



11th Annual

Celebration
of **Scholarship**
CONFERENCE

April 1 & 2, 2015



 Shawnee State
UNIVERSITY

www.shawnee.edu/cos



*Welcome to our annual
Celebration of Scholarship!*

*This is one of the most
outstanding events we hold each
year on campus because it give our
students an opportunity to display
their academic work and gives the
rest of us a chance to see the type of
projects undertaken by our
students and their faculty mentors
— on the undergraduate and
graduate levels.*

*Over the course of the
next two days, we will see the type
of creativity, innovation, research, thinking, and analysis that is inspired, fostered, and nourished on our campus
as we prepare our students to make their mark in their chosen fields. Today, you will meet the thinkers, the
innovators, and the dreamers who, together, will help shape a brighter future for all of us in this region.*

*I want to thank our faculty involved in providing this opportunity to showcase student work — and all
our mentors in the classroom who challenge students on a daily basis to strive for excellence.*

*Shawnee State is also very grateful to community supporters of our event and to those who have provided
financial support for student awards and scholarships. Special thanks to the Deans of the Colleges of Arts and
Sciences and Professional Studies for their support of the Dean's Awards for Undergraduate Scholarship and to the
Board of Trustees for helping an outstanding student continue his or her conference experience through the
Trustees' Award.*

*I hope you enjoy our Celebration of Scholarship and are impressed and inspired by the outstanding
presentations of our students here at Shawnee State University.*



Rita Rice Morris

SSU Board of Trustees' Award for The Celebration of Scholarship

The SSU Board of Trustees has established a Trustees' Award as part of the Shawnee State University Celebration of Scholarship. The award goes to an outstanding student, based on research that is investigative, project-based, inquiry-based, open-minded and/or exploratory. The student receives up to \$1,000 toward expenses related to attending the National Conference for Undergraduate Research or other discipline-specific or professional conference.

As former Board chair, Dan Mooney stated, "As trustees, we are extremely proud of the students who participate and present their work — and the faculty mentors who help make it all possible. We wanted to develop a way to further recognize these outstanding students by making it possible for them to continue their conference experience."



Congratulations to all of the special students and faculty who are participating in Celebration of Scholarship 2015. This is truly a signature event for Shawnee State University. A similar program will not be found on other campuses. It promotes collaboration between students and faculty mentors — a partnership that genuinely represents the heart of higher education. Celebration of Scholarship provides an outstanding forum for students to experience the excitement of scholarship through presentation of their personal work. This experience builds a foundation for future research and scholarship. The skills fostered through this event will be invaluable to students in their future careers.

I am thrilled to be able to support Celebration of Scholarship through the “Dean’s Award for Undergraduate Scholarship.” Good luck to all of the participants!

Jeffrey A. Bauer
 Jeffrey A. Bauer
 Dean, College of Arts and Sciences

On behalf of the faculty and staff of The College of Professional Studies, I want to welcome you to the 2015 Celebration of Scholarship. This event is a highlight of each academic year and provides the entire campus with the opportunity to recognize, congratulate, and, yes, celebrate the scholarly achievements of our students. This year’s program of distinguished guest speakers, student paper and poster presentations, and official presentation of awards will most certainly provide memorable occasions for students, faculty, and guests alike.

Throughout the year, students work under the guidance of a faculty mentor to design, research, and prepare scholarly materials worthy of presentation. The Celebration of Scholarship gives these students the opportunity to present their findings and to engage in thoughtful conversations with peers, faculty, and others about their work.

For the University’s undergraduate students it can provide a first opportunity for them to engage in scholarly discourse over a position or an idea presented from their research. This experience will serve them well as they continue their education at the graduate level or as they begin their careers.

For graduate students, the Celebration of Scholarship provides them with the opportunity to share their research with a potentially new and broader audience. These presentations and discussions provide an experience that will serve them well as they move forward in their careers or advanced study.

The kind of faculty and student collaboration that occurs in preparation for and during the Celebration of Scholarship is just one of the things that makes Shawnee State University an OUTSTANDING university. The entire University community is so grateful for the opportunity to congratulate each presenter and to recognize those who are the recipients of an award for their work. Thanks to all who make this event such a productive and rewarding experience.

Paul M. Madden

Paul Madden
 Dean, College of Professional Studies



Congratulations to each of the presenters and faculty members involved in our annual Celebration of Scholarship. Their hard work is a tribute to all of the possibilities that are available as they follow their passions at Shawnee State University.

The outstanding activities and presentations demonstrate the achievements of our faculty and students in all areas of scholarship. It is with this expectation of excellence that our students will continue to learn and intellectually grow long after their graduation, enabling them to be active members of their communities.

Through the guidance of our quality faculty, students present their original scholarly and creative works in ways that demonstrate advanced and thoughtful understanding of their disciplines.

On behalf of the University College faculty and staff, I want to in acknowledge and celebrate the accomplishments of our university community. Good luck!

Brenda Haas
 Brenda S. Haas
 Dean, University College



A Celebration of Scholarship 2015

Welcome to the eleventh annual Celebration of Scholarship, a conference that highlights the scholarly, creative, and research activities of both undergraduate and graduate students. As we look back over the years, we are encouraged by how much we have grown. The first conference in 2005 was organized under the leadership of Gary Gemmer, Professor Emeritus, with a committee of just two professors, Roberta Milliken and Eugene Burns, and one student, Tracey Leo. It was held in a single day; 60 SSU students presented along with 10 graduates of SSU and 13 visitors from other universities. Under the guidance of faculty members Shannon Lawson and Pat Spradlin, we have continued to grow. This year, approximately 150 Shawnee State students are participating.

The Celebration of Scholarship has fostered an academic culture of discovery and inquiry on campus. The presenters have the rewarding and valuable experience of presenting their scholarship or creative endeavors to student peers, faculty, administrators, and the local community. Our program this year also includes two keynote speakers who will speak about topics ranging from human trafficking to forensic science.

We rely on the help of several individuals and organizations to achieve an event of this caliber. First, we thank the students and their faculty mentors who are participating in the conference. Their names are listed in the program. We also celebrate and appreciate the continuous financial support from the SSU Development Foundation and the Centrus Energy Corp. They have been very generous over the years.

Others who supported the event in a number of ways include President Rita Rice Morris and her office; Provost Alan Walker and his office; Dean Bauer of the College of Arts and Sciences and his office; Dean Madden of the College of Professional Studies and his office; SSU Printing Services; SSU Events and Conferences Services; SSU Office of Communications; Sharon Messer; Pat Spradlin and the Teaching and Learning Center; the Clark Memorial Library; and special thanks to Andy Napper for technical assistance in generating this program.

Our gratitude and appreciation go out to all who helped with set-up, organization, and awards for their assistance and encouragement.

The Coordinating Committee

Jennifer Napper, Chair

April Barnette

Wendi Fleeman

Janet Holtman

Kim Inman

Derek Jones

Erik Larson

Shannon Lawson

Jennifer Pauley

Marc Scott

Ann Marie Short

John Whitaker



**Thank You to Centrus Energy Corp. for
the continuing generous support of the
Celebration of Scholarship.**



www.centrusenergy.com



Program at a Glance

Wednesday, April 1, 2015

- 11 a.m. – 4 p.m. Registration (lobby outside provost's office, Massie Hall)
- Noon – 12:50 p.m. Oral Presentations, Session 1
- 1 – 1:50 p.m. Oral Presentations, Session 2
- 2 – 2:50 p.m. Oral Presentations, Session 3
- 3 – 3:50 p.m. Oral Presentations, Session 4
- 4 – 5:30 p.m. SSU Board of Trustees' Award Session (Clark Memorial Library, Flohr Lecture Hall 204)
Poster Session (University Center Lobby)
- 6:30 p.m. Provost's Honors Dinner (for presenters, mentors, and moderators; University Center, Sodexo Ballroom)
- 7:30 p.m. Welcoming Remarks
Keynote Speaker, Priscila Santos, SSU Alumni*
Sex Trafficking in Destination Countries
Open to the Public

Thursday, April 2, 2015

- 8 – 9 a.m. Registration (Massie Hall Lobby, outside provost's office)
- 9 – 9:50 a.m. Oral Presentations, Session 5
- 10 – 10:50 a.m. Oral Presentations, Session 6
- 11 a.m. – Noon Featured Speaker, Lauren Waugh, Ph.D.* (University Center, Sodexo Ballroom)
A Solution to Fill the Gap Between Science and the Law Regarding Synthetic Cannabinoid Compounds
Open to the Public
- Noon – 2 p.m. SSU's Campus Cook-In (University Center, Sodexo Ballroom)
Awarding of Door Prizes**

* Conference participants—attendees and presenters—receive five tickets with attendance at speaker presentations for a chance at a door prize.

** Attendees should receive a ticket after each session. The more sessions you attend, the more tickets you will receive. The drawing takes place in the University Center's Sodexo Ballroom during the Cook-In. The winning ticket MUST be presented at the time of the drawing.

1A KRI 153

Moderator & Mentor: Christine Raber

**Kelsey Micucci, Emily King, Amanda Kimbler,
Angela Comianos, & Lauren Latimer**

**Factors Impacting Therapists Use of the
Remotivation Process in Nursing Home
Settings for Residents Living With Dementia**

Our research study aims to contribute to the field of occupational therapy by better understanding how occupational therapists and occupational therapy assistants learn to use a theory-based assessment and intervention in their clinical practice for residents living with dementia who are experiencing motivational challenges. Many individuals with dementia and Alzheimer's disease and related disorders (ADRD) experience a decrease in initiation and participation in their valued occupations. Because of this, occupational therapy practitioners play a unique role within skilled nursing facilities in supporting engagement for residents who have Alzheimer's disease and related disorders. With the ever-changing healthcare system, therapists are required to maintain clinical competency through the completion of continuing education courses. This mixed method study examined two participants' response to, and experience of, a dementia specific training to learn and integrate theory-based assessment and intervention for this population into their clinical practice.



1B UNC 215

Moderator & Mentor: Nicholas Meriwether

Thomas George, Miranda Hartshorn, & Matthew Knox

Perspectives on Islam

This presentation explores four students' perspectives on Islam gleaned from personal research. The panel explores the nature of Islam, the militancy carried out in its name, and the possibilities for reform.



1C KRI 155

Moderator & Mentor: Keijing Liu

Katherine Richter

Today a reader, tomorrow a leader.

During my Action Research project my main focus was to find out where the problem is with children's reading fluency and what types of strategies are effective in improving this problem. Is it that they are struggling with the actual reading of the words? Or is it the fact that their confidence in their reading level is low and they are too afraid to read and make mistakes? My goal was to find this underlying issue and improve the students' reading levels. I used different strategies that catered to each student's needs depending on how my specific students learn; whether they be a hands on learner or a visual learner. Today the students are reading; tomorrow they could be leading.



Courtney Crabtree

Action Research: Word Sorts and Phonics

Students need to learn spelling in a more valuable way than memorizing the word list on Mondays. Students should learn how to spell in a way that lets them explore the English language while simultaneously improving their vocabulary and phonics. Using word studies will help the students to better understand spelling and reading. The purpose of this study was to see if the children can engage in word study through small group and differentiated instruction while also progressing in phonics and vocabulary. This study was conducted on three second grade students who are struggling learners in reading and spelling. Throughout this research study, students worked on word sorts to gain a better understanding of the words they read and write. Results from the pre-test and post-test will be evaluated.



Aubrie Hamer

Phonemic Awareness and How it Affects Students' Literacy Development

The purpose of this study was to improve students' literacy and word development by phonemic awareness strategies and letter recognition. This was assessed using the DIBLS progress monitoring. I gave them a pre-assessment based on letter recognition, rhyming, decoding, and letter sounds and this was administered individually. My primary focus was on 5 students who struggle with the concepts of letter sounds and word formation. During center time and whole group activities, I administered games, worksheets, and used formative assessments throughout this process.



1D KRI 253
Moderator: Shureka Nyawalo

Hayle Blair

Mentor: Kejing Liu

The Effects of Word Study Phonics Instruction

The purpose of this study was to investigate the effects of phonics instruction, through word study and embedded phonics, on a group of four high achieving students in a 2nd grade classroom. Through this study, the influence of word study, as described by Donald R. Bear, Shane Templeton, and Francine Johnston, in their book *Words Their Way*, was investigated. Also the effects of embedded phonics through literature were compared to synthetic phonics instruction. These were explored through assessments on students' performances, starting with a pre-test of a spelling inventory and ending in a post test of the same spelling inventory. Also students' performances were assessed week to week through the results of activities related to word study and/or embedded phonics.



Amanda Adams

Mentor: Kejing Liu

The Importance of Vocabulary Instruction in the Elementary Math Classroom

Introducing students to math vocabulary is necessary in fulfilling students' needs in mathematics and facilitates a deeper understanding of mathematical concepts. The areas of focus in this project included a variety of methods to teach math vocabulary, along with some misconceptions that teachers may have and some issues students may struggle with in relation to math vocabulary. The purpose of this action research study was to assist students who are struggling with concepts in relation to math, more specifically addition and subtraction, in first grade. This project was conducted with a small group of six students, who were struggling with math. The students in the study group struggled to understand different math vocabulary terms that are associated with the objectives that are being taught, for example: addition, subtraction, add, subtract, equal, add-to, take-away, minus, sum, addend, and difference.



Mallory Phipps

Mentor: Kejing Liu

Improving Fluency to Improve Comprehension

Researchers have examined the correlation between reading fluency and reading comprehension among younger children. Research findings show that, through guided reading intervention, struggling readers can improve their reading accuracy and fluency to improve reading comprehension. This study was to determine what strategies are more effective improving a child's ability to read fluently and accurately, and how this ability will help increase the child's reading comprehension. If a child can read fluently, with appropriate emotion and word accuracy, the child will be more likely to comprehend, remember, and apply the skills in reading, instead of solely focusing on letter sounds and saying words. While gathering my own research, I utilized studied techniques such as Reader's Theater and Repeated Readings, to improve reading fluency. I analyzed the students' reading test scores for improvement in reading comprehension.



Bethany Misner

Mentor: Kejing Liu

Building Fluency Among First Graders

I individually observed 5 first graders who are struggling readers. The students spent more time sounding out phonemes and decoding each word which ultimately takes away from their ability to become fluent readers. Therefore, I decided to work specifically on fluency with these first graders to help them become better readers. I focused on each student increasing their fluency skills to support comprehension and automatic vocabulary knowledge. I used a variety of strategies to attain as much fluency as possible, such as: repeated readings, paired readings, assisted readings and guided practice methods. Overall, my goal was to double each student's fluency ability. I wanted to find out what method students responded to the best, the amount of instructional time it takes for children to recognize an unfamiliar word, and how strong the correlation of fluency and comprehension is linked together.



Holly Eichenlaub

Mentor: Kejing Liu

Increasing Letter-Name Recognition in Kindergarten

The purpose of this study was to examine a variety of instructional practices used with a group of kindergarten students in order to determine which practices are most beneficial for increasing students' letter-name recognition. In this presentation, I discuss the practices used with students to increase their letter name awareness, the methodology, as well as the results of each practice. The goal of the study was to increase students' letter-name recognition to benefit their overall literacy.

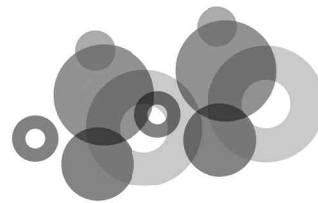


Cally Jones

Mentor: Kejing Liu

Improving Handwriting Skills in Kindergarten Students

The purpose of this research was to focus on improving students' handwriting skills. The principal researcher used multiple strategies with students who are struggling with common skills and knowledge, such as letter formation, transposed letters, spacing between letters, legible handwriting, and placement of words on the page. Activities used were placing stickers in between words to help with spacing issues and using multi-sensory strategies such as shaving cream or sand writing to work on letter formation. These activities were administered in the experiment period to see how their handwriting skills improved. A pre and post-test was administered to track students' progress.



2A KRI 153

Moderator: Shannon Lawson

Rayanna Easterling

Mentor: Virginia Pinson

Avoiding Discrimination Following Short-Term Military Deployment

How can employers avoid discrimination against employees when they are preparing for or returning from deployment with the military? This presentation reviews and summarizes regulations that cover affected employees. Human Resource Department responsibilities are discussed as pertaining to the employee as well as the company. Post Traumatic Stress Disorder (PTSD) has become an increasingly diagnosed disorder for many returning military personnel and this must also be addressed when employees return from serving their country. Finally, suggestions about how to be pro-active when it comes to employees serving in the military are presented to help ease transitions as they occur.



Kimberly Wyant

Mentor: Shannon Lawson

Game On! The Benefits of Simulation-Based Learning In the Primary School Classroom

As technology continues to advance, there is an increasing need for the integration of 21st century technology, skills, and tools into the educational classroom. One tool that can aid in the development of such skills is Simulation-Based Learning. Simulation-based learning can be found in a digital format, such as the use of video games in the classroom, or a real-time format that involves students actively engaging in a “real-life”, or authentic simulation, which can also be based on digital simulation. Some primary benefits of simulation-based learning include the strengthening of literacy skills, increase in motivation, as well as engagement in the classroom. Such a tool can be adapted to any grade level as long as its educational design and content aligns with the curriculum content of the classroom. By breaking down barriers like standardized testing, students will be able to successfully climb the ladder of knowledge into contemporary society.



Anna Stevens

Mentor: Shannon Lawson

Spread the Word to End the Word

This presentation introduces the Spread the Word to End the Word campaign coordinated by the Special Olympics. Attention will be spent persuading the audience the word “retard” is derogatory and its use is detrimental to societal treatment of individuals who are intellectually or developmentally delayed. Using first hand experience as a personal advocate for IDD individuals, I will explain how changing attitudes will change lives, opinions, and perceptions.



2B KRI 150

Moderator: Sherri Powell

Mark Newman

Mentor: Sherri Powell

Should the United States Keep or Abolish the Electoral College?

The Electoral College is a complicated election system created by the founding fathers of the United States over 200 years ago to ensure the correct candidate became President. Is this system still needed today when the United States is a much different country than it was in the late 1700s? What flaws that would present the possibility of failure exist, and what alternatives are there to the Electoral College? Which system should be used to elect the leader of the American people, while also ensuring that each person’s vote counts equally, regardless of location? These answers are given and explained, and we will attempt to determine which system provides the fairest way for the American people to determine their leader.



Tonya Maynard

Mentor: Scott Douthat

The Perceived Deviance of 21st Century Western Neo-Pagans

In my paper and presentation I delineate the defamation of Western Pagan culture throughout history which, by primary labeling theory, accounts for the current social exclusion and ostracism of otherwise non-deviant persons based solely upon their self-identification of adhering to Neo-Pagan cultural norms (religious practice, clothing, body modification, personal philosophy, etc.).



2C KRI 155

Moderator & Mentor: Neil Carpathios

Rikki Cornett & Dane Palla

Mentor: Neil Carpathios

Breeding Brainchildren: Inventively Ascending the Ivory-Tower of Academic Composition

Two students embark on a journey to uncover the processes, inspirations, and difficulties of creative and academic writing, how the two inform one another, and how they, periodically, stand in opposition.



2D KRI 253

Moderator: Derek Jones

Sonja Porter & Alexandra Bennington

Mentor: Derek Jones

The Nature of Electronic Coupling between Corannulene and Gold through Alkanethiolate Monolayers

Corannulene is a chemical compound composed of twenty carbon and ten hydrogen atoms. This structure represents one third of a buckminsterfullerene, which is made up of sixty carbon atoms and resembles the shape of a soccer ball. Fullerenes are studied for their unique chemical capabilities. However these molecules are extremely hard to work with. Corannulene has similar chemical properties to that of fullerene. Our long term goal is to synthesize and use corannulene-based compounds to perform cyclic voltammetry to measure electron-transfer rate constants of self-assembled mixed monolayers on gold electrodes. Research has been extensively performed on ferrocene-based alkanethiols and we look to compare the corannulene-based derivatives. This nanometer-scale

electronic material technology (and understanding of charge transport through organic films) can be used in sensors and other areas of importance.



Nina Trankina & Krystin Weber

Mentor: Derek Jones

Porphyrins and Dye-Sensitized Solar Cells

Since the discovery that irradiated organic dyes can generate electricity at oxide electrodes in electrochemical cells, the generation of electric power has gradually become more popular. A relatively new kind of low-cost solar cell is known as Dye Sensitized Solar Cells (DSSCs) which can produce electric power. These solar cells use chemical dyes to produce a photovoltaic effect to power things such as electronic devices. DSSCs are growing popular because of their attractive features such as their flexibility and transparency as well as the simple production with low costing material. A wide variety of chemical dyes can be used for each DSSC and can vary its efficiency greatly. Our research consists of synthesizing porphyrin dyes, incorporating them into DSSCs, and then testing their efficiency.

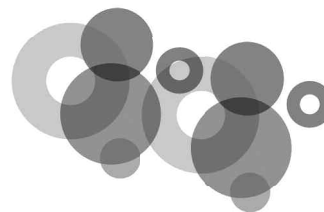


Steven Taulbee

Mentor: Timothy Hamilton

Analyzing the Center of Mass of a Leaping Athlete

The purpose of this project was to analyze an athlete's center of mass while performing various jumps. This was done by using the motion capture lab to record the position of each major portion of the body throughout the jumps, then analyzing their positions along the x, y, and z-axes at any point in time. The project required application of kinesiology and physics and displays well that an athlete's center of mass follows a simple application of Newton's laws of motion, regardless of where each individual body part was located at any point in the jump.



3A MAS 203
Moderator & Mentor: Sarah Minter

Jessica Fair

Baseline Natural History of Lepidoptera-Plant Interactions and Diversity in the Barra Del Colorado Wildlife Refuge, Tortuguero, Costa Rica

Plant-insect interactions serve as critical components of ecological functions in many natural systems. Lepidoptera (butterflies and moths) are one group of insects which interact with flowering plants both as floral visitors and potential pollinators as adults, and as larval herbivores. Interactions between these Lepidopteran life stages and flowering plants were observed at the Caño Palma Biological Research Station adjacent to the Barra Del Colorado Wildlife Refuge near Tortuguero, Costa Rica. Species were documented using cameras and structured observation in May 2014. Observations were incorporated into a database and shared with station staff and researchers. The biodiversity of Lepidoptera within microhabitats and the relationship of observed species to surrounding flowering plants was investigated.



Jeffrey Martin

Non-Invasive Documentation of Large Mammal Activity

A survey of mammalian species was conducted at Caño Palma Biological Field Station in Costa Rica during May of 2014. The focus of our survey was to observe and record mammal species found in the lowland tropical rain forests near the Barra Del Colorado Wildlife Refuge. Our study utilized camera trapping and plaster casting methods to identify different species. Four Moultrie M-880 Digital Game Cameras with 8.0 MP capability were installed along an experimental transect. Cameras were set on May 7th and remained set through May 16th, 2014. Camera photos yielded positive results for mammalian life, specifically capturing three distinct species. Castings of mammalian prints, representing six species, were collected while walking along pre-established research transects during visual scouting.



Christa Little & Lindsey Polsley

Herpetological Diversity of Costa Rica

In May of 2014, a small group of students from Shawnee State University had the privilege of traveling to Costa Rica. Students stayed at the Caño Palma Biological Research Station located in the Barra del Colorado wildlife refuge. The station aims to encourage rainforest conservation, teach a conservative use of resources, and serve as a facility for international researchers. During the ten day stay at Caño Palma, students participated in herpetological surveys. Within the lowland tropical rain forest, surveys focused largely on the snake, caiman, and amphibian populations of the region. Marine turtles that came ashore for egg laying were also monitored and tagged. This presentation introduces viewers to the techniques used to survey reptile and amphibian populations in the rain forest. Photographs of organisms observed by Shawnee State students demonstrate the herpetological diversity of the region.



3B KRI 150
Moderator & Mentor: Beverly Ochieng-Sande

Ashley Gilley, Mariah Mynes, & Lynn Gundolf

Accommodations and Modifications: What all teachers need to know

Intervention specials and general education teachers provide students with accommodations and modifications to ensure academic success of all students. For students with developmental disabilities, accommodations and modifications allow the curriculum to be accessible at their ability level. Although accommodations and modifications both serve similar purposes, they differ in one way. Accommodations change how students with developmental disabilities learn the same material as their typically developing peers; while, modifications change what students with developmental disabilities learn, or their expectations. The purpose of this presentation is to explain the difference, using concrete examples, so that educators can be able to more effectively meet the needs of their students with disabilities.



3C KRI 153
Moderator & Mentor: Adair Lattimer

Megan Toppins, Shae Hart, Terry Titus, Amber Roffe, Kalyn Bailey, & Stacia Akers

Health Literacy

Health literacy is defined and explored through different populations. Each group member will discuss barriers and interventions for their specific population.



3D KRI 253
Moderator: Catherine Bailey

Kayla Dye
Mentor: Kejing Liu

Can Children Learn Dolch Words Through Play?

Students need to be able to master the words on the Dolch word lists in order to become fluent readers. Learning through play will help the students to better retain the words they learn. The purpose of this study was to see if children can learn the words from the Dolch word lists through play. This study was conducted on four second grade students who are struggling with the pre-primer, primer, first, and second grade Dolch word lists. Throughout this research study, children played various games and activities. The post-test results help to determine if children can actually learn through play.



Brooklyn Thompson
Mentor: Kejing Liu

Making Connections Between Objects and Number Symbols in Kindergarten

This study worked with younger children who are struggling with understanding the relationship between objects and number symbols. Multiple strategies and activities were developed and implemented. A pre- and post-test assessment was administered to explore which instructional techniques and activities are more effective on such children.



Laynee Davis
Mentor: Kejing Liu

All Aboard The Letter ID Train

The purpose of this study was to work with students who are struggling with identifying letters. Students were addressed based on the knowledge that they have with letters, and learned by doing various activities. The classroom teacher does a letter of the week, and during my small group time we reinforced the letter of the week. In order to help the students identify the letters, weekly activities, along with a song or chant to help them remember the letters were planned. An assessment was given to find out which letters the students already know and which letters the students are struggling with. Students were assessed by giving them a pretest to see what they know and then a post-test to see what they have learned.

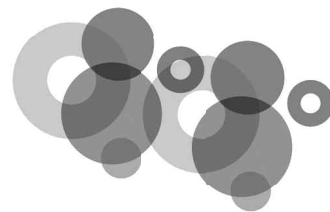


3E KRI 154
Moderator: Alan Gravano

Justin Cochran & Adam Schroeder
Mentor: Gay Lynn Shipley

All About that Math, All About that Math, No Calculators!

We will discuss different math fluency strategies and mental math tricks to help students develop their working memory and become faster at basic math.



4A ATC 207
Moderator: John Whitaker

Megan Smith

Mentor: John Whitaker

The Chance That A Random Graph Is Connected

In this presentation, we define a random graph, a connected graph, and give a formula for the probability that a graph with n -nodes is connected. The majority of the presentation will be spent illustrating that the formula holds true for a graph with 3-nodes.



Kathleen Ross

Mentor: Kejing Liu

Story Problems, Story Answers: Investigating a Multi-Modal, Narrative Approach to Teaching Multiplication Facts

Think fast! What's 9×12 ? The ability to quickly recall math facts is essential for academic success, allowing the brain to focus on the more complicated processes of comprehension and calculation. Unfortunately, American students are below average in their ability to quickly recall basic math facts. This presentation reports the results of a graduate capstone research project designed to test the efficacy of teaching multiplication facts using a multi-modal, narrative approach. Eighty-six third grade students received traditional instruction in multiplication facts. Thirty-eight of them were also told imaginative stories and rhymes with illustrations for an average of five minutes per day for three weeks. A comparison of the pretest and post-test scores shows that the students who participated in the multi-modal instruction recalled significantly more facts than the other students. The findings of this project suggest that teachers can quickly boost student recall by employing this engaging instructional approach.



4B KRI 250
Moderator: Brenda Haas

Rachael McGraw

Mentor: Kejing Liu

Action Research Study

For the Action Research class, the study done involved kindergarten students who are struggling in mathematics. The students in the small group are struggling with number identification 10-20, adding, and subtracting. The goal of this study was to help these struggling students get on track with the level they are supposed to be on and find what techniques work. To determine if the research is successful, using the method of a pre-test and post-test is a good way to identify progress. The pretest was asking them to identify the numbers, and complete a few addition problems. The post test was similar so that I could measure the results of my actions during this process. Some techniques that were used includes a number line, an "adding machine," and many more. With the ideas used so far, there has been some improvement and I look forward to seeing more!



Breelyn Wells

Mentor: Kejing Liu

Effective Strategies for Teaching Phonological Awareness

Phonological awareness is the skill of identifying sounds that make up spoken words. It is taught during the preschool age and later influences the student's reading development. These skills are essential for the development of emergent literacy. To increase a student's phonological awareness, direct instruction and activity-based strategies can be used. The purpose of this study was to help prepare preschoolers for kindergarten by examining the effectiveness of instructional strategies on phonological awareness. The students worked individually and as a group specifically on identifying capital and lower case letters, along with the sounds they produce. Before individualizing the plan for the students, there was a pretest that consists of matching the lower case letters with the capital letters. To follow this test, the students were assessed on the sounds the letters produce. The study concluded with a post-test to see the improvement of the students.



Ashley Galbraith

Mentor: Kejing Liu

Action Research Early Childhood Phonemic Awareness

This research is to work with kindergarten children who struggle with letter recognition and sounds. The principal researcher's goal is to use developmentally appropriate strategies to work with those children and enable them to be able to develop and master phonemic awareness skills by the end of the study. In addition, the researcher will try different strategies to work with their attention focus as it is another problem that they have in learning, which impact their learning outcomes. The pre- and post-tests will be conducted to examine the effectiveness of the instructional strategies being applied.



4C KRI 255

Moderator: Ann Linden

Tiffany Walters

Mentor: Sean Dunne

The Blurred Lines of Gender at Anime Conventions

This presentation explores the construction and performance of gender at Anime Conventions within the United States, and how these performances are perceived outside of the conventions in the Appalachian region. Attending these conventions provides opportunities to interact with people of different races, genders, sexual orientation, and age; demonstrating how customary definitions of gender in Appalachian regions are challenged at Anime Conventions. Using primary research and firsthand experiences, I will explain how, as an Appalachian attending one of these conferences; I have had to defend my sexuality, my clothing selections, my hair style choices, as well as my desire for these interactions. I will attempt to illustrate how socially constructed divisions within gender are blurred at conventions, and discuss the reactions I have encountered from my family/friends in regards to my attendance to these conventions.



Tashana Brown

Mentor: Ann Linden

Bibliotherapeutic Approaches

Incorporating a bibliotherapeutic approach through the use of literature in early childhood education has the ability to transform a child's life by getting them to open up about their personal experiences. Bibliotherapy can assist in addressing issues such as social disconnect, abuse, death, and many other topics to which children have a difficult time adapting.



4D KRI 253

Moderator: Kimberly Inman

Jordan Dever & Alison Hammonds

Mentor: Kimberly Inman

Expression of *Foxc1* in the Chicken Embryo

During embryonic development, specialized neural crest cells (NCCs) migrate throughout the vertebrate embryo into specific regions including the pharyngeal arches. NCCs give rise to most cartilage, bone, and connective tissue of the head and face. In order for proper formation of jaw structures or auditory bones in mammals, the *Foxc1* gene must be fully functional. The structure of mammalian jaws differs from other jawed vertebrates (gnathostomes), and so it is uncertain if *Foxc1* plays the same role in other species. From our research, we hope to determine whether *Foxc1* plays a role in the development of the jaw in chicken embryos, a nonmammalian gnathostome. We will use a variety of molecular techniques including gene isolation, polymerase chain reaction, and in situ hybridization. Ultimately, these methods allow us to visualize *Foxc1* gene expression throughout the embryo as a step toward determining if *Foxc1* is a requirement for normal jaw development.



Elijah Kelley

Mentor: Eugene Burns

Inactivating Genes in Whooping Cough

Over the past few years, there has been a resurgence in the number of cases of whooping cough, which is caused by the Gram negative bacterium *Bordetella pertussis*. Whooping cough is characterized by severe coughing spells followed by high pitched “whooping” sounds as patients struggle to catch their breath. In order to cause disease, the bacteria have to attach to ciliated cells in the trachea of the patients. Previous research done on *Bordetella bronchiseptica*, which causes a similar disease in swine and canines, showed that inactivation of the Bb2359 gene affected attachment. Experiments were undertaken to inactivate the homologous gene, Bp2596, in *B. pertussis*. Future experimentation will show if inactivation of this gene in the human pathogen has the same effect on attachment that was seen with the animal pathogen.



Adam Otworth

Mentor: Eugene Burns

Complementation of Bb2359 Mutation in *Bordetella bronchiseptica*

Bordetella bronchiseptica causes kennel cough in dogs, atrophic rhinitis in pigs, and respiratory disease in many other mammals. Previous experiments inserted a transposon into the Bb2359 gene of the VPI-Fe1 strain of the bacteria. This caused the bacteria to exhibit an altered attachment to pig and dog cells. This new, mutant strain, called 1K1, attaches in clumps. To verify that this change in attachment is due to inactivation of the Bb2359 gene, a functional version of the gene was re-inserted into the bacteria, complementing the mutation. Complementation used an *E. coli* plasmid which contains the cloned Bb2359 gene from *B. bronchiseptica*. Insertion of this plasmid into *Bordetella* allowed homologous recombination, crossing over, to occur. At this point, the mutated gene was no longer present and the wild-type gene should express the wild-type phenotype of the VPI-Fe1 strain, returning it to its normal attachment style.



4E KRI 154

Moderator: John Dunham

John Wiseman

Mentor: Dan Johnson

The Justice of Hell

Exploring the complex relationship between a loving God and an eternal hell.



Chuck Norris

Mentor: Dan Johnson

Scientific Naturalism and Spiritualism

Scientific Naturalists may tend to be more on the Atheistic side of the religious spectrum but can they be spiritual? In this essay I argue that a Scientific Naturalist can in fact be spiritual and maintain an atheistic religious belief, Buddhism, without any inconsistencies in her world-view. First I outline what a Naturalist is and what one may be committed to believing and how Buddhism might be seen to be in conflict with those beliefs; then I'll show that these are non-fatal issues for the Naturalist; and finally I'll examine the two different versions of Buddhism in the context of the Naturalist's life to show that they can actually be of benefit to her.

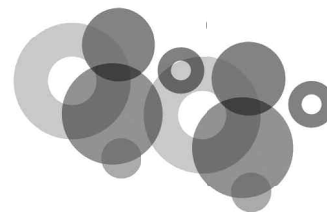


Kaitlyn Anderson

Mentor: Dan Johnson

Prostitution or Abortion? Or Both?

I wrote this paper for my final in PHIL 1105, and it is an argument against abortion in a round about way, or at least a way to get people to think about it in a new light. My argument revolves around the relatability of prostitution and abortion, which are two topics that are often not related. It's a very strong argument that is set up to make the audience reevaluate the way they look at abortion.



Molly Dargavell

Mentor: Sarah Minter

Spider Diversity in Downtown Portsmouth, Ohio

The recent urban garden movement has stimulated an interest in the richness, abundance, and life histories of spiders occupying urban areas. As generalist predators, spiders are also active outside of urban gardens, where they likely play a regulatory role in the populations of arthropods not specific to crop production. In Portsmouth, Ohio, urban degeneration and development occur simultaneously in close association. Given the generalist behavior of spiders and their ability to occupy a variety of habitats, it is reasonable to assume that spider richness and abundance will differ between specific urban habitats. In our study, we assessed the diversity and abundance of spiders occupying three distinct urban habitats within a one-mile radius from a central location in Portsmouth, Ohio during the fall of 2014. Spider presence was assessed in abandoned, managed (lawn), and naturally succeeded urban lots.



Jacklyn Hockenberry

Mentor: Marc Scott

Community Survey

Town-gown relationships have been discussed through several academic articles over the years. Among these articles readers discover the history of tow-gown and what a particular university has done to create or improve the town-gown relationship found among that particular community. This paper uses the town-gown theory and information provided about the ideology to examine the current relationship between Shawnee State University (SSU) and the host community (Portsmouth, Wheelersburg, and New Boston, Ohio). The findings from this research suggest that the students do see a town-gown relationship established at Shawnee State. However, the relationship is weak in some areas including safety and student involvement with the community. By providing recommendations from a civic engagement program this paper hopes to give members of SSU ideas on how to strengthen the current town-gown relationship.



Kasie Leightenheimer

Mentor: Janet Holtman

Inspire My Song: Faith, Gender, and Colonialism in the Poetry of Phillis Wheatley

An exploratory analysis of the place of early black author Phillis Wheatley in the canon of American literature, considering that her place in the American literary canon offers a multifaceted representation of early multinational literature in the country from an African American female perspective. Though many of her famous works seem to tout her gratitude for being delivered from a “pagan land,” particularly in her famous piece *On Being Brought from Africa to America*, her political activism against colonialism and her many elegiac odes to artistic creation as a form of deliverance from literal or metaphorical servitude (present especially in her piece *To S.M. A Young African Painter, On Seeing His Works*) articulate strategies of artistic and religious resistance to oppression from her colonial captors. Wheatley’s frequent appropriation of religious iconography and moral pathos serve instead as a delicate attempt to illuminate early Americans to the colonial evils articulated within their own society while expressing a moral obligation for agency and independence within the African American race. The various permutations of oppression faced by Wheatley as an African American female living in colonial America and the ways in which she offers the possibility of deliverance and transcendence through education, artistic expression, and activism are explored, and the works of various postcolonial scholars, including Homi K. Bhaba and Ngugi Wa Thiong’o are employed in order to dissect Wheatley’s strategies of resistance to colonialism within her work. Additionally, the field of forces behind Wheatley’s notions of artistic transcendence, as well as the appropriating of Christian iconography and history toward the agency of African Americans, are compared in concert with modern African American authorial voices, such as Toni Morrison and Nikki Giovanni.

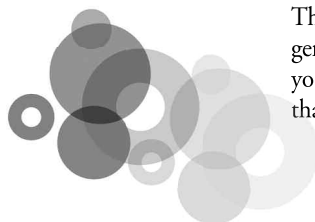


Deanna Roberts

Mentor: Ann Linden

Preventing Bullying of LGBT Students

This paper examines bullying of LGBT students and non-gender conforming students and presents a method of using young adult literature to create a learning environment that is safe and conducive to learning for all students.



Mathew Burton & Seth Harris

Mentor: Erik Larson

A Proposed Stratigraphic & Karst Reconnaissance of the Hiawatha National Forest

The proposed aim of this study is to perform reconnaissance on both the surficial karst features and stratigraphy of the upper Michigan peninsula, giving particular regard to the limestones of the Silurian, Engadine group and the paleolake levels of Lake Algonquin and Lake Nippising. The bulk of the field research will be done in the Hiawatha National Forest, while further analysis such as petrography, stable isotope, and XRD will be conducted later in the summer and into the fall. This research is a collaboration between Shawnee State University, Sam Houston State University, and the U.S. Forest Service.



Sydney Moos, Brittany Culver, & Cara Coy

Mentor: Ryan Walker

Carpal Tunnel Syndrome

Carpal Tunnel Syndrome (CTS) is a common and debilitating pathology that affects daily activities. Flexibility is a common impairment that patients with CTS suffer. There are many different treatment approaches to increase flexibility and two common methods were evaluated. When comparing static stretching to Proprioceptive Neuromuscular Facilitation (PNF), we hypothesized that static stretching would be more efficient in increasing flexibility.



Chasity Iles

Mentor: Brian Richards

Conformity and Attraction

This is a social psychology experiment investigating whether the effects of conformity would even extend to people's judgments about intimate behaviors (e.g., how much they would enjoy kissing another person) within a context where conformity should be unlikely (an anonymous online environment). One experimental group received bogus feedback that other participants had given the hypothetical romantic partner very high ratings. In contrast, a second group received bogus feedback that other participants had given the profile lower ratings. Finally, a third group (control) did not receive information about peer ratings. Participants then provided their own ratings of the profile. Participants responded to personal questions such as: "If I were single,

then I would enjoy kissing this person" (1 = Strongly Disagree; 9 = Strongly Agree). When done with female participants, conformity played a role in their ratings of the males, as expected. We will be doing the experiment with male participants next.



Destini Copas, Wessly Runyon, & Taila Hodge

Mentor: Ryan Walker

Contract-Relax or Static Stretching: Which techniques increases ROM more in patients with Plantar Fasciitis due to limited gastrocnemius muscle range of motion?

The plantar fascia supports the medial longitudinal arch and stabilizes the foot in supination during the push-off phase of gait. A tight gastrocnemius and soleus pulls the heel superior leading to excessive pronation of the foot. This excessive tension on the plantar fascia initiates inflammation; this is known as plantar fasciitis. Stretching of the tight plantar flexors of the ankle decreases the amount of superior translation of the calcaneus which decreases the pull on the plantar fascia. Little is known about which technique will be the most beneficial at increasing the excursion of the gastrocnemius and soleus. The study that is proposed examines the effectiveness of both contract-relax and static stretching. This experiment focuses on stretching techniques for the gastrocnemius and soleus which would yield results that would represent the most effective conservative treatment option for patients with plantar fasciitis.



Cailin Lowe

Mentor: Brian Richards

Effects of Debt on Charitable Giving

Individual debt is at an all-time high in the United States. For example, average household credit card debt is currently \$15,611. This is something that affects a huge amount of people, yet the psychological consequences of being in a state of debt are understudied. Although certainly a cause of individual distress, we propose that being in a state of debt creates a negative ripple effect that spreads across communities and even the world by reducing the likelihood of prosocial behavior such as charitable giving. To test this hypothesis, this study compared people's giving behavior when their debt was on their mind as opposed to not salient.



Natasha Knoechelman

Mentor: Brian Richards

Familiarity and Attraction in the Context of Online Dating

A great deal of research suggests that increases in mere familiarity can increase interpersonal attraction. However, in the context of online dating profiles, we found the opposite effect as women’s attraction to men decreased after viewing their profile a second time $t(77) = -3.62, p = .0005$. In recognition of the growing importance of online interactions for romantic relationships, this study may have uncovered an important qualification to the familiarity breeds attraction effect.



Brooke Tolle, Mark Schibi, & Alison Yunker

Mentor: Ryan Walker

Headaches? Can Be Caused By...

We have developed a hypothetical research project comparing the effects of biofeedback and cervical stretches in the reduction of tension type headaches. We hypothesized that stretching would have a more beneficial result in reducing the intensity and frequency of tension headaches. There is much more to be learned by our presentation. We explain what tension headaches are, the cause of them, and what other interventions can be performed to help.



Christopher Dunn & Eugen Noble

Mentor: Brian Richards

Influence of Music on Perceptions of Aggression

The purpose of this research was to explore how exposure to violent music influences perceptions of aggression. Using SurveyMonkey®, participants were randomly assigned to one of two groups. The participants who were assigned to be in the Music Present Group listened to a clip from a violent rap song, answered a few questions regarding the music, and then read a short scenario depicting a confrontation between two men. Participants who were assigned to be in the Music Absent Group did not listen to the music clip prior to reading the scenario. Participants in this group only read the short scenario. Both groups answered a series of questions following the reading of the scenario. Overall, the effects of music on perception of aggression was not significant. However, following exposure to the music, female participants rated the aggression significantly less wrong compared to the females in the Music Absent Group.



Elaine Clay & Tyler Lang

Mentor: Ryan Walker

Lateral Epicondylitis

Lateral Epicondylitis (LE) is an injury commonly sustained from overuse of the elbow. A common impairment due to LE is decreased grip strength with increased pain. Two possible methods of treatment include taping/bracing and a proprioceptive neuromuscular technique known as active contract-relax. Our research led us to believe that by combining taping/bracing with interventions such as active contract-relax, optimal functional strength is obtained.



Schuyler Jones, Jaycee Cox, & Joshua Jackson

Mentor: Ryan Walker

Patellofemoral Pain Syndrome

Patellofemoral Pain Syndrome (PFPS) is a broad term that describes many complications arising from the anterior portion of the knee. This abnormality puts stress on the joint and ultimately wears down articular cartilage causing anterior knee pain. In order to help aid the strengthening process to ease this pain, researchers are pushing for a collaboration of strengthening exercises paired with a proprioceptive aid such as biofeedback or KT tape. We conducted a study to determine the best aid for those with PFPS.



Keyana Ward

Mentor: Georgeann Kamer

Periodontal Disease Research

Periodontal Disease is a common health issue. Many people with this problem do not realize they have the disease until their gingival condition is at a severe stage. Detecting this disease requires knowledge of the symptoms. The primary cause of periodontal disease is accumulation of products of plaque biofilm, and there are several conditions that can increase accumulation. This health condition is a priority, because the disease not only leads to severe oral health concerns, it may also aggravate other health issues a patient may possess. It is possible to reverse the disease, as well as prevent it. This process requires patients to visit the dental office for treatments. Also to prevent or reverse the disease requires additional at home treatments. Hopefully this research will educate others to take a step to better their own oral health.



Samantha Rietschlin

Mentor: Crystal R. Sherman & Scott Douthat

Satisfaction with Sexual Health Care among Adults over Age 50

Sexual health is an important aspect of maintaining overall health, but is oftentimes overlooked in the assessment and care of older and middle-aged adults. This is partly due to stereotypes and cultural stigmas, as well as personal attitudes and beliefs. Some primary care providers, as well as patients, may feel uncomfortable talking about it, but the reality is that it remains an important topic as patients age. The purpose of this study is to determine if health care consumers, aged 50 and over, report satisfaction with the way that their primary care providers acknowledge, address, and treat their sexual health issues. Data collected is from a small sample of 20 patients, using a descriptive correlational design.



Jessica Edingfield

Mentor: Brian Richards

Social Comparisons Driven by Social Media: Influence on Relationship Satisfaction?

Will reading posts about others' happy relationships sink our satisfaction with our own loved ones? Social media usage continues to grow throughout the world. This additional social dimension may function in similar ways to the offline social world. It has long been observed in social psychology that individuals make judgments about themselves and their lives that are largely influenced by social comparison (comparing themselves to others). This study investigated the influence of online posts about romantic relationships on individuals' judgments regarding their satisfaction with their own romantic relationships.



Ali Ball, Abby Hopkins, & Katie Miller

Mentor: Ryan Walker

Subacromial Impingement

This poster presents a comparison of eccentric strengthening versus slow reversal proprioceptive neuromuscular facilitation in the treatment of patients with subacromial impingement syndrome.



Daniel Van der Mallie & Jeffrey Matteson

Mentor: Brian Richards

The Effects of Worry on The Perception and Attractiveness of Augmented Reality Products

Our poster will be exploring the counterintuitive results of utilizing 177 respondents through a website known as Mturk, from a study performed through the Social Sciences Department. In this study the participants rated their level of attraction to a fictional augmented reality product; after being asked to reflect on their feelings that they have experienced when they feel worried. For our initial prediction, the individuals that were asked to reflect on their feelings they experienced while worrying or seeking out escapism, would use augmented reality technology. However, we found the opposite of our prediction, which resulted in a seemingly high level of indifference to the products known as highly escapist, that is simply advertised to the technical specifications of the fictional device. Within our poster we explore the possible implications of this study for marketing augmented reality technologies.

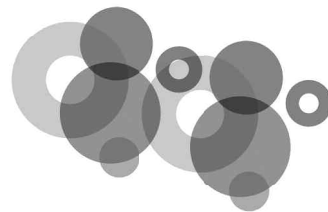


Kristin McRoberts, Andrew Swayne, & Chris Stangle

Mentor: Ryan Walker

Traditional Vs. Aggressive Conservative Treatments of Greater Trochanteric Pain Syndrome

This poster presents a proposed study to compare the lasting effects of traditional physical therapy treatments in comparison to a more aggressive approach. The goal of this study was to determine if more aggressive treatments have greater effects and ultimately lead to less surgical procedures for greater trochanteric pain syndrome.



Provost's Honors Dinner

6:30 – 8:30 p.m.

UNC, Sodexo Ballroom

By invitation only: Student presenters, faculty mentors, moderators, and honored guests.

Sex Trafficking in Destination Countries

Priscila Santos

Graduate Assistant, Center for International Programs
Marshall University | SSU Alum



According to research conducted by the United States Department of Justice, in recent years, the trafficking of human beings became the second fastest growing criminal activity in the world, only second to drug trafficking. The International Labour Organization estimates that every single year, the human trafficking industry generates \$150 billion dollars in profits. Sex trafficking is a crime that greatly afflicts millions of human beings, mainly women and children.

It is estimated that every single country in the world plays a role in the sex trafficking industry. Nations can participate in the criminal activity in four different ways, one of which is as a destination site. The focus of Ms. Santos' research is these destination countries, which are countries to which women and children are sent, and their respective efforts in combating and preventing sex trafficking within their borders. She addresses the existing laws against sex trafficking, what type of social support system is available for victims, if there is special training and education for law enforcement and the general population, if prostitution is legalized or not, and if these nations incentivize the prosecution of cases.

Ms. Priscila Santos is a 2014 summa cum laude graduate of Shawnee State University, where she earned a B.A. in International Relations. Priscila is currently a graduate student in the Masters of Arts in Political Science program at Marshall University. Throughout her undergraduate career she not only excelled in the classroom, but also on the basketball court as a member of the Shawnee State Varsity Basketball Team. During the 2013-2014 season, she was selected by the Mid-South Conference to the First Team All-Conference and recognized by the NAIA as an Honorable Mention All-American player.

She is from Sao Paulo, Brazil, and has used her own successful basketball career and academic achievements to inspire school-age children in the Projeto Gotas de Cidadania (Project Drops of Citizenship) program in Sao Paulo. Her goal was to motivate these children to use athletics as a means to better their lives and the lives of their families. During her time in Scioto County, she also gave back to the local community through an internship at the Scioto County Homeless Shelter. She continues to assist her fellow international students at Marshall University through her work as a graduate assistant at the Center for International Programs.

5A KRI 150
Moderator: Dan Chaffin

Lance Rose, Sabrina Brown, & Molly Dargavell

Mentor: Sarah Minter

Culturally Significant Medicinal Plants of Costa Rica

In May of 2014, 14 students and 2 professors from Shawnee State University traveled abroad to study biology within the northeastern region of Costa Rica. The SSU students and professors resided at the Caño Palma Biological Station located in the Barra del Colorado Wildlife Refuge. Caño Palma encourages the participation of undergraduate scientific research in order to further worldwide awareness of the need for rainforest conservation. During their time at the station, a few of the students participated in research on culturally significant medicinal plants within the Barra del Colorado Wildlife Refuge of Costa Rica. On a journey through the rain forest, led by a local farmer named Don Ciles, the students studied naturally growing plants that carry medicinal significance. Don Ciles located the plants within the forest and then described to the students the medical significance of the plants for the natives of Costa Rica.



Kaytlyn Lewis, Kaylee Wright, & Maria Frazier

Mentor: Sarah Minter

Marine Turtle Conservation in Costa Rica

In May 2014, a group of Shawnee State students studied abroad at the Caño Palma Biological Research Station near Tortuguero, Costa Rica. One of the primary focuses of the research facility is a long term program aimed at protecting marine turtles. Students completed training exercises before participating in night patrols. During each night patrol, participants walked as many as nine miles, stopping only when egg laying turtles were observed. Each turtle coming to shore was measured, tagged, and identified. Eggs were counted during deposition and then promptly buried by the turtle. Nesting sites were triangulated and disguised to deter poaching. Morning patrols were conducted to confirm nesting locations and check for hatching offspring. Nests older than the expected incubation period were excavated to determine hatch rate and causes of premature deaths. This presentation describes the processes associated with turtle conservation, as they are employed by researchers in Central America.



Alexander Alley
Mentor: Sarah Minter

Shorebirds and Mist Netting Surveys in Costa Rica

Eleven Shawnee State students traveled to the Caño Palma Biological Research Station in Costa Rica in May of 2014. Caño Palma, a research station associated with the Toronto Zoo in Canada, is used by researchers to study the flora and fauna of the lowland tropical rain forests of Central America. To date, more than 800 birds are native to or use Costa Rica as a migrational resting ground. Researchers from around the world monitor birds at Caño Palma using mist netting and shorebird counts. Knowledge gained from research at Caño Palma has led to a better understanding of the species richness and migrational patterns used by birds. During my time at Caño Palma I assisted researchers with both survey techniques and helped to measure and band birds. My presentation describes both processes, knowledge gained to date, and birds observed during my stay.



5B KRI 153
Moderator: Erik Larson

Brady Evans
Mentor: Erik Larson

Refinement of Cave Volume Calculations in Compass

Statistics for caves, particularly the volume, has proven problematic either due to inadequate technology or the cost of new technology. Compass®, a free software, has been widely used in recent years and it allows for the calculation of cave statistics including volume; however, the volume calculated is inaccurate. This was originally addressed by creating idealized passages of fixed lengths and diameters to create correction factors for the software. However, it was found that diameter does affect volume calculation, although length does not appear to affect volume. Therefore, we created idealized passages of fixed lengths and varying diameters to create improved correction factors that can be applied to preexisting cave survey data to allow for further refinement and calculation of actual cave volume than was possible before.



Monica Broyles

Mentor: Kurt Shoemaker

A New Look on an Ancient Lake

A new look on an ancient lake in a 3D form.



Justin Thompson

Mentor: Kurt Shoemaker

Drainage History of Western Scioto County

Modern day western Scioto County’s drainage into the Scioto River is analyzed to determine the order of each stream’s introduction into the system. The streams’ gradients and sinuosity will create a step by step view of the drainage system’s evolution over time. The model created will be able to differentiate what geomorphic features can be attributed to modern day drainage, to those of Pleistocene Lake Tight, Eastern Teay, and Deep Stage Pliocene drainage systems.



5C UNC 215

Moderator: John Whitaker

Braylon Boling

Mentor: John Whitaker

Introduction to Differential Equations

In this presentation, we define an initial value problem, state an existence and uniqueness theorem, and show several examples.



Amanda Miller

Mentor: Keijing Liu

Teaching Place Value in Education

The purpose of this study was to improve students’ understanding of place value, specifically when adding and subtracting in tens, also known as “10 more and 10 less.” This has been pre-assessed three ways with a small group of students. The first being a worksheet with eight students identified by the cooperating teacher, the second pre-assessment was given to six students based on the scores of the first pre-assessment as well as their scores on various tests given in the school. Lastly, students were assessed individually to help eliminate distractions and to have a more depth understanding of students’ thinking. Students reviewed place value through the use of manipulatives and calculators, and even games. After several lessons, students were given post-tests to determine if the techniques used helped the students better understand place value and 10 more, 10 less.



Mark Teeters

Mentor: John Whitaker

The Foundation of the Exponential Function

This presentation is an expository talk that proves the existence of the exponential function with base “e.” The existence proof emphasizes the two defining characteristics of the exponential function. The proof involves continuity, the fundamental theorem of calculus, induction, and uniform convergence of a sequence of functions.



5D UNC 214

Moderator: Andy Napper

Thomas Edwards

Mentor: Timothy Hamilton

Measuring the Properties of Exoplanets with a Small Camera

Exoplanets are planets around other stars. Recently discovered in the 1990s, we now know of 2,700. They had been tough to find, but today the Transit Method has made them easy to detect. The Transit Method looks for an eclipse of the star by its planet. As part of project PANOPTES, Shawnee State is looking for transiting exoplanets with a Canon EOS Rebel camera. I present the results of the measurements of planets’ sizes and orbital periods.



Cody Quillen

Mentor: Timothy Hamilton

Exoplanets: What are they and how can we find them?

An exoplanet is a planet around a distant star, and until about twenty years ago, they were unknown to us. In the past we have used very expensive and very powerful equipment to look for these exoplanets, and this is the reason that the search has been slow. Today, we have found over 2,700 exoplanets in the search for a world that could harbor life, and the boom in discoveries has largely come from a new technique that can be adapted to amateur equipment. In my research, I used a light-weight camera and tripod, along with some specialty equipment, making it accessible for more people to try for themselves. In this presentation, I will talk about the technique to detect these planets and how this is something anyone with a clear night sky can now try!



Anna Brown & Ashley Griffith

Mentor: Sarah Minter

Mammals of Costa Rica

In May 2014, fourteen Shawnee State students traveled to the Barra del Colorado Wildlife Refuge and stayed at the Caño Palma Biological Research Station in Costa Rica. The mission of the field station is to increase awareness for rainforest conservation. As part of this goal, Caño Palma staff encourage undergraduate students to participate in research that seeks to determine the richness and abundance of biota native to the region. During a ten day stay at the station, students participated in surveys investigating mammalian presence. Surveying involved locating the tracks and foraging marks of opossums, peccaries, monkeys, bats, and jaguars. We participated by keeping records for lead investigators during walking surveys and track identification. Specific mammals observed during the course included capuchins (Cebidae), jaguars (Felidae), tent bats (Phyllostomidae), spider monkeys and howler monkeys (Atelidae) and opossums (Didelphimorphia).



5E KRI 154

Moderator: Lavanya Vemsani

Molly Arey

Mentor: Amr Al-Azm

Neanderthal Speech and Implications

With more and more research coming in stating that we share more genetic material with Neanderthals than we originally thought, it becomes a question of how similar they were to humans. It is possible that *Homo neanderthalensis* may have had the ability to produce vocalized language. The capacity for speech is one that would have opened up many doors and greatly influenced the survivability of the species. My research explores the possibility of speech, and if possible, how it may have affected the continuation of the Neanderthal species.



Kayla Radak

Mentor: Amr Al-Azm

Aztec Subsistence Farming

A focus on how the Aztec people provided food to support a large empire with emphasis on the use of chinampas.

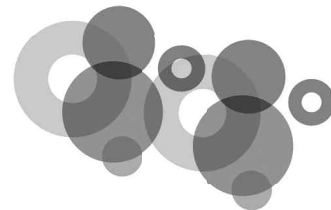


James Webb

Mentor: Amr Al-Azm

Wild Man: A Serious Past on a Serious Earth

Is it possible that early hominids interbred? To my surprise and many the answer is very likely yes. The more puzzling question though, is it possible that *Homo sapiens sapiens* is a hybrid animal? That is what I sought to find out.



6A KRI 150
Moderator: Janice Johnson

Anthony Cappel

Mentor: Amr Al-Azm

Qatar Fellowship 2014

My presentation is about my study trip to Qatar for research on the local economy. I present my in-country research on Qatar's economy and how it is going from an oil-based economy to a learning-based economy. I also present important factors of the US-Qatar relationship and why it is important to the future success of the United States.



Farhad Baloch

Mentor: Brian Richards

Collegiate Gaming

A discussion on the validity of competitive gaming as a sport and the introduction of collegiate gaming.



Thomas George

Mentor: Dan Johnson

Violent Sports & the Doctrine of Double Effect

An exploration of the moral permissibility of violent sports and an attempt to reconcile the necessary intention of harm that comes with these sports with the Doctrine of Double Effect.



6B KRI 153
Moderator: Theresa Jackson

Dafe Jessa, Saad Yamilkha, Rachel Staker, & Claudia Ndenge

Mentor: Thomas Carter

Evaluation of Adherence to Antibiotic Guidelines after Incision and Drainage of Abscess

This presentation is about working with Emergency Medicine residents on a research project to determine if protocol is followed when it comes to administering antibiotics for abscesses.



Kayla Drummond

Mentor: Beverly Ochieng-Sande

Allergies in the Schools

Court case rulings have created awareness and spearheaded campaigns to have certain allergies considered as debilitating, hence a need to have them covered under American Disabilities Act (ADA). Severe allergies and Celiac Disease now falls under ADA as a disability. This means public institutions must ensure that individuals with severe allergies and/or Celiac Disease have full access to and equal enjoyment of all facilities, program, goods and services. This is important information for those who work in colleges and schools. In this presentation I describe how ADA applies to those with food allergies, and how teachers can accommodate a student with food allergies. I also discuss the different types of allergies and why it is important for teachers to abide by the ADA regulations concerning allergies.



Stacia Akers

Mentor: Xiaodan Huang

To Vaccinate or Not To Vaccinate: The HPV Vaccination Controversy

Human Papilloma Virus is a sexually transmitted disease that has become an endemic. The virus has many detrimental affects on human lives and can ultimately end in death. A vaccine for this infection is available and can save many lives. All age appropriate males and females should receive the human papilloma virus vaccine because it is relatively safe, is very effective at preventing infection of the virus, and has benefits for both males and females. Studies reveal there are minimal side effects of the vaccine, statistical occurrences of HPV have considerably decreased, and disease related effects can be prevented in males. Consumers should be properly educated about the benefits of vaccination. With the vaccination of all age appropriate males and females much adversity can be prevented.



Cody Pollitt

Mentor: Isabel Graziani

History of War Photography

I am discussing the improvement of war photography from the beginning of the camera to the more present day images of war through the usage of digital images.



Mark Austin

Mentor: Isabel Graziani

The Value of Design: How Speculative Work and Crowdsourcing are Diminishing the Designer

There is an increasing trend in companies seeking creative development at minimal expense, in rapid turnaround time, and with little interaction with the designer. These clients generate environments which reward designers who offer underdeveloped graphics, produced in minimal time and effort. This contributes to the encompassing devaluation of graphic design. In order to reestablish a higher standard of graphic design, designers should work together in educating the public of the benefits of treating design as a process rather than a product.



Hannah Adkins

Mentor: Isabel Graziani

Everything Goes Away

This presentation is about a documentary photography project that deals with my struggle in dealing with my grandpa's diagnosis of Alzheimer's, and just how much it destroys not only the diagnosed, but the families that they eventually leave behind. I used photography to deal with the things that were happening, express my thoughts, and used it to feel normal again after my grandfather was gone.



Cora Essman & Travis Bailey

Mentor: Kurt Shoemaker

The Devil's Tea Table and Raven Rock: Possible Pleistocene Lake Tight Shoreline Remnants in Scioto County

The Devil's Tea Table and Raven Rock of Scioto County are geomorphic features that have been assumed to be the result of groundwater erosion. However, these features exist near ridge tops. These features lie at the 825 to 900 feet elevation level, which coincides with the shoreline elevation for Pleistocene Lake Tight. This suggests that these features are shoreline remnants of Pleistocene Lake Tight. The geomorphic expression and topographic location of the Devil's Tea Table suggest that it is a sea stack. The geomorphic expression of Raven Rock suggests that it is what is left of a wave-cut notch. The arch found adjacent to Raven Rock itself suggests shoreline erosion as well. These features are formed from wave-action erosion on resistant rock formations. The evidence suggests that instead of being groundwater erosion features, they are shoreline remnants of Pleistocene Lake Tight.



Audra Smith

Mentor: Jerry Ross

Physics Department Laboratory Development

Historically, the physics department has never had any lab manuals. After equipment testing and design implementation, the physics department was able to create its first lab manual for the algebra-based students. A manual for both calculus-based physics 1 and 2 classes is currently underway. We expect to have three lab manuals by fall 2015.

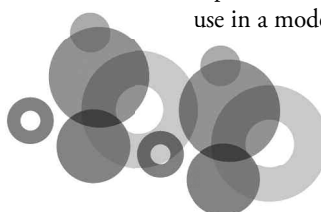


David Hurley

Mentor: Jerry Ross

Experimental Apparatus to Demonstrate the Photoelectric Effect

This presentation is about the testing and design of an experiment that demonstrates the photoelectric effect. For use in a modern physics course.



Featured Speaker

11 a.m. UNC, Sodexo Ballroom

A Solution to Fill the Gap Between Science and the Law Regarding Synthetic Cannabinoid Compounds

Lauren Waugh Ph.D.

Assistant Professor, Forensic Chemistry
Marshall University



*Beginning in 2006, “Spice” brand products, marketed as herbal incense, began to be sold on the internet and in “head” shops across Europe and the United States. These products consist of dried plant material coated with psychoactive substances known as synthetic cannabinoids. The most frequently identified synthetic cannabinoid compounds found during the analysis of these products were subsequently banned in several European countries in 2009. Following the ban, a second wave of products appeared on the illicit drug market containing different, “legal” compounds. As a result, several European countries have developed a ban to control synthetic cannabinoids based on generic chemical structures in an attempt to better regulate these compounds. The U.S. Government has followed a similar pattern to attempt to regulate synthetic cannabinoids. To place compounds into Schedule I of the Controlled Substances Act as a cannabimimetic agent, they must bind to and activate the appropriate receptor in the brain, which is the cannabinoid receptor type 1 (CB1 receptor). Unfortunately to date, the binding and functional studies needed to show that a compound meets the new scheduling requirements are lacking. It is **critical** that CB1 receptor binding affinities and activities be assessed for new synthetic cannabinoid compounds. The initial findings for a grant proposal, aimed to fulfill this gap in research, is also presented.*

Dr. Lauren Waugh received her B.S. in Biology with a chemistry minor from The Pennsylvania State University in 2000.

Spending two years as a research technician in the Pharmacology Dpt. at the University of Pittsburgh, she found a love for the field of toxicology. Waugh is a 2004 graduate of the

Marshall University Forensic Science Program and performed

her internship in the toxicology

laboratory at The West Virginia Office of the Chief Medical Examiner (WV OCME). In 2010, she completed a Ph.D. in Biomedical Sciences with an emphasis in toxicology. Prior to joining the faculty of Marshall’s Forensic Science Graduate Program, she returned to the WV OCME for over three years as a forensic toxicologist. She is a member of the American Academy of Forensic Sciences, The Society of Forensic Toxicologists, and The International Association of Forensic Toxicologists. She has also been appointed as a member of the pharmacology/toxicology subcommittee of the Advisory Committee for the Evaluation of Controlled Substance Analogs (ACECSA).

SSU’s Campus Cook-In

Noon – 2 p.m.

UNC, Micklethwaite Lobby & Sodexo Ballroom

Open to **all** members of the SSU community.

Awarding of Door Prizes

Noon

Note: The door prizes will be awarded during the Campus Cook-In in the UC Sodexo Ballroom. The winning ticket must be presented at the time of the drawing to collect the prize.

Table of Presentations – Wednesday

Time & Session	A	B	C	D	E
<p>Noon – 12:50 p.m.</p> <p>Session 1</p> <p>M=Moderator</p>	<p>Micucci, King, Kimbler, Comianos, & Latimer</p> <p>Factors Impacting Therapists Use of the Remotivation Process in Nursing Home Settings for Residents Living With Dementia</p> <p>M: Raber KRI 153</p>	<p>George, Hartshorn, & Knox</p> <p>Perspectives on Islam</p> <p>M: Meriwether UNC 215</p>	<p>Richter</p> <p>Today a reader, tomorrow a leader.</p> <p>Crabtree</p> <p>Action Research: Word Sorts and Phonics</p> <p>Hamer</p> <p>Phonemic Awareness and How it Affects Students' Literacy Development</p> <p>M: Liu KRI 155</p>	<p>Blair</p> <p>The Effects of Word Study Phonics Instruction</p> <p>Adams</p> <p>The Importance of Vocabulary Instruction in the Elementary Math Classroom</p> <p>Phipps</p> <p>Improving Fluency to Improve Comprehension</p> <p>M: Nyawalo KRI 253</p>	<p>Misner</p> <p>Building Fluency Among First Graders</p> <p>Eichenlaub</p> <p>Increasing Letter-Name Recognition in Kindergarten</p> <p>Jones</p> <p>Improving Handwriting Skills in Kindergarten Students</p> <p>M: Leedom KRI 154</p>
<p>1 – 1:50 p.m.</p> <p>Session 2</p> <p>M=Moderator</p>	<p>Easterling</p> <p>Avoiding Discrimination Following Short-Term Military Deployment</p> <p>Wyant</p> <p>Game On! The Benefits of Simulation-Based Learning In the Primary School Classroom</p> <p>Stevens</p> <p>Spread the Word to End the Word</p> <p>M: Lawson KRI 153</p>	<p>Newman</p> <p>Should the United States Keep or Abolish the Electoral College?</p> <p>Maynard</p> <p>The Perceived Deviance of 21st Century Western Neo-Pagans</p> <p>M: Powell KRI 150</p>	<p>Cornett & Palla</p> <p>Breeding Brainchildren: Inventively Ascending the Ivory-Tower of Academic Composition</p> <p>M: Carpathios KRI 155</p>	<p>Porter & Bennington</p> <p>The Nature of Electronic Coupling between Corannulene and Gold through Alkanethiolate Monolayers</p> <p>Trankina & Weber</p> <p>Porphyrins and Dye-Sensitized Solar Cells</p> <p>Taulbee</p> <p>Analyzing the Center of Mass of a Leaping Athlete</p> <p>M: Jones KRI 253</p>	
<p>2 – 2:50 p.m.</p> <p>Session 3</p> <p>M=Moderator</p>	<p>Fair</p> <p>Baseline Natural History of Lepidoptera-Plant Interactions and Diversity in the Barra Del Colorado Wildlife Refuge, Tortuguero, Costa Rica</p> <p>Martin</p> <p>Non-Invasive Documentation of Large Mammal Activity</p> <p>Little & Polsley</p> <p>Herpetological Diversity of Costa Rica</p> <p>M: Minter MAS 203</p>	<p>Gilley, Mynes, & Gundolf</p> <p>Accommodations and Modifications: What all teachers need to know</p> <p>M: Ochieng-Sande KRI 150</p>	<p>Toppins, Hart, Titus, Roffe, Bailey, & Akers</p> <p>Health Literacy</p> <p>M: Lattimer KRI 153</p>	<p>Dye</p> <p>Can Children Learn Dolch Words Through Play?</p> <p>Thompson</p> <p>Making Connections Between Objects and Number Symbols in Kindergarten</p> <p>Davis</p> <p>All Aboard The Letter ID Train</p> <p>M: Bailey KRI 253</p>	<p>Cochran & Schroeder</p> <p>All About that Math, All About that Math, No Calculators!</p> <p>M: Gravano KRI 154</p>
<p>3 – 3:50 p.m.</p> <p>Session 4</p> <p>M=Moderator</p>	<p>Smith</p> <p>The Chance That A Random Graph Is Connected</p> <p>Ross</p> <p>Story Problems, Story Answers: Investigating a Multi-Modal, Narrative Approach to Teaching Multiplication Facts</p> <p>M: Whitaker ATC 207</p>	<p>McGraw</p> <p>Action Research Study</p> <p>Wells</p> <p>Effective Strategies for Teaching Phonological Awareness</p> <p>Galbraith</p> <p>Action Research Early Childhood Phonemic Awareness</p> <p>M: Haas KRI 250</p>	<p>Walters</p> <p>The Blurred Lines of Gender at Anime Conventions</p> <p>Brown</p> <p>Bibliotherapeutic Approaches</p> <p>M: Linden KRI 255</p>	<p>Dever & Hammonds</p> <p>Expression of <i>Foxc1</i> in the Chicken Embryo</p> <p>Kelley</p> <p>Inactivating Genes in Whooping Cough</p> <p>Otworth</p> <p>Complementation of Bb2359 Mutation in <i>Bordetella bronchiseptica</i></p> <p>M: Inman KRI 253</p>	<p>Wiseman</p> <p>The Justice of Hell</p> <p>Norris</p> <p>Scientific Naturalism and Spiritualism</p> <p>Anderson</p> <p>Prostitution or Abortion? Or Both?</p> <p>M: Dunham KRI 154</p>
<p>4 – 5:30 p.m.</p> <p>LIB 204</p> <p>Trustees' Award</p> <p>Moderator: Janet Holtman</p>	<p>Molly Dargavell</p> <p>Spider Diversity in Downtown Portsmouth, Ohio</p> <p>Mentor: Sarah Minter</p>	<p>Jacklyn Hockenberry</p> <p>Community Survey</p> <p>Mentor: Marc Scott</p>	<p>Kasie Leightenheimer</p> <p>Inspire My Song: Faith, Gender, and Colonialism in the Poetry of Phillis Wheatley</p> <p>Mentor: Janet Holtman</p>	<p>Deanna Roberts</p> <p>Preventing Bullying of LGBT Students</p> <p>Mentor: Ann Linden</p>	
<p>4 – 4:50 p.m.</p> <p>UC Lobby</p> <p>Poster Session</p>	<p>All poster participants, both single and group, must be present.</p> <p>Poster clean up begins at 5:30 p.m.</p>	<p>Open to the public</p>			

Wednesday Sessions continued on back cover

Table of Presentations – Wednesday continued

6:30 – 7:20 p.m. UNC, Sodexo Ballroom	<p>Provost's Honors Dinner</p> <p>RSVP Only: Participants, Faculty Mentors, Session Moderators, Administration, and Invited Guests</p>
7:30 p.m. UNC, Sodexo Ballroom	<p>Keynote Dinner Speaker Priscila Santos</p> <p>Sex Trafficking in Destination Countries</p> <p>Open to the public</p>

Table of Presentations – Thursday

Time & Session	A	B	C	D	E
9 – 9:50 a.m. Session 5 M=Moderator	Rose, Brown, & Dargavell Culturally Significant Medicinal Plants of Costa Rica K. Lewis, K. Wright, & Frazier Marine Turtle Conservation in Costa Rica Alley Shorebirds and Mist Netting Surveys in Costa Rica M: Chaffin KRI 150	Evans Refinement of Cave Volume Calculations in Compass Broyles A New Look on an Ancient Lake Thompson Drainage History of Western Scioto County M: Larson KRI 153	Boling Introduction to Differential Equations Miller Teaching Place Value in Education Teeters The Foundation of the Exponential Function M: Whitaker UNC 215	Edwards Measuring the Properties of Exoplanets with a Small Camera Quillen Exoplanets: What are they and how can we find them? Brown & Griffith Mammals of Costa Rica M: Napper UNC 214	Arey Neanderthal Speech and Implications Radak Aztec Subsistence Farming Webb Wild Man: A Serious Past on a Serious Earth M: Vemmani KRI 154
10 – 10:50 a.m. Session 6 M=Moderator	Cappel Qatar Fellowship 2014 Baloch Collegiate Gaming George Violent Sports & the Doctrine of Double Effect M: Johnson KRI 150	Jessa, Yamilkha, Staker, & Ndenge Evaluation of Adherence to Antibiotic Guidelines after Incision and Drainage of Abscess Drummond Allergies in the Schools Akers To Vaccinate or Not To Vaccinate: The HPV Vaccination Controversy M: Jackson KRI 153	Pollitt History of War Photography Austin The Value of Design: How Speculative Work and Crowdsourcing are Diminishing the Designer Adkins Everything Goes Away M: Pauley UNC 215	Essman & Bailey The Devil's Tea Table and Raven Rock: Possible Pleistocene Lake Tight Shoreline Remnants in Scioto County Smith Physics Department Laboratory Development Hurley Experimental Apparatus to Demonstrate the Photoelectric Effect M: Finnen UNC 214	
11 – 11:50 a.m. University Center Sodexo Ballroom	<p>Featured Speaker Lauren Waugh, Ph.D.</p> <p>A Solution to Fill the Gap Between Science and the Law Regarding Synthetic Cannabinoid Compounds</p> <p>Open to the public</p>				
Noon – 2 p.m. University Center Lobby & Sodexo Ballroom	<p>SSU's Campus Cook-In</p> <p>Drawing for door prizes begins at 12:15 p.m. in the Sodexo Ballroom Must be present to win!!!</p>				