor dysfunction. The developing brain is at highest risk from PCB damage, so we developed a mouse model to look at genetic susceptibility to early life PCB exposure. We have identified two genes that are important in PCB toxicity, and we have extended our studies to see how gene expression changes during development. We will present data from quantitative, real-time PCR studies on liver and cerebellum that show the greatest differences are in our most susceptible line of mice.

**P-17: ELISHA OKYERE*****Potential Causes of Chronic Kidney Disease of Unknown Etiology in Rural Sri Lankan Villages***

FACULTY SPONSOR(S): DAVID THOMPSON, BIOLOGICAL SCIENCES; KRISTI HAIK, BIOLOGICAL SCIENCES

Abstract: Chronic kidney disease of unknown etiology (CKDu) is affecting farmers in many tropical areas of the world, including Sri Lanka. There are several hypotheses toward its cause, such as the consumption of the herbicide glyphosate and heavy metals. Cadmium is one such metal that is known to cause proximal tubular injury in the kidney. Due to the potential metal-chelating properties of glyphosates, their presence in food and/or water sources along with heavy metals may increase metal bioavailability. In this study, samples from the villages of Kubukwewa and Kotalaga have been analyzed for the presence of glyphosate and heavy metals.

**P-18: KATIE OLLIER*****Coral and Algae Distribution Along the Belize Barrier Reef***

FACULTY SPONSOR(S): DENICE ROBERTSON, BIOLOGICAL SCIENCES;  
SARAH JOHNSON, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: During the summer of 2015 our group of student researchers traveled to Belize to investigate and study the coral reef. This project focused on coral type and algae cover in different sediment depth which was then mapped using Geographic Information Systems. The GIS map will be used to show where coral cover is thriving and which areas have an abundance of algae growth. Unfortunately due to discrepancies in the recorded algae growth, those numbers were not input in the map. This information is important to determine the health of coral reef systems and for future policy making.

**P-19: HARSH PATEL, ELISHA OKYERE*****Analyzing environmental factors in rural villages of Sri Lanka afflicted with chronic kidney disease of unknown etiology***

FACULTY SPONSOR(S): DAVID THOMPSON, BIOLOGICAL SCIENCES, KRISTI HAIK, BIOLOGICAL SCIENCES

Abstract: Farmers in rural Sri Lanka are suffering from chronic kidney disease of unknown etiology (CKDu), which may be caused by a variety of factors including the consumption of the herbicide glyphosate and heavy metals such as cadmium. Cadmium is nephrotoxic, primarily as a result of proximal tubular injury. Due to the potential metal-chelating properties of glyphosates, heavy metals and glyphosates in combination in food and/or water sources may increase the bioavailability of toxic heavy metals. In this study, ecological and biological samples from the villages of Ukkulamkulama and Wellaragama have been analyzed for the presence of glyphosate and heavy metals.

**P-20: KEITH PRIVE**

***Bacterial Growth on Contact Lenses: Links between Contact Lens Care and Biofilm Formation***

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES

Abstract: Reports of complications from bacterial infection of the cornea, including loss of vision increased exponentially in the 1970's, shortly after soft contact lenses were introduced. Bacteria are capable of forming biofilms on the plastic polymers of contact lenses. Biofilms may consist of multiple bacterial types which work together resulting in resistance to antibiotics and disinfectants. The purpose of this research is to better understand the formation of bacterial biofilms on contact lenses by identifying and quantifying the types of bacteria which grow on contact lenses under normal use and examining links between the patterns of bacterial growth and lens care.

**P-21: NICHOLE RACHFORD, TYLER STEVENS**

***Investigation of Genome Instability Due to Mutations in the SAM1, SAM2, and Checkpoint Genes in Saccharomyces cerevisiae***

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: SAM1 and SAM2 code for s-adenosylmethionine synthetase which produce AdoMet from methionine and ATP. AdoMet is conserved in humans where it maintains its function as a methyl donor. Mutations in these paralogous genes have been observed to lead to changes in chromosome fidelity in *Saccharomyces cerevisiae*. Additional instability is seen when these mutations exist in a rad9-deficient background. RAD9 is a checkpoint gene that serves in the DNA damage response. The goal of this part of the project is to determine if the checkpoint-deficiency effect is rad9 specific or occurs in the presence of deficits of various other checkpoint signaling.

**P-22: COURTNEY ROUSH**

***Patterns in Fish Species by time of day at South Water Caye, Belize***

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES;

SARAH JOHNSON, BIOLOGICAL SCIENCES

Abstract: The diversity of coral reef fish is an important indicator of health, but examining other patterns is critical to obtaining a more complete understanding of the reef community. We conducted research to see if the time of day and/or average size of fish species are a factor for when certain fish species are present on the reef. We found that size does not seem to be affected by time, but time does appear to affect the number of individuals per species. Predatory fish were also found to be in the highest proportion on the reef at every time period.

**P-23: CANDACE SEIBERT**

***Zebra Mussels: Altering the Ohio River One Filtration at a Time***

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES

Abstract: In the fall of 2015, the Ohio River saw a *Microcystis* bloom that forced Cincinnati Water Works to stop intake. Zebra mussels may have been a potential cause of this Harmful Algal Bloom (HAB). The summer was rainy causing the river to flow

quickly, inhibiting the veligers from settling. A dry August caused all to settle at once. This settling led to mass filtration by young of the year. Counts of veligers were performed on Ohio River water samples. Correlation between high counts of veligers and the HAB show zebra mussels played an important role in the bloom.

**P-24: HAILEY SHANAHAN**

***Cellular Immune Activation Induced by Novel Vaccines for Hepatitis C Virus***

FACULTY SPONSOR(S): JOSEPH MESTER, BIOLOGICAL SCIENCES

Abstract: Hepatitis C virus (HCV) is one of the most prevalent and deadly blood-borne pathogens. No vaccines are currently available to prevent or treat HCV infection. Using recombinant DNA techniques, we developed several novel vaccines for HCV using a modified herpes simplex virus backbone. Human antigen-presenting cells (APCs) infected by the vaccines demonstrated HCV gene expression and immune activation by enhanced expression of cellular maturation markers. The vaccines also induced chemokines from the APCs that would attract other immune cells to the site of vaccination. These results demonstrate the cellular functionality of the vaccines, which may prevent HCV infection.

**P-25: AMBER SMITH**

***Impact of DML1 Heterozygous Mutations on Chromosome V Genome Stability in Saccharomyces cerevisiae***

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Recent findings suggest that DML1, an essential gene in *Saccharomyces cerevisiae*, plays a role in regulating nuclear chromosome stability. We wanted to explore this finding by testing the effects that heterozygous mutations in this gene have on chromosome V stability. A KanMx cassette was made to replace *dml1* and create knockout strains. This KanMx cassette was placed into five strains of yeast, one of them being wildtype and the others harboring checkpoint gene mutations, creating five new strains of yeast. Two strains showed increased chromosome stability; tests are ongoing in the remaining three.

**P-26: BROOKE DEAN, YISLAIN VILLALONA, BREANN COLTER**

***Using Immunohistochemistry to Compare Gene Expression in PCB-treated Mice***

FACULTY SPONSOR(S): CHRISTINE CURRAN, BIOLOGICAL SCIENCES

Abstract: The developing brain is at highest risk from exposure to polychlorinated biphenyls (PCBs), and the human population has large genetic diversity. We are using a mouse model to identify individuals at highest risk from PCB neurotoxicity, and our current studies are focused on gene expression in the developing brain. We are using immunohistochemistry to compare the expression of tyrosine hydroxylase in two regions of the brain required for normal motor function – the substantia nigra and striatum. We hypothesize that the most susceptible mice which exhibit motor deficits will have reduced tyrosine hydroxylase gene expression.

**P-27: NICHOLAS WAINSCOTT, EMILY KEENER**

***Using element ratios to determine the contribution of historic secondary lead smelting to elevated soil lead levels in Newport, KY.***

FACULTY SPONSOR(S): KIRSTEN SCHWARZ, BIOLOGICAL SCIENCES

Abstract: Soil is an overlooked source of lead to humans. Secondary lead smelting is one of multiple anthropogenic sources that contributes to the lead burden of urban soils. Previous research has demonstrated that ratios of lead to other elements, specifically arsenic, may be characteristic of secondary lead smelting. Handheld x-ray fluorescence was used to determine the soil concentrations of lead and arsenic on multiple properties near a former secondary lead smelter in Newport, Ky. Ratios of soil lead to soil arsenic were examined and compared to distance to the former smelter site, other point sources of anthropogenic lead, and land use.



**P-28: JAMIE WEIMER, JOSEPHINE BROWN, CLARE LUDWIG**  
***High-taurine consumption during adolescence alters biogenic amines in a sex-dependent manner in C57BL/6J mice***

FACULTY SPONSOR(S): CHRISTINE CURRAN, BIOLOGICAL SCIENCES

Abstract: Energy drinks are a multi-billion dollar industry, and more than half are consumed by adolescents and young adults. A key ingredient in energy drinks is the amino acid taurine. Although taurine can be neuroprotective, recent studies indicate it can be neurotoxic at high doses. We treated adolescent mice with 0.12% taurine in drinking water from postnatal day 30 to 60 and found learning and memory deficits and behavioral changes in males. We also found neurotransmitter levels changed in the cerebellum, cortex and hypothalamus. Our data suggest that high taurine consumption during adolescence alters biogenic amines in a sex-dependent manner.

**P-29: CASSIDY WRIGHT**

***Comparison of light responses of Callery pear, Amur honeysuckle, and redcedar***

FACULTY SPONSOR(S): RICHARD BOYCE, BIOLOGICAL SCIENCES

Abstract: Management of invasive plants requires knowledge of light responses. In 2015, we measured electron transport rate (ETR) for three species, the invasive Callery pear and Amur honeysuckle and native redcedar. Alpha (response to low light) and ETRmax (response at high levels) were regressed against day of year (DOY) and temperature. In pear, alpha decreased with both factors. ETRmax declined with DOY for honeysuckle. For redcedar, alpha's response was complex. ETRmax increased with temperature and appeared higher than the invasive species'. The invasive species' decline with DOY may reflect their deciduousness, while redcedar's higher ETRmax may indicate its shade intolerance.

**P-30: PAIGE MOORHEAD, RACHAEL STORER**

***Predicting Cluster Membership Through Decision Trees: An Application Using Alteryx Designer***

FACULTY SPONSOR(S): JOE RUBLESKE, BUSINESS INFORMATICS

Abstract: A rapidly growing number of organizations are building predictive models which advise them on how to act in order to obtain desired results (e.g., better use of resources, increased

revenues). The growing use of these models is due largely to the advance of software applications (such as Alteryx Designer) that make it easier to produce predictive models without sacrificing quality. Our poster illustrates how we drew from data on US consumption behavior to build in Alteryx Designer (1) a k-means clustering model and (2) a decision tree that predicts cluster membership. The implications for the predicted phenomenon are enumerated.

**P-31: KYLE BALE, JASON GARNER**

***Predicting Cluster Membership Through Decision Trees: An Application Using Alteryx Designer***

FACULTY SPONSOR(S): JOE RUBLESKE, BUSINESS INFORMATICS

Abstract: A rapidly growing number of organizations are building predictive models which advise them on how to act in order to obtain desired results (e.g., better use of resources, increased revenues). The growing use of these models is due largely to the advance of software applications (such as Alteryx Designer) that make it easier to produce predictive models without sacrificing quality. Our poster illustrates how we drew from data on US consumption behavior to build in Alteryx Designer (1) a k-means clustering model and (2) a decision tree that predicts cluster membership. The implications for the predicted phenomenon are enumerated.

**P-32: AUSTIN QUILLEN, ALEX ALTEVERS**

***Predicting Cluster Membership Through Decision Trees: An Application Using Alteryx Designer***

FACULTY SPONSOR(S): JOE RUBLESKE, BUSINESS INFORMATICS

Abstract: A rapidly growing number of organizations are building predictive models which advise them on how to act in order to obtain desired results (e.g., better use of resources, increased revenues). The growing use of these models is due largely to the advance of software applications (such as Alteryx Designer) that make it easier to produce predictive models without sacrificing quality. Our poster illustrates how we drew from data on US consumption behavior to build in Alteryx Designer (1) a k-means clustering model and (2) a decision tree that predicts cluster membership. The implications for the predicted phenomenon are enumerated.

**P-33: BRIAN KONZMAN, KELLY UHL*****Predicting Cluster Membership Through Decision Trees: An Application Using Alteryx Designer***

FACULTY SPONSOR(S): JOE RUBLESKE, BUSINESS INFORMATICS

Abstract: A rapidly growing number of organizations are building predictive models which advise them on how to act in order to obtain desired results (e.g., better use of resources, increased revenues). The growing use of these models is due largely to the advance of software applications (such as Alteryx Designer) that make it easier to produce predictive models without sacrificing quality. Our poster illustrates how we drew from data on US consumption behavior to build in Alteryx Designer (1) a k-means clustering model and (2) a decision tree that predicts cluster membership. The implications for the predicted phenomenon are enumerated.

**P-34: BARB POWELL, MARY GRENKE*****NKU COI CRM with SharePoint***

FACULTY SPONSOR(S): BRANDI NEAL, BUSINESS INFORMATICS

Abstract: This project is the result from the need for a (CRM) Customer Relationship Management system within the College of Informatics. The students designed, developed, and implemented the results. This interactive presentation will include a demo of the site, poster, and discussion of the project.

**P-35: SARAH HUME*****Methods of Incorporating LEED Building Infrastructure into Lesson Plans: Professional and Curriculum Development for Middle School Teachers***

FACULTY SPONSOR(S): MADHURA KULKARNI, CENTER FOR INTEGRATIVE NATURAL SCIENCE AND MATHEMATICS

Abstract: An environmentally green school can be a learning laboratory if teachers incorporate LEED technology and infrastructure into curriculum that promote interdisciplinary approaches. Currently, there is little training or lesson plans available for teachers to incorporate LEED technology into their instruction. This poster reports on the results of a multi-year needs assessment of teachers at Turkey Foot Middle School that identified what types of professional and curriculum development are required to incorporate green infrastructure into lesson plans. Teachers wanted lessons that were directly tied to standards in the teacher's content area and lessons that were interdisciplinary and increased community engagement.

**P-36: CEILIDH AHEARN, LARS OLIVAN, JESSE DEESCH, NIKOLAS JOZIC*****Photodegradation of progesterone***

FACULTY SPONSOR(S): PATRICK HARE, CHEMISTRY

Abstract: Progesterone, a naturally produced hormone used primarily in hormone therapy, is a known pharmaceutical pollutant in surface waters that has been shown to cause intersexualization in fish. A method of loss in the environment is photodegradation, however this process has not been investigated extensively. Progesterone in aqueous solution as well as other solvents were photolyzed with 254 nm light, with the photodegradation followed by UV/Vis spectroscopy. GC-MS was also used to measure and identify product fragments in organic solvents. Strongly solvent-dependent photolysis rates were observed. After photolysis, a reversion reaction was measured in which progesterone regenerated as products were consumed.

**P-37: NICOLE BRUSMAN*****Masonic Acid Monsters for the Synthesis of Xanthine Oxidase Inhibitors***

FACULTY SPONSOR(S): LILI MA, CHEMISTRY

Abstract: Xanthine Oxidase inhibitors prevents the conversion of hypoxanthine to uric acid. Gout and hyperuricemia can be a result of a high production of uric acid in the blood, joints, and tissues. Caffeic acid phenethyl ester, CAPE, a natural active

component from propolis, has become a popular compound due to its various biological applications. CAPE derivatives targeting at Xanthine Oxidase were synthesized via a two-step route: malonic acid monoester formation followed by Knoevenagel condensation. Ten different malonic acid monoesters were synthesized. These compounds were utilized to make derivatives with structural modifications on both A and B rings on the CAPE scaffold.

**P-38: EMILY CADY, EMMA GORDON, SIMON SEGAL*****Chronopotentiometry with Ion-Selective Electrodes for Simultaneous Measurement of Extracellular and Intracellular Potassium Concentrations***

FACULTY SPONSOR(S): KEBEDE GEMENE, CHEMISTRY;

Abstract: The concentrations of both extracellular and intracellular potassium have vital roles in the nervous, respiratory and cardiovascular systems. Thus, knowing the exact level of both intracellular and extracellular potassium is of high importance in medical applications. The techniques that are currently used for measurement of potassium in blood, classical potentiometry and flame photometry, have limitations for simultaneous measurements of extracellular and intracellular potassium. The objective of this research is to develop pulsed chronopotentiometry with potassium selective electrode as an efficient method for simultaneous determination of intracellular and extracellular potassium concentrations in whole blood without significant interference of other ions.

**P-39: JASON CALLIHAN*****Improved synthetic methodologies for synthesizing polymeric subunits that incorporate extended aromatic acceptors and transition metal chromophores***

FACULTY SPONSOR(S): KEITH WALTERS, CHEMISTRY

Abstract: Our group has been focused for several years on supramolecular systems that incorporate fullerenes (and other extended aromatic electron acceptors) with transition metal chromophores. The photoinduced excited states of these systems have exhibited interesting behavior. We have more recently exploited our synthetic knowledge of these small molecule systems in the design of polymeric building blocks that incorporate these same subunits. Unfortunately, the substitution chemistry to create these blocks have presented unique challenges not previously explored in our group. This poster describes our current efforts in improving these synthetic pathways through careful control of protecting group and temperature.

**P-40: REYES CASTELLON, JASON LOXTERKAMP, THOMAS VORNHEDER*****Azacalixarenes with expanded internal cavities***

FACULTY SPONSOR(S): KC RUSSELL, CHEMISTRY

Abstract: The cup-shaped geometry of oxa- and aza-calixarenes affects their interactions with other molecules. As a result, the compounds may be utilized as sensors or for contaminant remediation. By attaching groups around the periphery of a calixarene the internal cavity can be expanded. Azacalixarenes are prepared from the reaction of an electrophile with a nucleophile, each with two reactive sites, that react to form the cyclic product. A variety of nucleophilic triphenylene diamines have been prepared to incorporate phenylenthynyl groups into azacalixarenes. Initial work has also been done to prepare electrophilic 1-substituted-3,5-dichloro-s-triazines and 1-substituted-3,5-bisphenoxy-s-triazines.

**P-41: BENJAMIN CECIL*****Initial Synthesis and Characterization of Acrylate and Methacrylate Porous Polymer Monoliths***

FACULTY SPONSOR(S): CHARLISA DANIELS, CHEMISTRY

Abstract: The goal of this project was to synthesize and



characterize porous polymer monoliths (PPMs) made from various acrylates and methacrylates. The PPMs were investigated via methods of chromatography, including Capillary Electrochromatography (CEC) and Ultra Performance Liquid Chromatography (UPLC). The relationships between the inner diameter of capillary, temperature, and analyte concentration were explored. An alkyl benzene series was used to characterize the PPMs over the range of 25 °C to 60 °C in 5 °C increments, and mobile phase concentration of 75% acetonitrile: 25% Tris base. This series and mobile phase were selected based on their use in previous studies in literature.

**P-42: MICHAEL CHIA, GRANT FOREMAN**

***Development of Arduino Breakout Boards for Measurement of Temperature and pH***

FACULTY SPONSOR(S): CELESTE MORRIS, CHEMISTRY

Abstract: This work utilizes Arduino technology to integrate solid-state electrodes for water quality analysis. Through EagleCAD and circuit design software, we created breakout boards for temperature measurement with error  $\pm 0.1^\circ\text{C}$  and pH measurement with error  $\pm 0.1$  pH unit. Our motivation is to create portable and calibration-free instrumentation for waterway assessment.

**P-43: EDWARD DOBRZYKOWSKI**

***Approaching Single Molecule Detection***

FACULTY SPONSOR(S): CELESTE MORRIS, CHEMISTRY

Abstract: We present single molecule detection with the electrochemical methods cyclic voltammetry and amperometry. Single molecule detection requires high resolution spatial and temporal measurements. We fabricated dual-probe nanopipette electrodes by pulling a theta capillary to a nanopipette via a laser-based pipette puller. Butane was then pyrolyzed on the interior of half of the theta nanopipette resulting in a solid butane deposit which created a nanoscale electrode with a surface area of 50 to 100 nm. In a generation-collection style experiment analyte ions are pulsed out of the open barrel and are simultaneously detected via redox chemistry at the carbon electrode.

**P-44: ANDRES GASPER**

***Analysis of Stimuli Responsive Polymeric Materials***

FACULTY SPONSOR(S): CHARLISA DANIELS, CHEMISTRY

Abstract: The development of tunable, stimuli responsive polymeric materials can advance the viability for capillary electrophoresis (CE) to serve as the platform in which theoretical and practical breakthroughs can be made for a variety of fields. For instance, the field of genomics has achieved DNA sequencing through CE. Overcoming the barrier to effective, widespread implementation of both the CE method and the polymeric materials requires a deep understanding achieved by thorough characterization of the influence the synthetic methods have on the chromatographic properties of the final material. Characterization via methods including NMR, IR, and SEM were completed on the polymeric materials.

**P-45: JONATHAN HOEY**

***Improving Upper-Level Inorganic Chemistry Lab Experiments with Microwave-Assisted Syntheses***

FACULTY SPONSOR(S): ISABELLE LAGADIC, CHEMISTRY

Abstract: Just as microwave ovens can be a time-saver in the kitchen, they can be used as heating sources in chemical reactions. Consequently, there has been a growing interest in incorporating microwave technology in undergraduate lab curriculum. In this project, we used microwave irradiation in two upper-level inorganic chemistry experiments. The synthesis time of a bis-triphenylphosphinedithiocyanatonickel (II) complex was reduced twenty-four fold under microwave irradiation. Characterization indicated that microwave-synthesized and conventionally prepared complexes were identical. We also developed another experiment dealing with the microwave-assisted preparation of zinc sulfide and cadmium sulfide nanoparticles. Results showed that particle sizes varied with reaction times.

**P-46: MARCUS JONES, ADAM HOFFMANN, PAIGE CRANK, JAMES MACKE, DARCY POOR, ROLF FOWEE, ANDREW HALL**

***Biophysical Evaluation of Surfactant Effects on Nanoparticle Toxicity in a Lipid Monolayer Model of the Blood-Brain Barrier***

FACULTY SPONSOR(S): CELESTE MORRIS, CHEMISTRY; KRISTI HAIK, BIOLOGICAL SCIENCES

Abstract: The ability of nanoparticles to cross the blood brain barrier and deliver chemotherapeutics has utility in treatment of brain tumors. The surface chemistry and surfactant coating of the nanoparticle plays a significant role in nanoparticle toxicity. We present Langmuir-Blodgett techniques to create a dipolimyoyl phosphatidylcholine monolayer on a mica substrate treated with cationic and neutral surfactant coated nanoparticles. Atomic force microscopy was used to evaluate lipid monolayer morphology and disruption from nanoparticles as a means to assess nanoparticle toxicity.

**P-47: TAYLOR A. KIDD, SOIZIC LAURENCEAU**

***The Synthesis of Hydroquinone Derivatives as Inhibitors of Sarco/endoplasmic Reticulum Calcium ATPase***

FACULTY SPONSOR(S): ROBERT KEMPTON, CHEMISTRY

Abstract: Studies directed toward the synthesis of novel hydroquinone derivatives will be described. These derivatives will be assayed for their ability to inhibit Sarco/endoplasmic reticulum calcium ATPase (SERCA). SERCA is a transmembrane protein that resides in the sarcoplasmic reticulum (SR) within muscle cells. It transfers  $\text{Ca}^{2+}$  from the cytosol (of the cell) to the lumen of the SR at the expense of ATP hydrolysis. Specific inhibitors of SERCA are of significance to human health because of their well-documented value as research tools and their potential as novel anti-cancer agents.

**P-48: KATHLEEN MCELHENEY, SHELBY RUSSELL*****Fission yeast as a model system to study the roles of transfer RNA modifications***

FACULTY SPONSOR(S): MICHAEL GUY, CHEMISTRY

Abstract: Transfer RNA (tRNA) is necessary for translation of mRNA to produce proteins. Posttranscriptional tRNA modifications are linked to various human diseases, but these modifications are difficult to study in humans. Mutations in TRM1 and DUS2 are linked to intellectual disability and lung cancer, respectively. In our study *Schizosaccharomyces pombe* is used as a model to determine the defect caused by the lack of these modifications. To study the modifications in *S. pombe*, knockout strains of TRM1 and DUS2 were generated. These strains will be studied by analyzing growth phenotype changes under various conditions, such as different temperatures and the presence of drugs.

**P-49: RICHARD MCLANE, MAX BOYLE*****Progress towards the structure activity relationship of analogues of a recently isolated diarylheptanoid***

FACULTY SPONSOR(S): AMBER ONORATO, CHEMISTRY; JOSEPH MESTER, BIOLOGICAL SCIENCES

Abstract: Diarylheptanoids are a class of compounds that have gained interest due to their prevalent anti-inflammatory properties. Recently, a diarylheptanoid was isolated and found to possess moderate anti-inflammatory activity. This research proposes the synthesis of a series of analogues for future therapeutic evaluation against inflammation. Starting with 3-(4-hydroxyphenyl) propionic acid, a multistep synthesis was performed to ultimately produce DAH 1 and DAH 3. Based on the bioactivity of these molecules, future analogues with different functional groups will be synthesized and tested in order to further establish a structure activity relationship.

**P-50: ALMA OÑATE, JANELLE TUCKER, EMILY HOGLE, DONNA DO, FATHIMA SHAZNA THOWFEIK, EDWARD MERINO*****Chiral Histone Deacetylase Inhibitors: Synthesis and Biological Evaluation***

FACULTY SPONSOR(S): LILI MA, CHEMISTRY

Abstract: HDACs are responsible for repressing the expression of genes associated with cell growth arrest, differentiation, and apoptosis. Many cancers express high levels of HDACs and have an increased sensitivity to HDAC inhibitors. Here we report our study on chiral HDAC inhibitors utilizing amino acids or simple natural products as building blocks. These compounds were tested against HDAC 1 - 11 and it was found that compound AO-A115 exhibited selectivity and good inhibition against HDAC8. The interactions between AO-A115 and HDAC8 were rationalized by computer modeling. These results may serve as a starting point for the discovery of potent HDAC inhibitors.

**P-51: STEFAN REID, LUCAS EDELEN, BRANDON WIEFERING*****Efforts toward the total synthesis of two microcyclamides with potential antifungal activity***

FACULTY SPONSOR(S): AMBER ONORATO, CHEMISTRY; JOHN CARMEN, BIOLOGICAL SCIENCES

Abstract: Fungal resistance to antibiotics has increased over the last several decades; this resistance has not been accompanied by the development of new antifungals. Two microcyclamides, MZ-568 and MZ-602, were recently isolated from an algal bloom. These compounds were found to be structurally similar to two existing classes of antifungals, echinocandins and azoles. Due to the structural similarities, it is thought that they will possess antifungal activity. This research describes the efforts toward the total synthesis of both microcyclamides. Upon completion, the minimum inhibitory concentration of these compounds against clinically relevant fungi will be determined using standard broth microdilution assays.

**P-52: SIMON SEGAL*****Pulsed Chronopotentiometry with Asymmetric Cellulose Triacetate (CTA) based Ion-Selective Electrodes for Selectivity Enhancement of Chloride for Measurement in Physiological Samples***

FACULTY SPONSOR(S): KEBEDE GEMENE, CHEMISTRY

Abstract: Lipophilic ions such as salicylate and thiocyanate interfere with measurements of chloride ions in human blood with ion-selective electrodes. The objective of this project is to develop a methodology to alleviate the interference of these ions. Asymmetric CTA membranes are made with a barrier and sensing layer. The barrier layer is hydrolyzed in order to increase the hydrophilicity and to create physical pores, which cause retardation of larger lipophilic ions without hindering the movement of smaller hydrophilic ions such as chloride to the sensing surface. This is anticipated to alleviate the interference of lipophilic ions during the measurement of chloride.

**P-53: SARAH SIEMER*****Stark Absorption Studies on Supramolecular Small Molecules and Polymers that Connect Fullerenes and Transition Metal Chromophores***

FACULTY SPONSOR(S): KEITH WALTERS, CHEMISTRY

Abstract: Our group studies supramolecular small molecules and polymers that connect fullerenes and transition metal chromophores. Through traditional spectroscopic techniques, we observed distinctive photoinduced properties in the excited state. One important concept we are trying to understand is the distance an electron moves within the molecule after excitation. We use Stark absorption spectroscopy to measure the dipole moment change after light exposure. This poster exhibits the results for small molecules and polymers that incorporate identical subunits. Our data proposes that electrons in the excited state do not completely travel between the electron donors and acceptors, which supports our previous spectroscopic measurements.

**P-54: CHELSEA SOWARD, DAN POWERS, BRIAN BUTLER*****(4,5)-bisarylethynylcatechols - Precursors for Oxacalixarenes and Annulenes***

FACULTY SPONSOR(S): KC RUSSELL, CHEMISTRY

Abstract: The Russell Research Group (RRG) works to prepare (4,5)-bisarylethynylcatechols to incorporate into oxacalixarenes and annulenes. Oxacalixarenes are cuplike structures whose potential applications including chemical sensors and hydrogen storage. By integrating (4,5)-bisarylethynylcatechols into annulenes, the annulenes can be incorporated into oxacalixarenes. This will allow a unique opportunity to study the pi-pi interactions between cofacial annulenes. The synthesis of the target catechols is hampered by the incompatibility of phenolic groups with palladium-catalyzed coupling reactions. This poster will highlight the RRG's current efforts to synthesize (4,5)-bisarylethynylcatechols using O-protected 4,5-diiodocatechol derivatives.

**P-55: TORI VAUGHT*****Youth Culture***

FACULTY SPONSOR(S): CHARLISA DANIELS, CHEMISTRY; REES STORM, INTEGRATIVE STUDIES

Abstract: This proposal is to observe the choices of the youth in the Dominican Republic and the United States in the categories of entertainment, food, clothing, and education. Analyzing and surveying peers in the US will provide information about their choices for these categories. Interviewing and observing during our trip will give the preferences of the Dominican youth. Having experience within the two cultures will help us analyze the similarities and differences. A poster with quotes and photos to compare the two will be ideal. The goal of our project is to broaden cultural diversity and encourage reflection upon daily choices.

**P-56: HAMED ALSAEED, MOLLY ERNSTES, BROOKE KIRKLAND*****Anxiety: Online Dating vs. Blind Dating***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: Our research project explored the different levels of anxiety that are most likely to occur when someone explores the settings of blind dating (face-to-face) or online dating. We argued that blind dating, as opposed to online dating, would cause more anxiety in participants. The research was conducted through a survey and it was intended to examine the anxiety levels of individuals that have participated in online dating or blind dating or even both. Key takeaways consisted of learning more about different avenues of dating and online dating anxiety.

**P-57: NICHOLAS BOND, DANIEL KEMPER, ZACHARY WALTERS*****The Effect of Group Size on Communication Apprehension***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: Our research involves the relationship between group setting and communication anxiety. We propose that if public speakers speak in front of fewer people then communication apprehension will be lessened. The research done provided some insights into why this is an important subject to study, as numerous sources found that high levels of communication apprehension have numerous negative effects on young learners. Additionally, high levels of communication apprehension were associated with low levels of self-perceived communication competence. The data from an online survey supported our claim: a majority of people experienced greater communication apprehension when faced with a larger crowd.

**P-58: EMILY BROOKER, GABRIELLE MAYS*****Comparing Negotiation Skills between Only Children and Those Who Have Siblings***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: Many would say that children are conditioned to be how their parents raised them. Studies show that children learn to be accommodating based on the expectations set by the parent. By creating a nurturing setting in the household, the child or children will learn the importance of respect and how to approach conflict. From the survey that was conducted, however, we found that single children negotiate the same way that sibling children negotiate. The number of siblings does not play a factor in whether a child has negotiation skills.

**P-59: DOUGLAS CARLSON, TAYLOR WEAVER, JUSTIN WOLSTENHOLME*****Celebrity Endorsement***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: Every day, millions of people are berated by commercials of celebrities endorsing various products. Our study is to focus on how celebrity endorsements affect people's purchasing habits of various products. The process involved surveying people about celebrity endorsements and their effect on the participants' purchasing habits.

**P-60: KENDRA CONLEY, KRISTA TUTA, AMY FIGHTMASTER*****Do the Different Cultures of Our Nation Impact an Individual's Willingness to Interact with Strangers?***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: This study will examine the impact of geographical location on an area's culture. The stereotype of Southern people being more polite will be examined. This will be accomplished by a review of the relevant literature, primarily through sources such as scholarly journals and articles. In addition to this, a survey of undergraduate students at Northern Kentucky University will be conducted among students native to the South as well as students who are not native. This survey will focus on the students' willingness to interact with others, primarily their willingness to interact with unfamiliar people.

**P-61: SEAN CULLEN, LUIS PEREZ, PHILLIP WADE*****Digital Communication Amongst College Students***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: With the acceleration of the rate of change in modern era, communication forms have adapted to a more digitalized world. Our study focused on college students' decisions to communicate through digital formats over face-to-face communication, and we assumed that this caused a lack in interpersonal skills. With our findings, we realized that college students prefer to communicate face-to-face when dealing with sincere scenarios.

**P-62: DANIELLE DEVLIN, LANA FRITZSCHE, NICOLE GRIFFITH*****Self-Esteem and Confidence in Public Vs. Private High Schools***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: The study seeks to examine if self confidence in college students was effected by the type of high school they graduated from. As a result of the data collected from the Qualtrics survey, we have concluded that there is not a significant correlation between self-esteem levels and the type of high school that a student graduated from. However, there is a significant difference in the confidence levels reported by these students with private school students reporting confidence levels that were significantly higher.

**P-63: JASON DICKEY, MEGAN GREGORY, EMILY RIES*****How Do People View the Homeless versus Veterans?***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: With the number of homeless growing in the United States as a group we were curious to discover why people are less willing to help the homeless, but are more likely to help others that are in a more favorable position i.e. veterans. We surveyed almost 200 people asking 12 questions to understand how people view the homeless versus veterans. We compared the two groups on how they were perceived being warm and competent. Our findings supported our hypothesis. Survey participants found the homeless to be far less warm and competent compared to military veterans.

**P-64: ALEXANDER EILERS, MACKENZIE HAMMOND, NICHOLAS KNOEBEL*****Seasonal Flavors, Marketing, and Consumer Behavior***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: The study seeks to examine if consumers may be more likely to purchase seasonally available food or beverage products based on marketing campaigns. We believe marketing campaigns may be effective in sales trends of seasonally available food and beverage items.

**P-65: ALYSSA FURNIER*****Bill Cosby and Eddie Murphy: A Clash of Comic Perspective on the Black Experience in American Popular Culture***

FACULTY SPONSOR(S): YASUE KUWAHARA, COMMUNICATION

Abstract: This independent study compares the comedic perspectives on the Black Experience of two African American comedians, Bill Cosby and Eddie Murphy. The research explores the ways these comedians address the issue of race in their work and examines what should be done in terms of racial diversity in the performing arts to best bring about social change and influence popular culture. Its primary thesis is that these comedians address race from two extremes, with Eddie Murphy highlighting the cultural differences among groups and Bill Cosby emphasizing the universality of being human. This study considers the social benefits of each approach.

**P-66: NATHAN GARBIG*****Navigating the PR Cultural Terrains: An Analysis of German Versus U.S. Public Relations Agency Culture***

FACULTY SPONSOR(S): JACQUELINE EMERINE, COMMUNICATION

Abstract: Communication and organizational structure within German and United States' business settings show the complexity and variety that culture can have within the professional world. However, do PR agencies need to build more relational environments conducive for creativity and a strategic, out-of-the-box structure, no matter the agency's location? By taking a deeper look into the lifestyle of German and U.S. PR agencies through literary review, qualitative research, and field research, we can begin to understand the similarities and differences of German and U.S. agency organizational culture, as well as comprehend the extent of globalization within agency culture and communication.

**P-67: ABBY GREEN*****The History of Beer Pertaining to Women as Producers, Consumers and Distributors in America***

FACULTY SPONSOR(S): YASUE KUWAHARA, COMMUNICATION

Abstract: This presentation focuses on American History from the colonial era to present day, examining the connection and correlation of women and beer. It looks at how historical events have affected the beer industry as well as women, starting women's roles during colonial America in relation to beer. It also examines beer advertising and its connection to women. The presentation concludes with the discussion of the craft beer industry in relation to women. The goal is to understand how women's role as a producer, distributor, and consumer of beer has changed throughout American history.

**P-68: KEVIN HOFFMAN, MAX INGRAM, NORMAN PENISTON, PETE YERACE**  
***Traditional Cigarettes vs. Electronic Cigarettes***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: This survey involves discovering how people view traditional cigarettes as compared to non-traditional electronic cigarettes. The study surveyed 196 participants asking a range of questions in order to determine an overall consensus on the subject. Upon examination of these responses it was determined that there is a more favorable outlook on new age electronic cigarettes not only in health risks but also in comfortability being in the same area as a smoker.

**P-69: JENNIFER LIPPS, ERIN MCGAHA*****Relationship Satisfaction and Social Media Usage***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: Within the topic of relationships, we conducted research focusing on relationships and how they correlate with social media. The independent variable in this study was how the couples communicate (i.e. Facebook, Twitter, text messaging,

instant messaging, Snapchat, and face to face conversations).

The dependent variable was to demonstrate how couples perceive satisfaction in their relationship. Through our research we attempted to discover if there was a link between the amount of time couples spend communicating through social media/the amount of social media exposure the relationship receives and the amount of dysfunction or fighting that occurs between the couples.

**P-70: AUSTIN LIVINGOOD, MICHAEL MOFFETT, JACOB WALLACE*****Social Media Usage Affected by Loneliness***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: This research involves discovering whether or not the utilization of social media to higher extents correlates with how lonely a person is. The research was developed utilizing Michigan State University's research on how much Facebook impacts peoples' lives, and UCLA's Loneliness scale, which served as a foundation to the questions asked in our Qualtrics Survey. The survey was administered to anyone who was willing to participate regardless of race, age, or gender. The research found that there is a significant, positive correlation between the use of social media and loneliness.

**P-71: EMILY PETERS, ELLEN WAPPNER, JOHN TRACY*****The Effect of Feminist Vernacular on Agreeability***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: The purpose of this research is to gain a better understanding of how the general populace receives messages about feminist discourse. This research examines how the presence of feminist vernacular affects the agreeability of the participant. The findings showed that the majority of participants who agreed with the simplified statements did not agree with the feminist equivalent.

**P-72: MELISSA POWELL, BRENT DONALDSON, KELSEY SPHAR*****Targeted social media engagement with NKU students***

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: State funding for public higher education continues to decline across the United States, resulting in increased tuition costs, less money spent per student, higher debt levels for students and graduates, and diminished access and overall quality. This study focuses on the targeted use of social media to guide students through the minefield of social and financial resources available at Northern Kentucky University, and determines whether this guidance could increase student satisfaction and retention rates.

**P-73: ALEX STACY*****Face Magazine. Research in Popular Culture Studies.***

FACULTY SPONSOR(S): YASUE KUWAHARA, COMMUNICATION; HANS SCHELLHAS, VISUAL ARTS

Abstract: I am designing a magazine called Face. Based on my research in Popular Culture, this magazine will focus on Japanese film. I will start by researching Japanese film then organize my research by writing a paper. After my research is organized, I will use that to create my magazine. Creating multiple spreads and articles in the magazine gives me plenty of opportunities to 1) show my focus in Popular Culture, 2) show how studying popular culture makes me a better designer, and 3) displays my research in an interesting way.

**P-74: ESTHER AMO-NYARKO*****Improving Web Site Navigational Design and Efficiency Based on User Behavioral Pattern from Clickstream Data Analysis***

FACULTY SPONSOR(S): WEI HAO, COMPUTER SCIENCE

Abstract: To design a website that gives better user experience, there is a need to analyze user activities on the site in order to

discover user behavioral pattern so that the site is intelligent enough to predict what a user is likely to do when they visit that site. We collect and analyze clickstream data. Through the clickstream analysis, we discover the most commonly visited pages based on the user's geographical location which gives an insight into user preferences. We use association rule mapping to help better design the navigational features of the website to suite the user preferences.

**P-75: GAURAV ARYAL**

*Data Caching for Websites in Cloud*

FACULTY SPONSOR(S): WEI HAO, COMPUTER SCIENCE

Abstract: This research was done to evidently prove that the response time for a website is faster when the data is cached to a proxy server physically located closer than the web server to clients. A K-means-based database partitioning algorithm was developed to group data with similar access patterns together for caching. A bookstore web application was implemented in the Amazon Cloud to perform experiment. The experiment's results show that data caching can significantly reduce response time for a cloud-hosted website.

**P-76: MATTHEW BECK**

*Twitter Hashtag Popularity Snapshot App*

FACULTY SPONSOR(S): WEI HAO, COMPUTER SCIENCE

Abstract: Hashtags provide Twitter users a method to mark their tweets as relevant to a particular topic. The variety of hashtags and natural fluidity of Twitter conversations make it difficult for researchers to gain a clear picture of the Twitter conversation at any moment. I designed a web application to help alleviate this problem. The application allows users to select hashtags and view a graph which plots, in real time, the popularity of the selected hashtags. The app could help track the success of social media strategies, gauge response to live events, or help model the flow of Twitter conversations.

**P-77: BEN BOURGEOIS, BRIAN KONZMAN, LAUREN HENSLEY**

*Medical Image Segmentation Using GPU Accelerated Convolutional Neural Networks*

FACULTY SPONSOR(S): KEVIN KIRBY, COMPUTER SCIENCE

Abstract: Convolutional neural networks are a machine learning technology often used for visual classification and segmentation because of their ability to detect features in images. These artificial neural networks are organized in layers and are remarkable for their parallelizability and trainability. We use UC Berkeley's deep learning framework, Caffe, which utilizes NVIDIA GPUs to parallelize and significantly speed up training. We seek to train networks to segment MRI images. We alter the hyperparameters and structure of existing networks, such as GoogLeNet, in an attempt to neural smith the networks to be more effective for this segmentation and then present our results.

**P-78: RASHEED ELSALEH**

*Series Tracker in the Cloud*

FACULTY SPONSOR(S): WEI HAO, COMPUTER SCIENCE

Abstract: Series Tracker in the Cloud is a cloud based system that helps users track their show watching. The backend of the system runs on AWS(Amazon Web Services) and utilizes many of its services using the AWS Java SDK, these services are EC2, DynamoDB, SNS, S3, and Elastic Beanstalk. The client web app displays TV shows to users, allows them to add shows to their watchlist, and mark watched episodes. It also allows the user to search for shows. Watchlists and watched episodes data are saved in the AWS DynamoDB database.

**P-79: CHRIS FITZGERALD, RICHARD AUMAN**

*Comparing Aerial and Satellite Imaging Techniques in the identification and Tracking of Honeysuckle*

FACULTY SPONSOR(S): HONGMEI WANG, COMPUTER SCIENCE

Abstract: Great Parks of Hamilton County (GPHC) has collaborated with NKU on mapping honeysuckle distribution in their parks through the use of both satellite images and aerial photos. The goal of this study is to compare these two methods and recommend one for GPHC's long term use. We compared them from both accuracy and cost perspective. The study results show that the satellite image map is more accurate and more cost effective. These results will be very helpful for GPHC staff to decide on which method they use for long term tracking of honeysuckle distribution in their parks.

**P-80: AMINEH ABU-RIMILEH**

*NKU Tobacco Free Policy Compliance Study*

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: In 2014, NKU passed a tobacco free policy. While walking around campus in the semesters that followed the policy placement, individuals are still seen using tobacco products. The purpose of this quantitative study is to assess each gender's compliance of the tobacco free policy. The survey was conducted online and self-reported primary data was used for the SPSS statistical appropriate analysis. The findings and results are expected to be reported in this study. The result will demonstrate and provide helpful information about compliance of the tobacco free policy on campus.

**P-81: REBECCA ALLEN**

*College Students Suffering Grief and Loss: Focus on Death of an Individual*

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: When looking at a college campus, grief and loss is not something that is on individuals' minds. The effects of losing a loved one will be researched throughout Northern Kentucky



University. The purpose of this study is to examine what is grief, what does grief look like, and what is available on NKU's campus to help college students deal with grief and loss. Findings from this study are expected to give more insight into the grieving of a loved one and how it affects them on a personal level as well as on an educational level.

**P-82: KARRAH BERRY*****Dating and Domestic Violence at Northern Kentucky University (NKU)***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The terms 'dating violence' and 'domestic violence' are often used to refer to instances of physical, sexual, psychological and emotional abuse within a relationship. There is little information known about the prevalence of dating and domestic violence among college students. The purpose of this study is to gather data on the prevalence of domestic and dating violence on NKU's campus through an on-line survey to current students. The findings of this study will contribute to the literature on this subject and help on- and off-campus service providers be better equipped to prevent and intervene.

**P-83: KRISTIE BLANCHET*****Student Attitudes and Perceptions of Gun Safety on Northern Kentucky University's Campus***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The rising number of gun violence on school grounds is growing every year with 2015 being the largest so far. Northern Kentucky University was not exempt from this type of attack. In August 2015, there was a female student apprehended with a firearm in the campus library. This study will explore student attitudes about safety here on NKU's campus through an on-line survey, with quantitative data to support the final description of current students' perceptions of overall safety and whether they perceive it is appropriate for qualified individuals to carry firearms at any given time on campus.

**P-84: PETER BOUDREAU*****Physical Inactivity as a Result of Stress from Student Loan Debt***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Student loan debt has become a growing concern for students across the country. Student loan debt is a leading cause of stress among students. In addition, 60% of adults say that they are physically inactive, and about half of all college students report decreased physical activity after graduation. The current study examines the link between the amount of stress from student loan debt and the amount of physical activity experienced by NKU students. Given the effectiveness of exercise as a stress reduction technique, findings from this study may have implications for wellness campaigns at NKU.

**P-85: NYCOLE BRUNDIDGE*****The impact of student loans on NKU students' likelihood of pursuing a graduate degree***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING SOCIAL WORK AND LEADERSHIP

Abstract: Student loan debt is a substantial problem in the United States, with both short and long term ramifications. These ramifications include: stress, depression, anxiety, increased pressure to choose a major that will result in greater pay, and postponement of major life decisions (e.g. marriage, buying a house). In addition, student loan debt can impact individuals' decision to pursue a graduate degree. This latter consequence is the focus of the current study. The study will examine student

loan debt among NKU students and whether individuals with student loan debt are less likely to pursue a graduate degree.

**P-86: KAREN CARLSON*****Is Borrowing All That Money Worth It?***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Student loan debt is a great concern to this country and remains a persistent social and economic problem. Currently the U. S. Department of Education has granted over \$1 trillion in outstanding student loans to roughly 37 million students. NKU students are not sheltered from this societal problem with 72% of NKU graduates having student loan debt. This study seeks to examine the various impacts of student loan debt on NKU's undergraduate students, including the relationship between student loan debt and students' GPA.

**P-87: ARIES COLEMAN*****Effectiveness of the Alcohol Consumption and NKU student's Academic Performance***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: College alcohol abuse is the most significant public health concern on university campuses. The prevalence of drinking behavior among college populations has remained stable across two decades, indicating that the problem is not being addressed adequately by current prevention and intervention efforts. This quantitative study seeks to understand the issue occurring on NKU campus in regards to alcohol consumption and academic performance. The study was conducted through an online survey and the study's statistical analysis, findings and results will be reported in the study. This study expects to find that consuming alcohol will negatively affect students' GPA.

**P-88: BARBARA A. COWAN*****Let's Talk About Sex: The Effects of Sexual Education on Current NKU Students***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Inadequate sexual education is a significant social, economic, and public health issue. This leaves youth defenseless when they attempt to make knowledgeable decisions about their bodies and relationships. Providing comprehensive sexual education will increase communication for healthy relationships and assist in developing healthy physical, emotional, and sexual boundaries. Previous studies have shown a disturbing lack of understanding about contraceptive use, medical care, healthy sexual relationships and boundaries, and the transmission of sexual diseases. This study will examine the effects of sexual education on perceptions and behaviors of current NKU students. Anticipated findings include distorted perceptions, knowledge gaps, and boundary concerns.

**P-89: KAMON CUCCHIARA*****The Impact of Food Insecurity and College Students GPA***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Food insecurity is a widespread issue affecting millions around the world. It is affecting the health and nutrition of those who experience food insecurity and in turn affects their day to day life in which they cannot be active in society. Food insecurity is putting a strain on education and causing college students to underperform as well as limiting their opportunities in life. This study seeks to examine the relationship between food insecurity and GPA of college students at Northern Kentucky University through an online survey. Findings will be reported in this study.

**P-90: JOANNA DAVIS*****Sleep Deprivation among College Students***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Sleep deprivation has been known to have a high prevalence among college students. College students have been ranked as one of the highest populations to suffer from sleep deprivation. The purpose of this study is to examine if Northern Kentucky University (NKU) students are suffering from sleep deprivation, and if so what are the factors that cause students to have insufficient sleep hygiene. This study was conducted by an on-line survey, and consisted of questions related to their sleep hygiene. These results will be used to determine the cause of sleep deprivation among college students.

**P-91: KIARA DEWEAVER*****Campus Sexual Assault in Relation to Academic Performance***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Sexual assault is the most underreported crime. More than ninety percent of sexual assault victims on college campuses do not report the assault. The consequences of sexual assault not only effect victims but also families and communities. Academic performance can also be impacted as a result of sexual assault. This study seeks to examine the relationship between sexual assault and a student's academic performance. This quantitative study expects to report students' perception, knowledge, and attitudes pertaining to this social problem on campus.

**P-92: LEANN DUTY*****Attitudes Towards Mental Illness***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The purpose of this study is to determine any negative stigma on NKU's campus in regards to mental illness. Negative stigma can cause people to not seek help. Negative stigma can also isolate people from the community. This quantitative-cross sectional study will address college students' knowledge regarding their accessibility of mental health services on campus, and their general attitude toward mental illness. The qualitative online survey and SPSS statistical program were utilized in this study. Findings from this study are expected to examine the impact of college students' knowledge and attitudes towards mental illness and help-seeking on campus.

**P-93: NATHAN ELLIOTT*****PTSD Among Student Veterans at NKU***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: PTSD (Post-traumatic stress disorder) affects at least twenty percent of veterans who have been deployed to Iraq or Afghanistan. It is important to raise awareness and educate veterans and the general population about the effects on its victims. The aim of this study is to assess the number of student veterans at NKU who may be struggling with PTSD and to determine the effects that it has on these students. The cross-sectional study conducted an online survey of NKU's student veterans. The anticipated outcome of the study will be to determine whether or not PTSD affects academic performance.

**P-94: AMY FORSEE*****Let's Talk About Sex: How Sexual Education Influences NKU Students***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, PHD, MSW, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Comprehensive sexual education should be age-appropriate, inclusive to everyone, and contain information

that is medically accurate regarding contraception, pregnancy, and disease prevention. Research has shown there are deficits in the sexual education being provided. The consequences of these deficits have resulted in increased teen pregnancy, higher STD rates, and inaccurate information. This study examines the correlation between sexual education and students' knowledge, perceptions, and behaviors related to sex. We expect to find that more comprehensive sexual education results in more inclusive information, healthier relationships, and safer sex practices.

**P-95: EMILY FUMAROLA*****Student Loan Debt and the Effects of Parental Support on Undergraduate NKU Students***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The student loan debt crisis is a growing economic, social, and health problem that affects approximately 37 million people. Student loan debt has been associated with a variety of negative short and long term consequences, including negative mental health outcomes. This study seeks to analyze the impact of student loan debt, and whether this impact differs depending on the presence of parental financial support. The findings from this study will provide insight into the relationship between student loan debt and students' reported levels of stress, anxiety, and depression. In addition, demographic comparisons will be made by race and gender.

**P-96: SUJATA GHATE*****Let's Talk About Sex: How Sex Education Influences Students***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: According to the CDC, people ages 15-24 are in the highest reported age category for chlamydia and gonorrhea. Additionally, up to 20,000 women annually become infertile due to undiagnosed STIs. According to research, college students are at high risk for STIs. The lack of sex education in areas of STIs and condom use is leaving NKU students at a greater risk for disease. It is expected that the research will show that NKU students who have not received adequate sex education are at greater risk, because they use condoms less frequently than those who have received such education.

**P-97: JOANNA GROME*****Help-Seeking Behavior Among College Students for Substance Abuse***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Drug use among college students is at an all-time high. Research indicates that college students rarely seek help for substance use issues. The purpose of this study is to understand factors that prompt or present barriers to college students seeking help for substance abuse. The study will also examine whether gender or ethnic identity influence students' decision to seek help. Findings are expected to show that college students encounter multiple barriers to seeking treatment for substance abuse, and that male and ethnic minority students seek help less frequently than female students and individuals of the ethnic majority background.

**P-98: JESSICA HICKEY*****Student Loan Debt and Minorities***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Student loan debt has skyrocketed in recent years and has become a barrier for gaining higher education. The effects of student loan debt may be even more pronounced for minority groups. This study will examine the student loan debt experiences of undergraduate students at Northern Kentucky

University, including students from diverse backgrounds. Findings from this study will provide insight into the effects of student loan debt on minorities and how student loan debt impacts minority students' academic journey.

**P-99: TAYLOR HUGHES**

***Student Knowledge on Disability Services and Stigma***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: In 1973 The Americans with Disabilities Act was passed guaranteeing disabled individuals accommodations while on college campus. It is unclear if the general NKU student population is aware of the services that are provided. This quantitative study seeks to assess the campus students' knowledge on disability services, as well as the stigma associated with having a disability on a college campus. The self-reported online survey was administered and the findings and results were discussed to advocate for campus student knowledge of disability services.

**P-100: CARLY IAMES**

***Perception of Police Legitimacy at NKU***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Due to several tragedies occurring throughout our nation in recent years, police officers are in the spotlight more than ever. Americans' positive perception regarding the legitimacy of police is imperative to ensuring public safety, maintaining order, and establishing trust. The literature suggests that university police, in particular, feel that the community views them as less legitimate than local police. This study seeks to determine how legitimate NKU students perceive university police to be, and whether students feel safe and protected on campus. The findings from this study aim to bridge the gap between university police and the students they protect.

**P-101: ROBERT JASPERS**

***NKU Students' Perceptions of Police***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The frequent media reports of police encounters with the public have had a substantial negative impact on the public's perception of police legitimacy. This is of particular concern since perceived legitimacy is essential to the police's ability to effectively protect the community. The current study seeks to gain a better understanding of NKU students' perceptions of university and community police. Findings will provide insight into whether students find police to be helpful, and whether the police increase students' sense of safety. This study will also compare students' perceptions based on a variety of demographic variables including gender, race, and ethnicity.

**P-102: BRITTNEY KANE**

***Homelessness: Our perspective and why it matters.***

FACULTY SPONSOR(S): SUH-KEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Homelessness has been a persistent and unavoidable issue in every major city across the U.S. We see homelessness around every corner. The population is changing but societies' perceptions remain the same. This study intends to explore the perception of social work student of people experiencing homelessness. The findings of this study set out to examine younger generations of social workers perception about the homeless population and how that aligns with societal opinion. The appropriate statistical tests will be analyzed and results will be reported in this study for further implementation in social work education.

**P-103: SOPHIE KRONER**

***Financial Stress and Student Loans Among College Students***

FACULTY SPONSOR(S): SUH-KEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: This research study is based on student debt and how it affects students during and after their college careers. This quantitative study looks at how much debt students have acquired and it also looks at students' stress levels related to money and debt. The purpose of this study is to explore if students who have debt have more stress than those students who do not have any debt from college. Self-reported surveys have been filled out face to face with the college student population. The statistical results of the survey will be explained and discussed in this study.

**P-104: ABAGAILE LONG**

***Prevalence of Drug Use at NKU***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Drug use is a nationwide epidemic. It affects families financially, emotionally, and socially. Drug use also has a detrimental impact on the economy, due to the financial cost of substance abuse treatment. Additional research is needed regarding substance use on college campuses. More specifically, very little is known about drug use at Northern Kentucky University. This study seeks to examine the prevalence of drug use on NKU's campus. The results will provide insight into the types of drugs used and the prevalence of drug use. This, in turn, can provide insight into treatment needs and prevention efforts at NKU.



**P-105: CARLOS LOPEZ DE VICTORIA*****Let's Talk About Sex: How Sexual Education Influences Students***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Studies have shown that one in four college students will contract an STI during his or her time at school. This survey is intended to see if there is a correlation between sex education and sexual behavior. This study will examine the areas of sexual activities, use of contraceptives, perceptions of student sexual behaviors, and sexual communication. The results of this survey are projected to illustrate that sex education has a positive effect on sexual behaviors and communications.

**P-106: DEBRA LOVE*****Diversity Inclusion, Does Diversity Matter on Campus?***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: There have been numerous studies to find out how diversity or a lack thereof can impact minority (non-white) students on college campuses. This quantitative study topic is to determine the importance of diversity on campus and the impact of the lack of diversity on minority (non-white) students. The purpose of this study is to determine the importance of diversity and whether or not students see its value. This cross-sectional study also expects to find whether or not NKU finds this topic to be of importance and what they may be doing to further diversity in its mission.

**P-107: KELLI MARTIN*****Domestic Violence on College Campus: Does it occur in on-campus housing more than off campus?***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Domestic violence is a common trend on college campuses. Statistics show that people age 18-24 are more likely to be victims of domestic and dating violence than any other age group. Our campus report shows only one reported instance of dating violence in 2014. The purpose of this study is to find out if there are more students that have experienced domestic or dating violence than are reporting it and whether it occurs in on-campus housing more often than off campus. Findings from this study are expected to report whether domestic violence occurs in on-campus housing more often than off-campus.

**P-108: CHRIS MENDIGUREN*****Awareness of Grief, Loss and Student Service on College Campus***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: It is a fact that everyone will experience some sort of loss in their life time. A recent study stated 18.4 million college students enrolled throughout the United States there were 4.5 million grieving do to loss. This study examines the problem of grief that college students at Northern Kentucky University experience due to death and non-death related loss. This quantitative study is exploratory in nature and aims to raise awareness of grief and loss and available services. The statistical findings and implications will be reported in this study.

**P-109: JASON MERRICK*****Effectiveness of Loan Forgiveness Program and College Student's Quality of Life***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: This research project is designed to outline and illustrate the processes by which one may qualify, apply, and achieve loan forgiveness through the Public Service Loan

Forgiveness Program. This study seeks to identify target populations and those most qualified for loan forgiveness, and how student loan debt could affect quality of life. The primary data was collected from the NKU campus and study conducted face-to-face and online self-reported survey. This study expects to report the effectiveness of loan forgiveness program and college students' quality of life.

**P-110: ELIZABETH MEYER*****Substance Abuse on College Campus: Focus on Alcohol Abuse and Academic Performance***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The depths of problematic alcohol consumption are of national concern, especially among college students. The purpose of this quantitative study is to examine the issue of alcohol abuse among the NKU student population as it relates to student academic performance and success. Quantitative methods and an online self-reported, voluntary survey was administered to NKU students in order to gather data and conduct assessment. The primary data will be used for study analysis. Findings from this study are expected to indicate whether better preventive measures should be established and implemented on NKU's campus as a result of student alcohol abuse.

**P-111: CECILIA MOORE*****The Psychological Stress Effects on NKU Students***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Psychological stress on college campuses is not something that is taken into consideration by many people. Consequently, the effects of experiencing stress for college students will be researched throughout Northern Kentucky University. The purpose of this study is to examine what causes students to stress, what are the effects of stress, and what resources on campus are available for NKU students. Findings from this study are expected to give more insight into the prominent issue of stress experienced by most NKU students and explain the ways in which this issue affects students personally and academically.

**P-112: RONALD MOSBY*****The Influence of Social Support on Academic Performance***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: This quantitative research aimed at examining perceived social support and its relation to academic performance on college campus students. The main hypothesis posed was that the more active social supports a student receives would be related to a positive effect on their academic achievement. A face-to-face survey was conducted in this study and the appropriate statistical findings of this study also are expected to report to increase student retention and graduation on campus. Limitations of the study and implications for the academic field are discussed.

**P-113: TINA MOSELY*****Impact of College Student's Socioeconomic Status on Student Retention***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Most colleges and universities are struggling with maintaining successes with students. Students from low socioeconomic status have been part of American higher education. The purpose of this quantitative study is to examine the impact of college students' socioeconomic status on student



retention. This cross-sectional study investigates how students' low and high socioeconomic status play a role on academic retention. The self-administered questionnaire online-survey was administered and SPSS statistical analyses were conducted in this study. Findings will be reported to illustrate an effective strategy to support student retention on college campuses.

**P-114: SAMANTHA MURPHY**

*Perceptions of College Campus Climate on Unwanted Sexual Contact and Sexual Assault*

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Sexual assault and unwanted sexual contact frequently occur on college campuses. The purpose of the study is to examine students' perceptions of campus climate on unwanted sexual contact and sexual assault, and how Northern Kentucky University addresses and responds to sexual assault and unwanted sexual contact. The study was conducted with an online survey and involved primary data collection. Findings after the completion of the study were expected to shed light on students' understanding of sexual assaults on the college campus.

**P-115: DANIELLE NATORSKI**

*Students' Perception of Police*

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Police misconduct and perceptions of police have created headlines in our society over the past several years. Furthermore, misconduct by and perceptions of University Police have presented their own set of conflicts and issues. The current study will examine NKU students' perceptions of police as well as their contact(s) with police. Examining NKU students' perceptions of and interactions with police will assist us in better understanding student-police relationships at NKU.

**P-116: CHRISTOPHER NEUMANN**

*Cincinnati Homelessness Study*

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Homelessness is a significant problem in the United States. While a substantial body of literature has focused on homelessness, the literature on homeless families is quite limited. This study aims to capture the caregiver perspective on family

homelessness in Cincinnati by utilizing a Group Level Assessment (GLA). This technique will be used to collect data pertaining to the caregivers' concerns and perceived developmental/health needs of their children. The study participants include residents of the YWCA and Interfaith Hospitality Network. Implications for practice will be discussed.

**P-117: MARY JOYCE OSTROWSKI**

*The Lows of Higher Education: The effects of loan debt on the mental health of undergraduate and first generation college students.*

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Student loan debt is soaring at an all-time high of one trillion dollars. For the first time in history, this number has outranked the US's total credit card debt. The climb in tuition prices is increasing both the amount of money borrowed and the number of students borrowing. The mounting student loan debt has lasting consequences for American students, ranging from financial, to physical and psychological. This study, which focuses on the latter, seeks to examine whether or not student loan debt causes higher levels of stress, anxiety and/or depression specifically among NKU's undergraduate and first generation college students.

**P-118: JA'SWAYLA PRICE**

*Impact of College Student Diversity on Academic Success*

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The northern Kentucky region is not diverse enough to provide a steady pipeline of multi-cultural students. The purpose of this study is to explore what diversity means on a college campus and examine how diversity affects student's academic performance. This study conducted a sampling of campus students and online survey to collect the primary data. The result will demonstrate the correlation between race and ethnicity with campus involvement and their academic achievement. This study expects to find significant impact of college student diversity on academic success.

**P-119: CHARLOTTE REED**

*Isolation and Substance Use Among Students at Northern Kentucky University*

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Social interaction is critically important as it has been

linked to increased health benefits, including a lowered risk of substance abuse in young adults. While studies have focused on social isolation as a cause for drug use, it is relatively uncertain what impact drug use has on social interaction/isolation. This study seeks to gain insight into the prevalence of and relationship between social isolation and drug use among NKU students. It is believed that the results of this self-report study will show a connection between these two variables.

**P-120: STEPHANIE RICE**

***Substance Use and Addiction Support Services for NKU Students***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The use of drugs and alcohol by students continues to be a focus of concern on many college campuses. NKU is also geographically located in an area currently experiencing a heroin epidemic; Campbell County scored in the top 3 Kentucky counties for opioid overdoses. Furthermore, 35% of people in northern KY know someone with an addiction. The purpose of this study is twofold: to examine whether there is a need for recovery/addiction support services at NKU; and to explore what NKU students perceive would best fit the needs of their campus community.

**P-121: BRIANNA ROLAND**

***The Prevalence of Drug Use among Previous Recipients of Out-Home-Care on NKU's Campus***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Adults who were placed in out-of-home care as children suffer from a multitude of long-term consequences, including lower educational attainment and increased drug use. However, the literature on drug use among this population is sparse, especially among college students who have experienced out-of-home care. This study seeks to examine: (1) what percentage of the sample has experienced out-of-home care; (2) the prevalence of drug use among this subpopulation. Results are expected to indicate that a small subsample has experienced out-of-home care and that this population has a higher prevalence of drug use than the general student population surveyed.

**P-122: MARIA SALLEE-THOMAS**

***College Crime and Students on and off Campus Safety***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: College student safety is a high priority for all colleges and universities and their off campus communities. The purpose of this quantitative study is to examine crime rates on and off college campus. This study seeks to discover the difference between what crime is reported on and off campus, and hopes to find a similar pattern amongst the college students report in order to develop more appropriate and effective prevention programs on and off campus. These data were then analyzed in SPSS statistical program to determine the effectiveness of the approach to providing safety feedback on and off campus.

**P-123: GARNISHA SANFORD**

***The Effects of Self-Efficacy on First-Generation Student's Academic Success***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: First-generation college students make up forty percent of the U.S. college population and sixty three percent of the NKU student population. First generation college students are more likely to drop out of college than non-first-generation. The purpose of this study is to analyze the effects of self-efficacy on academic success of first-generation college students. The participants in the study consisted of college students from

NKU. This study seeks to examine ways to help first generation students overcome challenges they face on campus. The results of this study will show the need to provide more on-campus services that target first-generation students.

**P-124: KATHERINE SCHAD**

***Gun Control on College Campuses***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Gun control is a major issue in the United States specifically among college campuses. While protection is a concern because of the rise of violence and sexual assault, guns can create violent problems. The awareness of general safety and gun emergency policies that a campus has is necessary for the student body to be aware of, which is what this research is testing in order to create a hypothesis of that awareness that could assist Northern Kentucky University in educating its students. It is important to understand that gun control is an issue of minimal relevance but can escalate rapidly.

**P-125: CATHERINE SCHASER**

***Perceptions of NKU Students and Substance Abuse on Campus***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Substance abuse is an issue on college campuses. College students report using substances for different reasons, including peer pressure, stress, experimentation and family history. The student's perceptions regarding the issue of substance abuse on campus is critical to understanding the depth of the problem, specifically at NKU. The research examines the perceptions of NKU students regarding the use of substances among NKU students and the severity of consequences. It is expected that this research will show that there is a larger amount of substance use than is reported, and that there is a need for more campus resources.

**P-126: SHANNON SCHERRER**

***Who is doing what and why are they doing it? Use and Perception of Substance Use on College Campuses***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Substance use on college campus continues to be an area of interest for health professionals and human services. The Northern Kentucky University campus experienced 206 drug or alcohol related arrests between 2011 and 2013. The purpose of this survey is to gain greater insight into the use, perceptions of use, and potential factors that go into increased use among college students at NKU. This research has the potential to shed light on services that are needed on campus and thus reduce criminal behavior at NKU and in the surrounding community.

**P-127: SARAH SCOTT**

***Effectiveness of Aging Out of Foster Care System and College Student Support***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The college success rate for adolescents coming from foster care is extremely low. Some universities are beginning to offer foster care youth special services and supports during their years in college in order to combat the low success rates. The purpose of this study is to examine critical factors in the transition into college and their support system. The survey will be conducted face-to-face with students. The qualtrics survey and SPSS statistical program will be utilized in this study. The appropriate statistical findings will indicate fostering success to improve college support among students aging out of the foster care system.

**P-128: BRIDGET SHAEFER*****Is Healthy Eating Attainable on Campus for Northern Kentucky University Students?***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Unhealthy eating habits are prevalent worldwide, especially in the United States. However, the term 'healthy eating' can have various definitions according to different people. This study seeks to ascertain the opinions of college students in regards to their experience eating on campus. Northern Kentucky University's Wellness Center created the Healthy Food Policy in an effort to encourage students to eat healthy and live a healthy lifestyle. The primary data for this study was collected from campus and the findings report whether or not students have found this initiative successful.

**P-129: BETH SLATER*****NKU Students' Perception of Campus-Based Substance Abuse Services: Familiarity with Existing Services & Desire for Additional Services***

FACULTY SPONSOR(S): CAROLINE MACKIE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Illicit drug use is a substantial problem on college campuses. The literature suggests that there is significant growth in usage rates, especially as it pertains to the illicit use of prescription drugs and marijuana. The current study focuses on exploring the intervention efforts that are in place to help NKU students who are struggling with drug use. Specifically, this study examines NKU students' familiarity with existing campus-based services, as well as gauging NKU students' self-perceived need for additional services. Findings from this study can further inform NKU's intervention efforts.

**P-130: L. ANIKA SMITH*****The Impact of the ACE Participation on Student GPA Outcome***

FACULTY SPONSOR(S): DR. SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: An adverse childhood experience (ACE) is a traumatic event in a person's life occurring before the age of 18. There is no literature on the relationship between high ACE scores and college students' GPA. The purpose of this study is to explore the possible correlation between childhood trauma and GPA outcomes utilizing a face to face survey of undergraduate students on campus. The results of this study will contribute to the literature in this area and help on- and off-campus service providers be better equipped to intervene and create new programs.

**P-131: CYNTHIA SPENCER*****Financial Stress among College Students***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Students at NKU face the reality of financial stress while attending college and this is becoming a pronounced concern to themselves physically and academically. At NKU, resources are available to alleviate the stress students may undergo with financial concerns. The purpose of this cross-sectional quantitative study is to gather information from students in regards to factors that contribute to the financial stress. After completion of the survey, SPSS statistical analysis results are expected to be reported in this study.

**P-132: SHELIA THOMAS*****Student Perceptions of Alcohol and Drug Use and Their Effect on Personal Rate of Use and Experimentation***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Alcohol and drug use remain a common rite of passage for many college students. However, this can have negative impacts on social, psychological, and academic well-being. This study will examine a variety of areas, including participant demographics and history of substance use. In addition, this study seeks to examine student perceptions of drug or alcohol use and the impact substances have in student's lives. In addition, this project will examine use of recovery services. Findings from this study are expected to indicate the need for stage-appropriate intervention as well as recovery services available to Northern Kentucky University students.

**P-133: DREW THOMPSON*****The effect of student loan debt on academic major selection***

FACULTY SPONSOR(S): CAROLINE MACKIE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The cost of higher education has increased by 250% in the last three decades. Studies have shown that, with the increased cost of obtaining a degree, students feel pressure to pursue degrees that will result in higher paying positions after graduation. The purpose of this study is to determine if student loan debt has influenced the major selection of students at NKU. Analysis will be provided using results from a confidential survey of undergraduate students regarding the impact of student loans on their career choice.

**P-134: SARAH PAIGE TUTTLE*****Has the Hook Up Culture invaded Northern Kentucky University?***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: College is often described as the best years of your life. Unfortunately, many students use this newly found freedom to hook up with different people. Because hooking up has yielded unpleasant consequences such as sexually transmitted infections, pregnancies, emotional stress, etc., this study seeks to find out who is more likely to hook up between freshman, sophomores, juniors, seniors, or graduate students on campus. The statistical findings will allow Northern Kentucky University to focus on a specific population and educate those students on potential consequences of hooking up before they occur.

**P-135: KEVIN WAITE*****The Impact of Comprehensive Sexual Education on College Students***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The sexual education (SE) students receive can have a large effect on their sexual perceptions and behaviors. Risky sexual behavior is an underlying factor for many consequences of insufficient SE. Students who receive inadequate SE are more at risk for contracting an STI, being vulnerable to sexual exploitation, and experiencing unwanted pregnancy. This survey will evaluate sexual perceptions and behaviors of students and then compare these results with demographic and background information. We expect to find that students with comprehensive SE are more likely to use contraception, have fewer sexual partners, and feel more comfortable discussing sex with their partners.

**P-136: BETHANY WEBER*****Substance Use and Support Service at NKU***

FACULTY SPONSOR(S): JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Substance abuse is a growing issue among young adults, and individuals age 18-25 have the highest percentages of illegal drug use of all age groups. A large majority of college students fall within this age range. This study seeks to further evaluate college students' exposure and involvement with

substance use and their perceptions about how and when to access support services. Findings are expected to highlight college students' exposure to substance use and the relationship to accessing support services. The research results will help to encourage the continued effort of educating and encouraging substance abuse support services.

**P-137: AIMIE WILLHOITE**

***Drug Accessibility on NKU's Campus: Where and With What Ease Can Students Acquire Drugs?***

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The misuse of alcohol and drugs among students is a widely recognized problem on college campuses. Excluding alcohol, the literature indicates that the most commonly abused drugs on college campuses are marijuana, stimulants and narcotics (nonmedical use). Many factors influence whether college students try drugs, including the availability of drugs on and off campus. This study seeks to examine the level of accessibility of illicit drugs for students at NKU. Findings from this study will provide insight as to where and with what ease students can acquire drugs. Evaluating accessibility trends at NKU can inform prevention efforts.

**P-138: MARY ZUPAN**

***The Relationship between Grade Level and Prevalence Rates of Food Insecurity on College Campuses***

FACULTY SPONSOR(S): SUK-HEE KIM, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Food insecurity is a rapidly growing issue for college students and has shown to have negative effects on academic performance. Feeding America's 2014 Hunger in America report estimates 10% of its 46.5 million adult clients are currently students, including about two million people who are attending school full-time. The purpose of this study is to gain a deeper understanding of the prevalence of food insecurity on college campuses and the related demographics. This survey of NKU students seeks to compare if there are higher rates of students

experiencing food insecurity amongst upperclassmen or underclassmen and report findings from this study.

**P-139: LEAH BYARS**

***Defining a Community: The Linguistic Supplementation of the Word 'Asexual'***

FACULTY SPONSOR(S): TAMARA O'CALLAGHAN, ENGLISH

Abstract: This poster analyzes the processes of linguistic change that have occurred since the term 'asexual' was coined in English, focusing on its extension to gender and sex studies. This particular area of linguistic change offers a unique perspective since the definition process occurs primarily in small online social communities rather than by academics or other language mavens. My examination explores the impact technology, especially in the form of social media, has had organizing and inciting linguistic change that is then accepted by academia. As such, it destabilizes the hierarchy of legitimized change and encourages broader discourse.

**P-140: JULIE MOSES**

***Contributing to the Conservation of Biodiversity: A Scientific and Narrative Approach***

FACULTY SPONSOR(S): THOMAS BOWERS, ENGLISH; JERRY CARPENTER, BIOLOGICAL SCIENCES

Abstract: Withdrawn by author.

**P-141: CASEY CARTER, SYDNEY SMITH**

***Bridging the Food Waste Crisis to Re-purpose Gap: A Northern Kentucky School System Cooperative***

FACULTY SPONSOR(S): KRISTY HOPFENSBERGER, ENVIRONMENTAL STUDIES; COLLETTE THOMPSON, SCRIPPS HOWARD CENTER FOR CIVIC ENGAGEMENT

Abstract: Food waste is a recurring issue in the United States, which often stems from individuals being unaware of the federal and state laws that protect them from liability such as the Good Samaritan Act for Food Donations. Our research focuses specifically on the partnership between the SafetyNet Alliance and Silver Grove Independent Schools (K-12) to re-purpose food waste from the school's free/reduced lunch program. This partnership allowed us to prepare a report that will serve as a tool for other schools to use to address their own food waste issues.

**P-142: CORA ARNEY**

***Eliza Archard Conner: A Story of a 19th Century Female Journalist***

FACULTY SPONSOR(S): BRIAN HACKETT, HISTORY & GEOGRAPHY

Abstract: Born in 1838, Eliza Archard Conner grew up in a small abolitionist town along the Ohio River called New Richmond. There, she attended one of the first academies that believed in equality and accepted anyone regardless of race or sex. She left the Clermont Academy when she could not abide by one rule—staying quiet during study hours. Unsurprisingly, she later became a journalist, writing feminist articles for newspapers across the country, including the Saturday Evening Post. This poster seeks to tell the story and opinions of a headstrong Cincinnati woman who stood up for her rights as a woman.

**P-143: ANTHONY BAKER**

***Zheng He's Treasure Fleet and Ming Absolutism***

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY;

Abstract: This poster looks at the relationship of the early Ming Dynasties creation of its Treasure Fleet and the voyages led by Zheng He in the early fifteen century. This is connected to Ming Absolutism and the Ming Dynasty's drive for political legitimacy. The concepts of Ming Absolutism and the Ming's need for political legitimacy enabled China to reach out into the wider world and attain a level of imperial influence not seen before this period.



**P-144: MEGAN BECKERICH*****The Changing Roles of Women in Chinese Folklore***

FACULTY SPONSOR(S): KATHLEEN M. QUINN, HISTORY &amp; GEOGRAPHY

Abstract: The roles assigned to women in Chinese folklore undergo noticeable changes from ancient times to the present, as witnessed by the evolution of one particular folktale, The Story of Oriole, first recorded in the Tang Dynasty (618-904 CE). By tracing this story's shift from pseudo-biographical short story to operatic romantic comedy, we gain insight into how ancient Chinese society and politics shaped the values expressed in Chinese folklore. This project considered the questions of what historical events affected the original depiction of Oriole and her subsequent incarnations, and how the study of Chinese folklore helped in understanding ancient attitudes and contemporary issues.

**P-145: CRYSTAL COURTNEY, DIANNEA WILSON, VICTOR VANOVER*****Forecasting Invasive Edge Species Spread into High Quality Forests—Case Study: Devou Park Covington, KY***

FACULTY SPONSOR(S): TRUNG TRAN, HISTORY &amp; GEOGRAPHY

Abstract: Utilizing remote sensing, this case study reviews the loss of canopy and subsequent spread of the invasive shrub, *Lonicera maackii*, into areas once dominated by large crown canopies of the Devou West section of Devou Park, located in Covington, KY. The decline in large part is a repercussion of the invasive Emerald Ash Bore (EAB), *Agilus planipennis*, which has swept through the area killing nearly all of the ash trees which make up 10-17% of the forest. Landsat images were used to assess the decline in large crown forest and the spread of honeysuckle from 2002-present.

**P-146: KELSEY FLOWER, CASEY CARTER*****Mountaintop Removal in Prenter, WV***

FACULTY SPONSOR(S): TRUNG TRAN, HISTORY &amp; GEOGRAPHY

Abstract: Mountaintop removal is a form of coal mining that occurs in Kentucky, Tennessee, West Virginia, and Virginia. It involves clear-cutting forests, blasting the tops of mountains, and dumping the overburden into adjacent valleys. This study tracks the progression of mountaintop removal in Prenter, West Virginia by locating deforestation areas using Landsat data. Multiple images are used to examine the specified area's transformation from 2008 to 2014. An overall increase in deforestation throughout the area due to mountaintop removal should be observed.

**P-147: ANDREW ROYSTER*****Washington State Wildfires of 2015***

FACULTY SPONSOR(S): TRUNG TRAN, HISTORY &amp; GEOGRAPHY

Abstract: Withdrawn by author.

**P-148: MICHAEL SCHULTE, KATIE OLLIER*****Using Landsat Imagery to Identify Large-Scale Deforestation in the Amazon Rainforest***

FACULTY SPONSOR(S): TRUNG TRAN, HISTORY &amp; GEOGRAPHY

Abstract: The Amazon Rainforest is home to a host of mammalian and plant species that thrive and survive by the health of the rainforest. Over the past thirty years, deforestation has destroyed critical habitats for the species living there. This study aims at identifying the wide-scale destruction of the forest by utilizing Landsat imagery and remote sensing techniques to detect deforestation of the Amazon in Brazil since 2000. Identifying deforestation is vital for the future of the Amazon to protect and preserve the critically damaged habitats.

**P-149: ANDREA BACHMAN, NICOLE ERB, ELLEN MCPHILLIPS, MATTHEW RICE, TAWNI RIKER*****Meta-Analysis of Research Conducted at Mammoth Cave National Park, 1980-2013***

FACULTY SPONSOR(S): DAVID KIME, HONORS

Abstract: National Parks serve as an excellent public partner for pursuing multiple fields of research. Park employees and outside researcher conduct research related park history and resources. Kentucky's own Mammoth Cave National Park is the site of particularly broad areas of research including anything from the area's 350 million years of geologic and biologic history and 4000 years of human history both above and below ground. This project surveys research related to Mammoth Cave National Park from 1980 to 2013, including discipline, method, cave versus surface, and demographics of the researchers, and reviews trends and changes in this research.

**P-150: MATTHEW BECKERICH, JARED KOSHIOL, NOAH LOVE, GRETA LOWE, CELESTE SHEARER*****Chronicling Mammoth Cave Data Visualization***

FACULTY SPONSOR(S): DAVID KIME, HONORS

Abstract: The Library of Congress and the National Endowment for the Humanities (NEH) has created the Chronicling America: Historic American Newspapers database containing thousands of digitized newspapers dating from 1836 to 1922. This time is well suited to research related to researching visitor experiences at Mammoth Cave, Kentucky. Students from the Honors Mammoth Cave course created an entry for a national competition to create a web-based data visualization showcasing the type of information and research available through the database. This presentation will highlight the results of student research and their final product.

**P-151: JILLIAN GOINS, ROBERT JENSEN, CLAYTON JOHNSON, ALESSA RULLI, VICTORIA VOSS*****New Discovery Cultural Artifact Inventory and Analysis Project Update***

FACULTY SPONSOR(S): DAVID KIME, HONORS

Abstract: The New Discovery section of Mammoth Cave was discovered in 1939. The Civilian Conservation Corps (CCC) began building trails in preparation for tourists. In April of 1942, workers were reassigned to aboveground projects and the CCC was disbanded later that year. The construction in New Discovery was never completed and the artifacts left in the passages remain in place today. An inventory of these artifacts contributes to a better understanding of underground CCC projects, and also helps assess the conditions of the artifacts. The findings of this inventory may lead to future work to preserve and interpret these artifacts.

**P-152: MEGAN GUARD*****I'm bad and that's good: The Changing Identity of the Disney Villain***

FACULTY SPONSOR(S): KRISTIN HORNSBY, HONORS

Abstract: In the past, Disney films tended to present a strong divide between good and evil, but recently that line between hero and villain has begun to blur. This paper presents and analyzes recent Disney films that show a more multi-dimensional antagonist. It then discusses some theories as to why this new perspective on villains is becoming more prevalent, including shifts in culture towards adult-centered themes, psychologically rich characters, and an increasing emphasis on acceptance. As culture continues to change, the media changes with it, and Disney is no exception.

**P-153: ELLEN YATES*****The 27 Club Portraits Inspired by the Herb Ritts Exhibit***

FACULTY SPONSOR(S): ALI GODEL, HONORS

Abstract: Herb Ritts's portraits captured the essence of many musicians over the years. He says that a portrait is a way from which you feel the person, their inner quality, what it is that make them who they are. For my project I combined the inspiration I got after visiting the Herb Ritts' exhibit at the Rock and Roll

Hall of Fame with my passion for the arts and my interest in the talented musicians of the 27 Club (Brian Jones, Jim Morrison, Janis Joplin, and Kurt Cobain- who all passed in their 27th year).

**P-154: REBECCA TAYLOR, ROBIN SHUMATE, TAALIYAH HARDIN, JAZMIN BRADBURY**

***Wine to Water; Hierarchy of Needs***

FACULTY SPONSOR(S): REES STORM, INTEGRATIVE STUDIES; CHARLISA DANIELS, CHEMISTRY

Abstract: Our group is traveling to the Dominican Republic for the alternative spring break trip with Wine to Water. We've chosen to apply Maslow's Hierarchy of Needs Theory to the Dominican Republic culture. According to his theory, people have basic needs that must be met in a certain order before moving to achieve the next need. The five needs from bottom to top are physiological, safety, social, self-esteem, and self-actualization. We've divided these amongst one another and plan to bring our findings together. We will interview and observe the locals and use quotes and pictures to display data we have collected.

**P-155: ALYSON DAVIS, MELODY STEWART, JACK FLOURNOY, ASHLEE MCGEE**

***Investigating the differences in balance, coordination, and flexibility between dancers and non-dancers***

FACULTY SPONSOR(S): HAYLEY ERICKSEN, KINESIOLOGY & HEALTH; RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: The art of dance places distinctive stress on the body due to repetitive movements. Dance requires exceptional flexibility, power, and endurance to perform complex movements. With these movements, the body is exposed to an excessive amount of repetitive stress leading to overuse injuries. Non dancers experience different injuries than dancers. The differences in injuries between these two groups could be caused from flexibility, balance, and/or range of motion deficits. The purpose of this study is to examine the difference in Star Excursion Balance Test, dorsiflexion range of motion, and sit and reach flexibility between female dancers and Division I athletes.

**P-156: BRADY HOLMER**

***Vinegar vs. Walking: Comparing Methods for Controlling Post-Prandial Blood Glucose in Type 2 and Pre-Diabetes***

FACULTY SPONSOR(S): CORY SCHEADLER, KINESIOLOGY & HEALTH

Abstract: Exercise and vinegar may both be beneficial for glucose

control. This study compared a 15 minute self-paced walking bout, vinegar ingestion (.3g/kg), and a control trial on 2 hour postprandial blood glucose levels in Type II and prediabetic patients. In each trial participants first consumed a meal of orange juice, butter, and a bagel. Glucose levels were measured at baseline and every 30 minutes for 2 hours post-meal. A significant difference was found at the 30-60 minute interval for blood glucose change between the walking ( $12.4 \pm 24.1 \text{ mg}^* \text{dl}^{-1}$ ) and vinegar trial ( $-1.4 \pm 22.4 \text{ mg}^* \text{dl}^{-1}$ ), ( $p = .048$ ).

**P-157: EVAN PIERCE, EMILY DOWNING, JACI COMBS, ANDREA PEPPER**

***Comparison of Functional Movement Screen Scores between Traditional Sport Female Athletes and Trained Female Dancers***

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY & HEALTH; HAYLEY ERICKSEN, KINESIOLOGY & HEALTH

Abstract: The functional movement screen (FMS) is a test designed to identify functional limitations and asymmetries in athletes by having them perform a specific sequence of movements. Low FMS scores in athletes have been linked to the development of injury. Much of the research conducted on FMS has been done on traditional sport female athletes, but little research has been done on female dancers. Therefore, the purpose of this study is to identify differences in FMS scores between traditional sport female athletes and female theater dance majors.

**P-158: TYLER VISE, MICHAEL ABRAMS, AMANDA HERTHEL, JENNA WEYER**

***Jump-landing Biomechanical Differences between Female Dancers and Traditional Division I Athletes***

FACULTY SPONSOR(S): HAYLEY ERICKSEN, KINESIOLOGY & HEALTH; RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: Female athletes are more prone to anterior cruciate ligament (ACL) injuries. The lower extremity scoring system (LESS) is a valid measure to test the prevalence of ACL injury risk in female athletes. Previous studies have used the LESS to assess jump-landing mechanics in traditional athletes; however, the LESS has not been widely used with the female dance population. Female dancers tend to experience less ACL injuries compared to the more traditional athlete. The purpose of this study is to evaluate qualitative and quantitative differences in lower extremity jump-landing biomechanics between female dancers and traditional Division I collegiate athletes.



**P-159: BROOKE WARNING*****The Effect of Three Different Energy Drinks on Ratings of Perceived Exertion and 1.5 Mile Treadmill Performance***

FACULTY SPONSOR(S): GABRIEL SANDERS, KINESIOLOGY &amp; HEALTH; WILLARD PEVELER, KINESIOLOGY &amp; HEALTH

Abstract: BACKGROUND: Some energy drink manufacturers claim that their products can increase athletic performance. However, there are no studies to assess the effect of these energy drinks on ratings of perceived exertion (RPE) during treadmill running performance. METHOD: Eight participants completed four different time trial conditions blindly. RESULTS: Analysis of variance revealed there was no significant main effect of energy drinks on 1.5-mile time trial performance and RPE. CONCLUSIONS: Based on the lack of significant differences, energy drinks do not appear to improve 1.5-mile treadmill performance. Also, Compared to the placebo, the three energy drinks did not significantly alter RPE.

**P-160: LYNN WOLZ, TYLER NELTER, ZACHARIAH BURKHARDT*****Comparison of Hip and Knee Strength between Traditional Sport Female Athletes and Trained Female Dancers***

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY &amp; HEALTH; HAYLEY ERICKSEN, KINESIOLOGY &amp; HEALTH

Abstract: The hip and knee musculature is responsible for controlling the motion of the lower extremity during activity. Weak or limited hip and/or knee strength has been linked to lower extremity injury in traditional sport female athletes. Dancers are a group of very physically active individuals who are also prone to lower extremity injuries, however limited research has been conducted in this population. Therefore, the purpose of this study is to compare hip and knee strength in traditional sport female athletes and trained female dancers to determine if there is a difference between groups.

**P-161: NICOLE HUDSON*****Getting Millennials to Jam with Made by Mavis***

FACULTY SPONSOR(S): DAVID RASKA, MARKETING, SPORTS BUSINESS &amp; CONSTRUCTION MANAGEMENT

Abstract: Made by Mavis has no problem making great tasting jams and people always come back for more when they try her delicious jams. However, she has a problem: she needs people to try them. Through market research such as generational analysis, competitive analysis, client interview, experience surveys, observations, and sample survey of over 400 target customers, I was able to make recommendations that will allow Made by Mavis to sustain growth by getting Millennials to try her product and come back for more.

**P-162: LAUREN JOHANNEMANN*****Database Management for Microsoft Access***

FACULTY SPONSOR(S): MARY LEE GLORE, MATHEMATICS &amp; STATISTICS; JOSEPH NOLAN, MATHEMATICS &amp; STATISTICS

Abstract: Managing large datasets for use in later statistical analyses can often involve complex processes. This poster will discuss the advantages and limitations of implementing Microsoft Access as the principal data management tool. Processes such as queries, table creating, and creation of modules using visual basic code will be explored. Limitations and workarounds related to large data issues will be a primary focus.

**P-163: QUINTIN BONDS, BLAKE OGDEN*****Research study of music therapy***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: Music therapy is an expanding field. Studies have shown that incorporating music when working with students with special needs can benefit them more than previously thought

(Brown, 2013 ).The purpose of this study is to examine the impact of music on different moods and emotions. We worked with participants on easy tasks, some while listening to music and others without, and compared their moods, thoughts, ideas, and emotions. The study examined the impact of music on people completing these tasks.

**P-164: SCOTT BROWN*****How Instrumental Music Students are Being Taught to Practice at the Middle, High, and Collegiate Levels***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: The purpose of this study is to explore the current practice techniques that are taught within our middle, high, and collegiate level music courses, and determine what techniques are most effective. Information on this topic was gathered by way of interviews with local middle and high school band directors, students, articles from research journals in music education, and interviews of local collegiate music professors.

**P-165: ABIGAIL CAMPBELL, KRISTA ISSLER*****Strategies for teaching Sight-Reading in an Instrumental Setting***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: The purpose of this research is to find the most effective ways to teach sight-reading in the instrumental music classroom. Our goal is to examine why students struggle with sight-reading as well as discuss ways to help them improve. We will be discussing best practice and commonly used strategies to diagnose problematic areas in students' sight reading abilities. We will be sending out a survey to instrumental music teachers in the Northern Kentucky area to further research different strategies to teach sight-reading.

**P-166: CHRISTIANA FISCHER*****Aural Skills Training in High School - Choral/Instrumental Ensemble***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: Freshmen music majors enroll in aural skills during their first semester of coursework and continue this training throughout their college careers. However, for many students, this is their first experience of developing this skill. I conducted a study to examine what types of aural skills training are happening in high school to prepare students for this experience. Research began with distributing an anonymous survey amongst freshman musicians in college. I questioned high school music directors about their techniques in aural skills. These results will be examined and discussed.

**P-167: ZACH HOLDEN, BRETT THAMAN*****The Teaching of Practice Techniques in Secondary Instrumental Classrooms***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: The purpose of our project was to evaluate the effectiveness of how students practice and the steps needed to establish a stronger foundation of musicality in the middle school bandroom. We started with surveying local band directors on when they begin teaching the students how to practice, and what practice techniques they teach. We also went to local schools to observe practice sessions and rehearsal etiquette. After examining the results, a conclusion was made regarding student practice techniques and band director expectations.

**P-168: ABBY SPARKS, KORTNEY MILLS*****Solfège: A Foundation to Build Aural Skills and Theory Knowledge***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: Solfège application in middle school choirs can enhance aural skills and theory knowledge. However, past research discovered that choral directors are not spending enough time applying solfège during class instruction. When performing, solfège offers a reference ground into the aural skills

and theory musical foundation. Therefore, we will explore the benefits of solfège implementation in advancing theory and aural skills. Our results will discuss the benefits of solfège application in middle school music classrooms. Through surveying local teachers, we will examine if classrooms that applied solfège daily elicited more advanced musical knowledge.

**P-169: REID WASSMER, GARRETTE KOENINGER**

***Programming Band Repertoire to Align with The National Standards for Music Education.***

FACULTY SPONSOR(S): KAREN KONER, MUSIC

Abstract: In 2014 the National Standards for Music Education were revised. Band directors strive to use core band pieces that align with the new standards. The purpose of this research is to examine what pieces of band literature teachers could program into concerts so that they can best meet the National Standards for Music Education. We gathered information about what literature band directors were playing and have played with their ensembles and then compared this information to the National Standards for Music Education to find out what pieces are still popular teaching tools in the modern ensemble.

**P-170: JOSH CALDWELL**

***Facilitating Communication Between Patients, Loved Ones, and ICU Staff Regarding a Tele-ICU Program***

FACULTY SPONSOR(S): PAM DAVIS, NURSING

Abstract: Lack of evidence exists regarding the needs of patients and loved ones in tele-ICUs. This project focused on implementation of a sign to facilitate communication between tele-ICU staff and patients or loved ones about telemedicine use. A pre/post-intervention questionnaire was distributed to a convenience sample of 60 participants from a tele-ICU in Northern Kentucky. Tele-ICU sign implementation reduced the number of participants with knowledge deficit of tele-ICU care from 61 to 15 percent. These findings supported a correlation between sign implementation and tele-ICU knowledge on the part of patients or loved ones. Further research is recommended with a larger sample.

**P-171: TYLER GROME, CONNOR GRAVES**

***Trauma Care Re-education: Improving Nurses' Knowledge and Comfort in Providing Care***

FACULTY SPONSOR(S): KESHA NELSON, NURSING

Abstract: This project's purpose was to re-educate the intensive care unit's nursing staff at the University of Cincinnati's West Chester Hospital. This mixed study's goal was to create a trauma nursing course, re-educate the staff, and determine if there was an improvement in their knowledge and comfort. Pretests and posttests were given to determine the effect of re-education on the nurses' knowledge and comfort in caring for trauma patients. The results were as follows: pretest knowledge percentage was 43% and comfort level was 2.4/5.0 on a Likert Scale; and posttest percentage was 89% and comfort level was 2.9/5.0 on a Likert Scale. The results indicate that re-education can increase the knowledge and comfort of nurses.

**P-172: ELIZABETH HAMANN**

***Pilot Study: Static Versus Dynamic Stretching***

FACULTY SPONSOR(S): CATHERINE PENCE, NURSING

Abstract: Martial artists should properly stretch their muscles in order to prevent injuries. This pilot study using a cross-over design randomized eleven subjects to test whether static or dynamic stretching made a greater immediate impact on flexibility. A pre-stretching test was conducted, followed by a five minute warm-up, stretching, and a post-stretching test. Flexibility was measured using goniometry. No statistical difference was found between variables. Recommendations for a future study

include using at least 40 subjects in order to determine if there are any statistical or clinical significance in the usage of dynamic or static stretching in particular muscles.

**P-173: ADRIANNE MAYS**

***Interpersonal Violence (IPV) Education: Advocating for our Patients and Nursing Practice***

FACULTY SPONSOR(S): KRISTINE PFENDT, NURSING

Abstract: The purpose of this project was to evaluate the comfort level of traditional Bachelor of Science in Nursing (BSN) students at Northern Kentucky University (NKU) when advocating for patients experiencing interpersonal violence (IPV). Anonymous paper surveys utilizing both Likert scale (quantitative data) and open response questions (qualitative data) were distributed to a convenience sample of sixty BSN students enrolled in their fourth or fifth semester. The Burkardt Center analyzed the data, which confirmed a need for, and interest in, expanded IPV/abuse education in the BSN program. Future recommendations include the development and implementation of an elective forensic nursing course.

**P-174: KADORI NGIRABAKUNZI, SUSAN DODGE**

***Transdisciplinary Leadership and the Impact on Students***

FACULTY SPONSOR(S): CATHY PENCE, NURSING; ERIN ROBINSON, NURSING

Abstract: The purpose of this project was to determine if implementing a transdisciplinary leadership society on campus would be beneficial for students. The sample included a total of 48 students who completed the necessary steps to achieve induction into the NKU National Society of Leadership & Success chapter. All events were held on the campus. A survey monkey was used to gather information from inducted members regarding the skills they have learned during the process. The



qualitative results concluded that students felt the required events for induction into the society were a positive experience and that it helped to enhance their leadership skills.

**P-175: NATHAN REARDON, KAITLYN HOOPER, DYLAN PATER**

***Can A Better SBAR Handoff Reduce Errors***

FACULTY SPONSOR(S): PAM DAVIS, NURSING

Abstract: The purpose of this project was to reduce errors and miscommunication in a perioperative setting through improved implementation of an SBAR handoff document. The project took place at the Cincinnati VAMC and included 18 nursing staff on both the PACU and OR floors. Quality and completeness of documentation were evaluated through online record auditing. Participants received an education session on key audit findings and importance of SBAR, and were surveyed for perceived improvement in interdepartmental communication. Post evaluation surveys determined that nurses felt communication was important and the intervention was useful. Post intervention audits indicated some positive trends in compliance.

**P-176: ELEANOR SETA, JESSICA DOLORESCO, KILEY BURING**

***Saving the World, One Vegetable at a Time***

FACULTY SPONSOR(S): GANNON TAGHER, NURSING; KESHA NELSON, NURSING

Abstract: The purpose of this capstone project was to identify existing deficits in the dietary habits of college students at Northern Kentucky University. Implementation of this project involved a mixed study, surveying 226 students. The deficits explored included foods and drinks consumed, and understanding of nutrition label information. Results were as follows: 28% of students consistently read food labels; 27% eat fruit several times a day; 29% eat vegetables several times a day; and 36% drink soda, energy, or sports drinks a few times a week. The data collected indicates the need for further nutrition education on college campuses.

**P-177: GREGORY BURSON**

***Extracting Maximum Detectable Rigidity (MDR) from Particle Tracking Data***

FACULTY SPONSOR(S): SCOTT NUTTER, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: The rigidity  $R$  is the momentum per charge of a particle, and reflects the fact that a particle with a higher momentum has a greater resistance to being deflected by magnetic fields. Any given particle track has a Maximum Detectable Rigidity (MDR) based on parameters such as track point spatial resolution and the total number of points measured. The calculation of the  $5 \times 5$  covariance matrix of the five track fit variables with a focus on the variance of  $1/R$  and the MDR for each event is extracted from existing computer code, and checked using simulated particle tracks and rigidity distributions.

**P-178: HEATHER COLE**

***Comparison of Living Coral and Algal Growth in the Belize Barrier Reef System***

FACULTY SPONSOR(S): SARAH JOHNSON, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY; DENICE ROBERTSON, BIOLOGICAL SCIENCES

Abstract: Benthic communities of reefs are composed of a variety of corals and algae, along with areas of sediment and dead coral. Our research project compared the percent coverage of living versus dead coral and algal growth in the South Water Caye area of the Belize barrier reef system. Data was then compared to findings recorded previously by the Smithsonian Research Facility at Carrie Bow Caye. Research teams used underwater video transects to record the data along the reef. Results suggest a loss in live coral and an increase in algal growth, agreeing with previous research.

**P-179: NATHAN DASENBROCK-GAMMON**

***An interrupted encounter model for atomic diffusion***

FACULTY SPONSOR(S): MATTHEW ZACATE, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: Diffusion in crystals commonly occurs via atoms jumping into neighboring empty lattice sites, called vacancies. Nuclear spectroscopic techniques such as NMR are sensitive to diffusion, and appropriate theoretical analysis allows determination of atomic jump rates from spectra. Using a vacancy encounter model in which one encounter ends before the next begins, other researchers derived the needed equations; however, they are only valid for infinitesimal defect concentrations. We propose an extension to this model that considers interrupted encounters, providing equations that are valid for higher defect concentrations. This work is funded in part by NSF grant DMR 5-08189.

**P-180: RYAN DURBIN**

***Particle Motion Around a Black Hole With Magnetic Charge***

FACULTY SPONSOR(S): SHARMANTHIE FERNANDO, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: In this work we are studying particle motion around a black hole with magnetic charge and a cosmological constant. The black hole in consideration has special property that there is absence of a singularity at the horizon. The motion of the particle is studied by varying the parameters of the theory such as its energy and angular momentum.

**P-181: KAREN ELY, DANIEL WALTERS, EIKE LOHRBACH**

***Norse Baja***

FACULTY SPONSOR(S): MORTEZA SADAT, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: Norse Baja competes in an annual student competition organized by the Society of Automotive Engineers (SAE). The goal of the student team from NKU is to design, build / fabricate a vehicle based on SAE engineering guidelines. This project will require team-work, quality control, stringent project management as well as fund raising activities. After the vehicle is built and tested the team will participate in an off-road race according to the Society of Automotive Engineers competition rules.

**P-182: KAREN ELY, JOSEPH ANDREWS**

***The Clermont Academy: A Legacy of Equality***

FACULTY SPONSOR(S): MORTEZA SADAT, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: In May of 2015, students from the Public History and Anthropology Programs at Northern Kentucky University began excavations at the site of the Clermont Academy in New Richmond, Ohio. This historically rich site is believed to be the first fully integrated coed and multi-racial school in the United States. Our excavations spanned only three weeks but produced an interesting and important array of artifacts that inform us about daily life at the Academy. In this presentation we discuss the vibrant history and archival resources that led to this project, the archaeological findings, community outreach, and plans for the future work.

**P-183: CARTER KRING**

***Matching CREAM Calorimeter Detector Simulation Data to CERN Beam Test Data***

FACULTY SPONSOR(S): SCOTT NUTTER, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: The ISS-CREAM instrument is designed to measure cosmic ray nuclei by identifying through-going particles. The instrument is scheduled for launch to the International Space Station in April 2017. Beam tests utilizing electrons and pions were conducted at CERN to calibrate energy deposits onto the calorimeter. These tests have been mirrored through simulations of the detector. Reproducing measured signals of this calibration

is essential to understanding the data taken in flight. We have compared simulations with real data and identified smearing functions to match the calibration data. These validations lend confidence to other simulation studies used in understanding the flight data.

**P-184: AMANDA MANNING**

*Electromagnetic Waves Around a Black Hole*

FACULTY SPONSOR(S): SHARMANTHIE FERNANDO, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: In this project, we are studying the electromagnetic wave around a black hole. The black hole in consideration is one with a cosmological constant. We have calculated the frequencies of oscillation of the wave for various parameters of the theory such as the mass, charge and the value of the cosmological constant to understand how they behave.

**P-185: JOSH MORLEY, TYLER DUNAWAY, CHLOE BUGNI, HANNAH UTTERBACK**

*Application of Near Surface Geophysics to Discern Between Mass Movement and Karst Features*

FACULTY SPONSOR(S): DANIEL HUNTER, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: Mass movement and karst features are persisting issues in the Northern Kentucky region. Locating and identifying these features is key to assessing hazard level. LiDAR data of a farm in Gallatin County, Kentucky was used to identify a surficial anomaly. This anomaly has been interpreted by the researchers to be the result of one of two possible situations, either mass movement or karst solution. Near surface geophysics is a valuable tool for evaluating land use. Electrical Resistivity and Refraction Microtremor geophysical surveys will be conducted to identify subsurface features that translate as surficial anomalies.

**P-186: ALEXANDRA SHELTERS**

*Determining wetland boundaries within the St. Anne's Woods and Wetlands in Melbourne, KY.*

FACULTY SPONSOR(S): SAMUEL BOATENG, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: The National Academy of Sciences has set guidelines to determine labeling an area as a wetlands. These guidelines require capillary saturation within twelve inches of ground surface for fourteen days given normality of rainfall in a region. In the area of Melbourne, KY the manual monitoring of selected piezometers was carried out weekly during the months of

May-July, 2015. The piezometers were chosen at strategic locations throughout the St. Anne Woods and Wetlands in order to establish what portions of the area exhibited hydrologic conditions suitable to being considered a wetland and to give an idea of the wetland boundaries.

**P-187: JENNIFER WARDLOW, THOMAS HAINES**

*Environmental Effects on the Tensile Properties of Small Structures*

FACULTY SPONSOR(S): SEYED ALLAMEH, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: Micro-electro-mechanical system devices are becoming popular in all aspects of our lives. From automobiles to aerospace and air travel and to biomedical devices and weaponry systems, MEMS play a vital role in controlling life-sustaining systems. The reliability of MEMS devices in cold and hot temperatures become important especially for metallic moving components. Due to the size effect on strength of materials, it is important to conduct tests at scales comparable to the applications of such devices. Microtesting experiments have been performed to study the effects of temperature and humidity on the tensile properties of covetic aluminum and aluminum foam structures.

**P-188: BRYAN WATKINS**

*Thermodynamics of black holes*

FACULTY SPONSOR(S): SHARMANTHIE FERNANDO, PHYSICS, GEOLOGY & ENGINEERING TECHNOLOGY

Abstract: In this work we study thermodynamics of black holes. In particular, we have studied phase transitions of black holes which have a cosmological constant. In this case, the pressure of the black hole is related to the negative cosmological constant. By studying the free energy of the black hole, we will understand the phase transition of the black hole.

**P-189: LAURA DE LA ROSA**

*The War on Drugs and Minority Disenfranchisement*

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: This paper focuses on the history of the War on Drugs, and how it affects minority groups in certain states. In particular, there is a focus on disenfranchisement policies and efficacy levels among African Americans and Hispanics in states with high minority populations, such as California, Texas, Florida, and New York.



**P-190: COURTNEY GILLIAM*****NGOs and Governments: Creating Change for a Better Future***

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: The objective of this project is to study NGOs and governments when handling the humanitarian crisis of water availability. I have the opportunity, as part of a study abroad experience, to interview people involved in and affected by the water crisis in the Dominican Republic. Using personal interviews, primary data, news sources, and scholarly publications, I examine whether NGOs and governments may strengthen relations to address the water crisis.

**P-191: KEVIN LYKINS*****The Felon's Lost Voice: A Comprehensive Investigation into Felon Disenfranchisement***

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: This research examines the history of felon disenfranchisement, how and where the practice occurs today, and public opinion regarding the issue. In particular, this research focuses on the state of Kentucky. This research conducted an online survey which divided respondents among various demographics, determined a baseline knowledge on the issue, and asked respondents questions regarding whether or not they supported felon disenfranchisement. The research concludes citizens in the state of Kentucky do not support permanent felon disenfranchisement.

**P-192: JONATHON PROCTOR*****Northern Kentucky University and the Changing Nature of Higher Education Funding in the Commonwealth***

FACULTY SPONSOR(S): MICHAEL BARANOWSKI, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: In the last decade, higher education across the United States has experienced dramatic shifts in funding. The 2008 economic crisis played a huge role in these shifts, causing state governments to implement often draconian austerity measures. Understanding how public institutions have reacted to these changes will allow legislators and academic leaders to better understand how they can improve matters. Northern Kentucky University has managed to grow in spite of broad government funding cuts. This research project examines changes in and responses to the funding model of NKU in comparison to the other public universities in Kentucky.

**P-193: MARISA YERACE*****The American Dream: The State of Income Mobility in the United States***

FACULTY SPONSOR(S): RYAN SALZMAN, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: The purpose of this research is to examine the underlying value of the American Dream: the belief that, no matter the situation of one's birth, anyone can achieve their goals with hard work and dedication. My project confronts whether the state of income mobility in the United States makes this possible, examines the causes of class immobility, and highlights some possible solutions that could ultimately help the American Dream become a reality.

**P-194: JOSHUA BLACKABY*****The Effects of Early-Life Antipsychotic Drug Administration on Nicotine Receptors in the Adult Rat Hippocampus***

FACULTY SPONSOR(S): MARK BARDGETT, PSYCHOLOGICAL SCIENCE

Abstract: This study determined if brain nicotine receptor levels are altered by early-life exposure to the antipsychotic drug risperidone. Rats were administered one of three risperidone

doses for five weeks early in postnatal development. Nicotine receptor density was measured in the hippocampus during adulthood using receptor autoradiography. Nicotine receptor levels were not affected by early-life risperidone treatment, but were greater in the posterior hippocampus relative to the anterior, and higher in females than in males. Further research should determine if early-life risperidone affects nicotine receptors in other brain regions and the origin of sex differences in receptor levels.

**P-195: CASEY CRANE, JOZIE BANAS, CINNAMON SCHUMMER*****Reliability and Validity of Heroin-Related Attitude and Knowledge Scales***

FACULTY SPONSOR(S): PERILOU GODDARD, PSYCHOLOGICAL SCIENCE; MARK BARDGETT, PSYCHOLOGICAL SCIENCE

Abstract: Northern Kentucky is facing an unprecedented heroin epidemic. As part of the solution, we need to accurately gauge residents' attitudes toward, and knowledge about, heroin use and response alternatives. The purpose of this study is to establish the reliability and validity of questionnaires measuring attitudes and knowledge about heroin use and related harm reduction practices, including overdose prevention, medication-assisted treatment, and syringe services. To establish convergent and divergent validity, participants responded to questionnaires hypothesized to be related or unrelated to heroin attitudes. Test-retest reliability was assessed by having participants respond to the same heroin scales twice, three weeks apart.

**P-196: SAMANTHA FITZPATRICK*****The Effects of Religious Priming on Beliefs in the Paranormal, Fantastic Creatures, and Superstitions***

FACULTY SPONSOR(S): DOUG KRULL, PSYCHOLOGICAL SCIENCE

Abstract: The present study investigated the effects of religious priming on beliefs in the paranormal, beliefs in fantastic creatures, and beliefs in superstitions. NKU students (N = 138) completed the revised religious orientation scale (Gorsuch & McPherson, 1998) and the revised fundamentalism scale (Altemeyer & Hunsberger, 2004). Participants also indicated their beliefs in the paranormal, mythical creatures and superstitions. Some participants completed the religiosity measures first, while others indicated their beliefs in paranormal, creatures, and superstitions first. The results indicated that participants who answered the religious questions first displayed significantly lower levels of superstitious beliefs.

**P-197: CORI HENDERSON*****Toxic Followership: A Measure of Followers Associated with Destructive Leadership***

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: Researchers are beginning to investigate the destructive leadership phenomenon and the roles that toxic followers play in the destructive leadership process (Padilla, Hogan, & Kaiser, 2007). The current study conceptualizes toxic followership as a multidimensional construct comprised of several subtypes that make up two larger groups, conformers and colluders. Factor structure and validity and reliability evidence for the scale are examined and discussed. The results of the study supported the multidimensional concept and indicated that toxic followership is related to outcomes like counterproductive work behaviors, moral disengagement, and Machiavellianism. Theoretical and practical implications also are discussed.

**P-198: MALLORY HUGHES, KERRY BREITENSTEIN, BENJAMIN GUNKEL, ANTHONY JOHNSON, KATIE ROGERS, SARA SHARPE*****The Effects of Metabotropic Glutamate Receptor Antagonists on Impulsive Choice in Rats***

FACULTY SPONSOR(S): JUSTIN YATES, PSYCHOLOGICAL SCIENCE



Abstract: Metabotropic glutamate receptors (mGluR) are involved in learning, memory, and drug abuse. Because impulsivity and drug abuse are directly related, we wanted to determine if mGluR1 and mGluR5 receptors mediate impulsive choice. Following behavioral training in a delay-discounting procedure, where consistently responding for small, immediate rewards indicates impulsivity, we treated one group with MPEP (0, 1.0, 3.0, or 10.0 mg/kg) and treated another group with JNJ 16259685 (0, 0.1, 0.3, or 1.0 mg/kg). Rats became more impulsive following MPEP and JNJ 16259685 administration. These results indicate that Group I mGluRs are important mediators of impulsive choice.

**P-199: MEGHAN KNUTH**

***The Effect of Early-Life Risperidone Administration on Brain Dopamine D2 Receptors in Adult Rats***

FACULTY SPONSOR(S): MARK BARDGETT, PSYCHOLOGICAL SCIENCE

Abstract: Risperidone, an atypical antipsychotic drug, is used to treat behavioral and developmental disorders (such as ADHD and Autism) in children. This study determined the effects of developmental administration of risperidone on the level of dopamine D2 receptors, which are targeted by risperidone. Male and female rats were administered risperidone daily for five weeks early in postnatal development. During adulthood, D2 receptor levels were determined in various brain regions. Early-life risperidone did not alter D2 receptor levels during adulthood. However, in certain brain regions, female rats had more D2 receptors than males.

**P-200: ERICA PAGE, SHANNON COFFMAN, ANASTASJIA SKULEPA, CATHERINE MEYER**

***Development of the Organizational Failure Avoidance Scale***

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: A multidimensional, domain-specific measure of fear of failure (FOF), the Organizational Failure Avoidance scale (OFA), was developed to allow for FOF hypothesis testing in organizations. Research has shown that FOF may discourage entrepreneurial behavior; because entrepreneurs are described as creative individuals having tendencies to envision new opportunities, employees whose positions require innovative efforts may be stymied by FOF. Therefore, organizations that assess and reduce employee FOF may remove a potential barrier to entrepreneurial ideas. Two factors, outcome- and efficacy-related FOF, emerged from exploratory factor analysis (N = 222), and validation evidence suggests the 14-item OFA may have utility in selection and training.

**P-201: HEATHER PUHL**

***Discrepancies in the Internal Structure of The Power of Followership Scale***

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: The present study tested the hypothesized structure of a widely accepted measure of organizational followership, Robert Kelley's (1992) Power of Followership Scale. Exploratory factor analysis performed on a sample of 235 respondents revealed three, rather than the two, hypothesized dimensions. These results replicate a previous test of the internal factor structure of this measure. Because the Power of Followership Scale has been widely cited in other research, discrepancies in the structure of the scale may have serious theoretical consequences.

**P-202: KATIE ROGERS, BENJAMIN GUNKEL, SARA SHARPE, MALLORY HUGHES, ANTHONY JOHNSON, KERRY BREITENSTEIN**

***Effects of the glutamate NMDA receptor on impulsive choice in the rat***

FACULTY SPONSOR(S): JUSTIN YATES, PSYCHOLOGICAL SCIENCE

Abstract: Glutamate N-methyl-D-aspartate (NMDA) receptors play an important role in learning and memory. However, little research has examined the contribution of NMDA receptors in impulsive choice. Rats were trained in a delay-discounting task, in which responses on one lever resulted in immediate delivery of a small reward, whereas responses on the other lever resulted in delivery of a large reward following a delay. Following training, rats received treatments of various NMDA receptor ligands. MK-801 decreased impulsive choice; however, ifenprodil, ketamine, and memantine decreased sensitivity to reinforcer magnitude without altering impulsive choice. Results show NMDA receptor ligands differentially mediate delay-discounting performance.

**P-203: ADRIANA RUF, AMY MILHOLLAND, STEPHANIE OLIVER, MAKINZEE TATMAN**

***Development of the Innovative Potential and Styles Scale***

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: The current study developed a new measure of innovation to be used in organizational, academic, and other settings. Exploratory factor analysis revealed one factor instead of the hypothesized two dimensions. Validity evidence of factor correlations with related work constructs is reported. EFA results revealed that instead of the predicted two factors, one unified factor emerged comprised of ten items ( $\alpha = .91$ ), which correlated in predicted directions with openness to experience (.46), transactional leadership (.24), and transformational leadership (.26).

**P-204: SARA M. SHARPE, STEFANIE A. KOZLOWSKI**

***Understanding Opposition to Heroin-Related Harm Reduction: The Critical Role of Perceived Controllability***

FACULTY SPONSOR(S): PERILOU GODDARD, PSYCHOLOGICAL SCIENCE

Abstract: Recently, Kentucky lawmakers passed a landmark bill addressing the heroin epidemic, expanding access to a variety of evidence-based harm reduction (HR) programs. However, opposition to the law's implementation is pervasive. We

conducted two studies exploring this antagonism. Among the 295 NKU students surveyed, expanded overdose prevention was the most acceptable HR practice, followed by greater access to medication-assisted treatment; syringe services programs were the least acceptable. The belief that heroin addiction is within individuals' control was the strongest predictor of HR opposition. In turn, believing that heroin addiction is a biological disease was the strongest mitigator of opposition.

**P-205: KEITH STAM, DAISY ZEPEDA, BRIANNA OUTLAND, SARAH COOK**  
*Development and Preliminary Validation of a Training Receptiveness Measure*

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: Training is estimated to cost over \$200 billion in the global corporate industry; yet, little research has been conducted on employee receptiveness of training. The current research investigates how receptive employees are of training within their organization through the development of a training receptiveness scale. We define training receptiveness as the degree to which individuals are open to acquiring or improving knowledge, skills, and abilities to enhance individual performance and organizational outcomes. An exploratory factor analysis revealed a unidimensional construct. In addition to means, reliabilities, and correlations, future directions and limitations are discussed.

**P-206: NICOLE STEPHENSON, ROBIN BARTLETT, ELIZABETH FOOTE**  
*A Career Planning Course Reduces Psychology Majors' Career Decision-Making Difficulties*

FACULTY SPONSOR(S): ROBIN BARTLETT, PSYCHOLOGICAL SCIENCE; JAMES THOMAS, PSYCHOLOGICAL SCIENCE

Abstract: Students (N = 100) in a required course entitled Career Planning for Psychology Majors completed the Career Decision-Making Difficulties Questionnaire (CDDQ) during the first and last weeks of the semester. Pre-course vs. post-course comparisons indicated reductions in difficulties due to lack of information about the career decision-making process, the self, possible occupations, and ways of obtaining career information, as well as difficulties related to unreliable information and internal conflicts. Results demonstrated that the course is effective in reducing several types of career decision-making difficulties experienced by students.

**P-207: NICOLE STEPHENSON, ROBIN BARTLETT, JAMES THOMAS**  
*Effectiveness of a Psychology Major Career Planning Course: Further Evidence*

FACULTY SPONSOR(S): ROBIN BARTLETT, PSYCHOLOGICAL SCIENCE; JAMES THOMAS, PSYCHOLOGICAL SCIENCE

Abstract: Psychology students in a required Career Planning course completed several questionnaires in the first and last weeks of the semester. These questionnaires were designed to measure three objectives: knowledge of career options for psychology majors, confidence in abilities to make appropriate career decisions, and movement toward achieving vocational identities. Pre- and post-course means differed significantly on all scales, replicating earlier findings and further supporting the conclusion that the course is meeting its objectives. No significant differences were found between two different instructors and class formats (twice per week for eight weeks vs. once per week for sixteen weeks).

**P-208: CAITLIN TURNER, EMILY BALTES THOMPSON**  
*Alcohol Consumption in College Students and the Use of Social Media*

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

Abstract: The purpose of this study was to examine the relationship between alcohol drinking habits and postings about alcohol use on social media websites including Facebook, Instagram, Twitter, Snapchat, and Yik Yak. During a single laboratory session, participants were asked to complete

questionnaires that assess alcohol use and impulsivity. Then, they privately logged onto their social media accounts to complete a Social Media Questionnaire (SMQ), which queries past 30 day postings related to alcohol use and intoxication. We predicted that total SMQ scores will be significant predictors of recent drinking behaviors.

**P-209: CAITLIN TURNER, EMILY BALTES THOMPSON**

*Alcohol Mixed with Energy Drinks Ad Lib Study*

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

Abstract: The purpose of this study was to determine whether the consumption of Alcohol mixed with Energy Drinks (AmED) leads to more drinking when compared with the consumption of alcohol alone. Using a within subjects 2x2 research design, subjects (N = 14) attended four different test sessions where they were presented with alcoholic and nonalcoholic drinks with varying levels of mixer (energy drink v. decaffeinated soft drink) to sample for preferred taste. The taste-rating task lasted 60 minutes. The results indicated that participants drank more alcohol when the alcohol was mixed with energy drinks as opposed to decaffeinated soft drinks.

**P-210: DOUGLAD KRULL, ALEXANDER WEIGLEIN**

*The Role of Food Perceptions in Eating Disorder Behavior*

FACULTY SPONSOR(S): DOUGLAS KRULL, PSYCHOLOGICAL SCIENCE

Abstract: Previous studies have mostly ignored how food perceptions play a role in eating disorder behavior. The current study examined how the severity of an eating disorder is related to food perceptions. Participants completed a survey containing multiple measures and were given scores for each. A moderately strong positive correlation was found between the severity of an eating disorder and food perceptions. This study emphasizes evaluating these complex disorders from multiple perspectives and highlights the importance of taking cognitive factors into consideration when researching or treating an eating disorder.

**P-211: JESSICA BOLTE**

*Effects of visitor group size on the number of abnormal behaviors in captive bonobos (Pan paniscus) housed in outdoor and indoor zoo exhibits*

FACULTY SPONSOR(S): MONICA WAKEFIELD, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Animals in zoo environments can experience higher levels of stress and display more abnormal behaviors due to constant interaction with visitors. Bonobos (*Pan paniscus*) often instigate interactions with visitors, which may indicate these interactions are positive. Instantaneous group and focal observations were used at an indoor and an outdoor exhibit at The Cincinnati Zoo to determine that there is no significant difference in the number of abnormal behaviors observed between exhibits with high and low frequencies of visitor interactions (Mann-Whitney  $Z = -0.205$ ,  $p = 0.837$ ) and that there is no relationship between abnormal behaviors and the number of visitors (Spearman's  $\rho = 0.03$ ,  $N = 167$ ,  $p = 0.699$ ).

**P-212: SAGE BOYERS**

*The Clermont Academy: Education Fostering the Identity of Equality*

FACULTY SPONSOR(S): SHARYN JONES, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: The Parker Academy was established in 1839 under the direction of James and Priscilla Parker who sought to create a community where anyone could receive an education, regardless of race or gender. During preliminary archaeological excavations of the schoolhouse and men's dorms in the summer of 2015, artifacts and archaeological features were uncovered. The artifacts illustrate that the young students engaged in recreation and experienced simple pleasures. This was a space of resistance and freedom. Our work provides a window into this unique

community and a chance to better understand the development of identity at this important site.

**P-213: ANDREA CARTER**

***Cross-Generational Perceptions on Living Arrangements for the Elderly: A comparison research between adult children and their aging parents***

FACULTY SPONSOR(S): BONI LI, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: In 2030, 20% of Americans will be seniors. Because of this aging society, the elderly's option for receiving care, through alternatives such as nursing homes, independent living or with their children has become an important issue. Surveys on the differing attitudes towards the living arrangement options for the elderly were given to two separate age groups: 35-55 (adult children) and 56 and older (parents). Research results showed that very few respondents felt that nursing homes were a viable care option. However, most respondents believed that the best option for the elderly is to remain in their own homes.

**P-214: ANDREA CARTER**

***American Mature Tourists' Demographic Factors and their Traveling Motivations and Behaviors***

FACULTY SPONSOR(S): BONI LI, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: With baby boomers rapidly entering retirement age in American society, it is important to encourage them to improve their quality of life by taking certain measures, such as traveling. In order to study the relationships between mature travelers' demographic characteristics and their travel motivations and behaviors, a survey on tourism was given at the end of 2015 to a sample of 101 people aged 56 and older in the Greater Cincinnati area. The study also analyzes the improvements that traveling facilities should implement to accommodate their travel experiences. Results indicated that the respondents' demographic factors strongly impact their traveling motivations.

**P-215: ELLIE KREMER**

***Women's Microfinance in Nasinu Village, Vanua Levu, Fiji***

FACULTY SPONSOR(S): SHARYN JONES, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: I describe a pilot study involving Women's Microfinance in Nasinu Village, located on Vanua Levu in Fiji. Traditionally in Fijian society there is an obvious gender hierarchy, where men are responsible for earning and spending the income of the family. The objective of my study was to see how these loans are affecting the status of the women in the village, as well as the success of the program as a whole. In summary, my preliminary conclusions suggest that these loans primarily help women that have created a solid plan for repayment, prior to taking the loan.

**P-216: LINDSEY MEADOR**

***To care or not to care? Paternal and alloparental infant care in free-ranging male Coquerel's sifaka (Propithecus coquereli)***

FACULTY SPONSOR(S): MONICA WAKEFIELD, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: I studied paternal and alloparental infant-care in Coquerel's sifaka (*Propithecus coquereli*) at the Duke Lemur Center from Jun-Jul 2015. Infant-care can increase infant social development and caregivers can receive benefits as well, depending on their relation to the infant. I found that there were differences in amount of time spent in care behaviors as well as spatial distance to the infant (Mann-Whitney test:  $Z=29865$ ,  $p<0.0001$ ,  $n=610$ ) between her father and maternal uncle. Despite this, I found that both males were actively engaged in maintaining social relationships with the infant, suggesting that both males may be gaining benefits from infant-care behaviors.



**P-217: SHELBY PENNYCUFF*****The Women of the Monuments Men***

FACULTY SPONSOR(S): JUDY VOELKER, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: The Monument's Men are more formally known as the Monuments, Fine Arts, and Archives division (MFAA), and were responsible for saving, preserving, restituting, and restoring tens of thousands of monuments and pieces of art that were under threat during and after World War II. Of the 345 serving members of the MFAA, 25 are known to be women, though the true number is unknown due to civilian volunteers, missing/misfiled paperwork, or no paperwork at all. Of these women, four were chosen for study for this project: Major Anne Oliver Popham-Bell, Captain Edith Standen, Ardelia Hall, and Major Julianna Bumar.

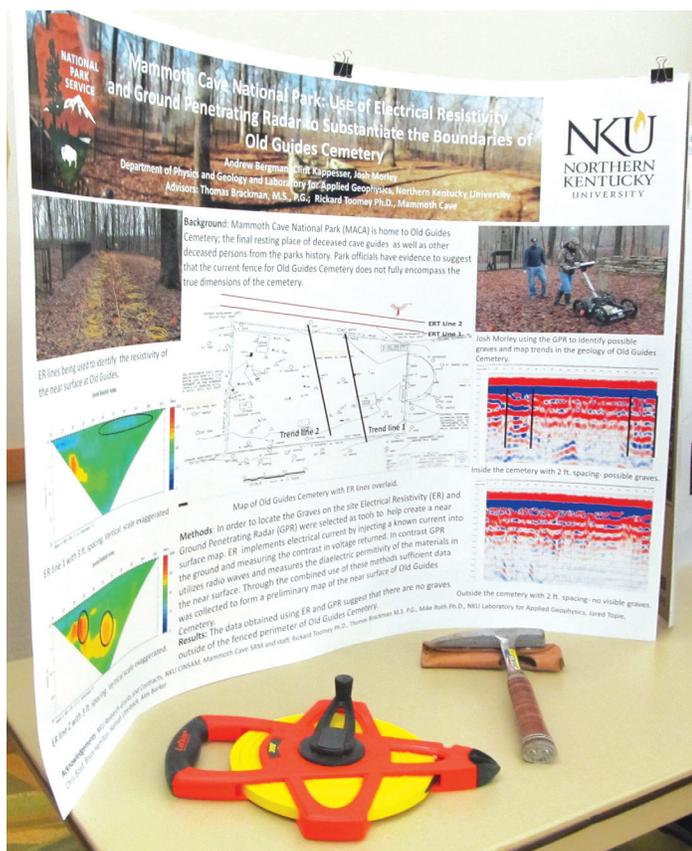
**P-218: KAITLYN RAGLAND, JUSTIN WYNNE*****Marine Ecology and Perceptions of Change in Nasinu Village, Fiji***

FACULTY SPONSOR(S): SHARYN JONES, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: The villagers of Nasinu on the island of Vanua Levu, Fiji, possess a unique set of traditional ecological knowledge (TEK) that allows them to maximize their fishing and harvesting practices in the bay. They are able to perceive changes over time by observing the ecosystem on a daily basis. Our team conducted ethnographic interviews with local fishers, enabling us to document local fishing strategies, TEK, and perceived changes. Our interviews revealed a perceived reduction in fish size and population numbers and the availability of consumable reef fish and shellfish. Throughout we found evidence that change has occurred in Natewa Bay.

**P-219: KAITLYN RAGLAND*****Sugar Cane Varieties and a Changing Industry in Northern Belize***

FACULTY SPONSOR(S): DOUGLAS HUME, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY



Abstract: This poster presents the results of undergraduate research during an ethnographic field school in Orange Walk District, Belize, June 2015. This research was conducted in collaboration with the Sugar Industry Research and Development Institute (SIRDI) of Belize to investigate the types of cane as well as how the farming community would be effected by price drops in the sugar cane industry. The intent of this research was to develop a sketch of the shared knowledge of sugar cane farming communities in Northern Belize from the farmer's perspective to assist with SIRDI's future educational programs in the region.

**P-220: LIZA VANCE*****Material Culture of Freedom and Resistance from the 1839 Parker Academy***

FACULTY SPONSOR(S): SHARYN JONES, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: The Parker Academy was founded in 1839 just outside New Richmond, Ohio by Daniel and Priscilla Parker. It is believed to be the first school in the U.S. to offer fully integrated classrooms that were open to all races, religions, and genders. In the summer of 2015, NKU partnered with the National Underground Railroad Freedom Center to conduct the first archaeological excavations. Ceramics, coins, game pieces, and buttons are among the many artifacts that have been recovered. Analysis is ongoing but already there are patterns emerging from the data that tell a story about daily life in the academy.

**P-221: CORY WHITWORTH*****Museums in a Global Context and their Future in Society***

FACULTY SPONSOR(S): JUDY VOELKER, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This project presents research on Museums in a Global Context and their Future Society. It examines current museum practices as well as future trends. Design and implementation of exhibits, visitors' experiences, education and public outreach, as well as technology and the role of social media in museums are some of the many topics explored in this presentation. Additionally there is an applied component that incorporates my work at the NKU Anthropology Museum. This project serves as an excellent example of how NKU provides opportunities where students can explore interdisciplinary topics that are important to them and gain practical experience.

**P-222: EMILY WOMBLE*****How Social Issues Paint the World***

FACULTY SPONSOR(S): BONI LI, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Our world is overflowing with social issues, which can be represented and viewed from many different mediums, such as art. While most of us remain unaware, we can be taught about and come to understand these issues through art, which is a product of the times. It reflects the developmental periods of humans, their societies, and the living environment as well. My research will concentrate on the connections between sociological knowledge, current social issues, and art. As an art student, I feel it is my responsibility to highlight the ways in which artwork can be bettered by observing social issues.

**P-223: GINA YOON*****In Search of Grue: An Analysis of the Blue-Green Color Boundary***

FACULTY SPONSOR(S): DOUGLAS HUME, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This poster reports on the analysis of data collected by Dr. Douglas Hume during an in-class exercise over several semesters of Anthropology 275 Language and Culture. The goal of the in-class exercise was to demonstrate how people categorize hues at the border of the blue-green color spectrum. This research project statistically analyzes the responses of 95 students to find the distribution (counts, percentages, and

gaps) of perceived blue and green categories. The results of this analysis will be compared to those of Tarahumara (Mexico) speakers and provide recommendations for further research.

**P-224: GINA YOON**

***These Shoes are Made for Walking: An Analysis of Shoes Worn by Female Students at Commencement***

FACULTY SPONSOR(S): DOUGLAS HUME, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This poster reports on the analysis of data collected by Dr. Douglas Hume during the last seven Northern Kentucky University commencement ceremonies. The goal of the research is to identify patterns (counts, percentages, and gaps) that may exist with the type of shoes (i.e., color, heel height, type, and open or closed toe) that are worn by female students during graduation by college, degree, and season (fall versus spring graduation). In addition to reporting results of the statistical analysis, this poster will provide recommendations for further research.

**P-225: ERIKA FREEMAN**

***Using Self Monitoring and Positive Reinforcement to Increase Preparedness for Class***

FACULTY SPONSOR(S): STEPHEN WALKER, TEACHER EDUCATION

Abstract: This behavior change program was designed to increase the number of times per week that a secondary student arrived prepared for class. Baseline data revealed that the student was prepared, on average, 21 percent of the time. Not having the necessary materials had resulted in lowered productivity during class. Self-monitoring sheets were used for her to record whether or not she had brought the required materials (utilizing a type of reactivity effect); and this was paired with self-selected incentives such as free time for meeting expectations. These variables dramatically increased student preparedness for classes to an average of 82%.

**P-226: AUTUMN HATTON**

***Increasing Desired Student Behavior Using Positive Reinforcement***

FACULTY SPONSOR(S): STEPHEN WALKER, TEACHER EDUCATION

Abstract: This behavior intervention plan focused on a second grade student who frequently arrived at class without the required learning materials. Baseline data revealed that she exhibited a high stable rate of the behavior, and this problem was the result of a performance deficit rather than a skill deficit. To modify the target behavior an interview was conducted to determine potential reinforcers that could be earned by being prepared for class. As a result of the intervention that included a behavior contract, she dramatically increased being prepared for class and bringing the necessary materials. A single subject AB design was used.

**P-227: REBECA LOWRY**

***Reducing Call-Outs Using Differential Reinforcement of Lower Rates of Responding (DRL)***

FACULTY SPONSOR(S): STEPHEN WALKER, TEACHER EDUCATION

Abstract: This behavior change project involved a third grade student who interrupted class with unnecessary call-outs. A positive behavior intervention plan was designed to systematically decrease this target behavior. Baseline data was collected using event recording; this revealed the student was interrupting an average of ten times within a ten-minute period. Together we discussed how frequent call-outs were negatively affecting his and his peer's ability to focus in class. A positive reinforcer was earned when the student exhibited a lower number of call-outs. The data demonstrated a relationship between the decrease of call-outs and the introduction of a desired incentive.

**P-228: KARRAH BERRY**

***Restaveks: Child Slavery and Trafficking in the 21st Century***

FACULTY SPONSOR(S): GISELE LORIOT-RAYMER, WORLD LANGUAGES & LITERATURES

Abstract: Restavek, a French creole term which literally means to stay with, is used to describe poor Haitian youth who serve as unpaid and uneducated servants to more affluent Haitian families. These children are exploited, neglected, and emotionally, physically, and/or sexually abused by the families they serve. Currently, there are an estimated 300,000 restaveks in Haiti. This research aims to inform others of the restavek system and raise awareness of contemporary child slavery through a study of memoirs by a former restavek Jean-Robert Cadet, an interview of the author, and a survey of available data and current advocacy efforts.

**P-229: JULIA STEFFEN**

***Conversation in Ecuador: An Ethnographic Investigation of Awareness and Attitudes Towards Oil Drilling and Conservation***

FACULTY SPONSOR(S): KAJSA LARSON, WORLD LANGUAGES & LITERATURES

Abstract: Since Ecuador's president, Rafael Correa, lifted bans on oil drilling in the pristine Yasuni National Park of the Amazon, oil drilling has expanded. On-site interviews were conducted with native Ecuadorians categorized in three groups: urban dwellers, those living in a rural setting, and indigenous populations. The purpose was to explore whether or not residency affects one's attitude toward oil drilling and conservation. Findings indicated that a citizen's area of permanent residence did not necessarily impact the individual's awareness of the topic. Instead, one's career, travel opportunities, and use of free time provide better indications of personal awareness.

**P-230: KYLE BAILEY, COLE GOODRIDGE, MATHEW REILLY**

***The Perception of Pediatric Abuse Through the Use of Photovoice and Darkness to Light Training***

FACULTY SPONSOR(S): KESHA NELSON, NURSING; GANNON TAGHER, NURSING

Abstract: The purpose of our capstone project was to research and understand the importance of pediatric abuse identification in healthcare. Male nurses are an underrepresented group; therefore the study was conducted to view their understanding of the marginalized group of pediatric abuse victims. The goals of the project were to use the training of Darkness to Light to educate others on the importance of pediatric abuse identification while comparing and contrasting pre/post-training viewpoints using the research method photovoice. The goals of our project have been met through successful use of photovoice and the completion of the Darkness to Light training.



# STUDENT PARTICIPANTS

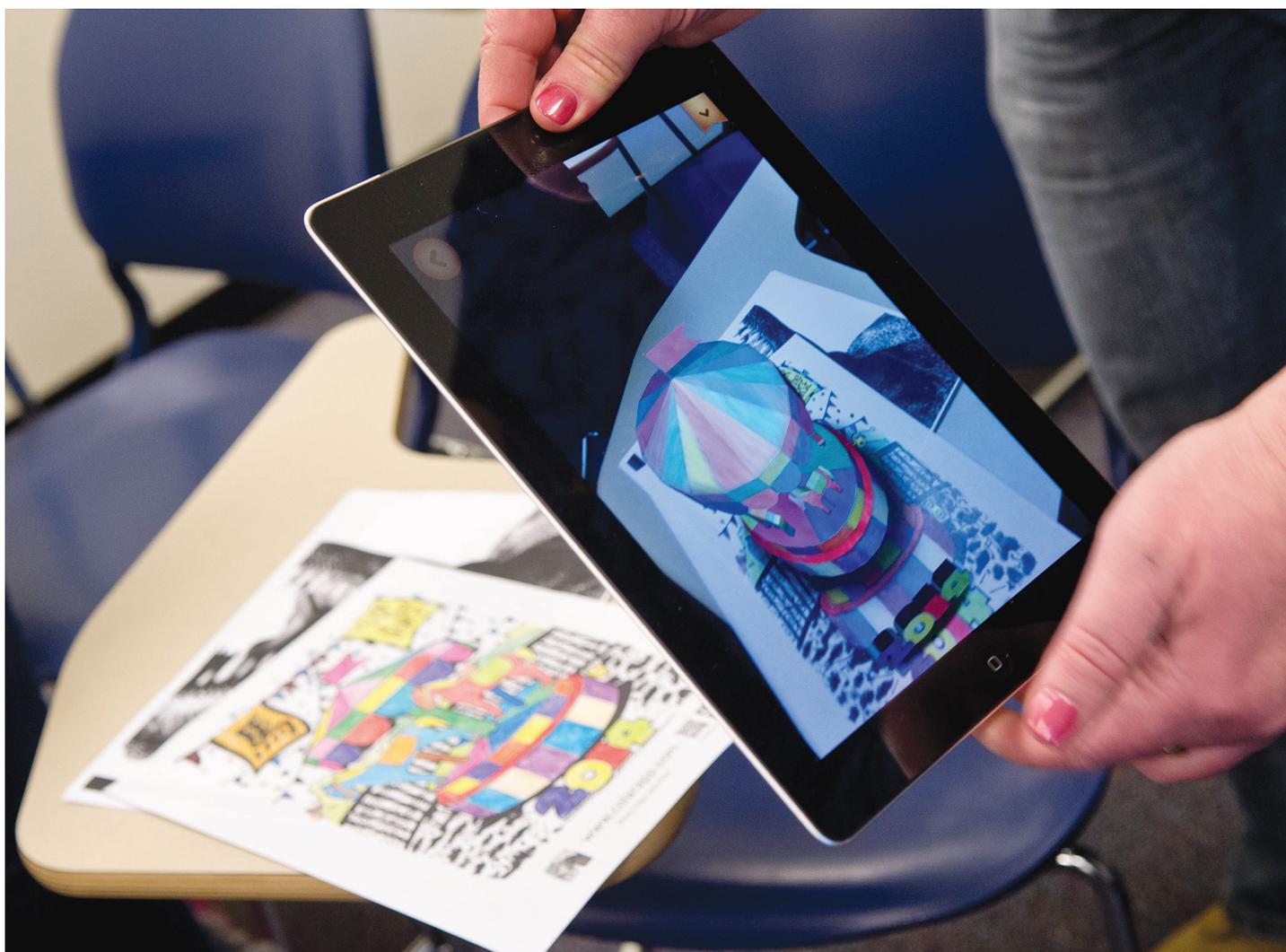
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