CELEBRATIONS of SCHOLARSHIP AND POSTER SYMPOSIUM

2016
During this celebratory event, students from across the University will present the results of their research, scholarship, and creative efforts to the Millikin community. Multiple concurrent sessions modeled on a scholarly conference format and organized independently by each department will run across the campus. In addition, the Annual Research Poster Symposium will highlight the scholarly work completed by students in regularly scheduled courses, seminars, independent studies, directed studies, internships, SURF, Leighty Scholar, Long-Vanderburg Scholar and James Millikin Scholar projects.

CELEBRATIONS OF SCHOLARSHIP SHOWCASES THE OUTSTANDING WORK OF MILLIKIN STUDENTS, PROVING THAT AN EDUCATION FOCUSED ON ENGAGING STUDENTS IN THE THEORY AND PRACTICE OF THEIR DISCIPLINES DEVELOPS ACCOMPLISHED SCHOLARS PREPARED FOR GRADUATE AND PROFESSIONAL STUDY OR CHALLENGING POSITIONS IN THE WORKPLACE.

Scholarship is the act of learning, the knowledge acquired through studies, and the culmination of academic achievement.
Performance
Learning lives at Millikin University!

Celebrations of Scholarship is a time when the fruits of countless hours of student work, study, practice, attention, energy, and striving are made public to recognize, instruct, enrich, and of course, celebrate. Millikin University is an extraordinary, vibrant community of thinkers and doers and all of that is beautifully reflected in the range and depth of the student work given a public forum during the Celebrations of Scholarship.
Arts & Sciences

excitement and fun of learning. See you at our Celebrations of Scholarship!

In the 2016 Celebrations of Scholarship you have the opportunity to hear and see the results of our students’ recent research and creative projects presented by students. The College of Arts & Sciences students have been at national and regional conferences sharing their outstanding research, exemplary models of social action, and top-quality college competitions such as MOOT Court and the Ethics Bowl. Now is your chance to enjoy these presentations and new work firsthand on our own campus.

I invite you to join in the 2016 Celebrations of Scholarship presentations, forums and exhibits. Join me as we recognize the outstanding achievements of our students. Join me in the celebration of the creativity in the College of Arts & Sciences. Join in the excitement and fun of learning. See you at our Celebrations of Scholarship!

See the Results of Our Students’ Research

The Effects of Misleading Information on Memory

SH320
11:30-11:45 AM

Presenter(s)
Rachel Sapp

Faculty Sponsor(s)
Dr. James St. James

Abstract/Description
I will be presenting my research involving the use of misleading information on people’s memory. The study involves participants recalling what they have just seen in video clips that I have showed them. With the use of misleading questions, I will alter their recollections of the events.

Behavioral Sciences

Human Services Capstone Internship
SH320
8:00-9:00 AM

Presenter(s)
Bryn Agnew, LaToya Beals, Danielle Green, James Moorehead, Morgan Oliver, Addie Smith, Ebonnee White, Deborah Williams, Latahia Wilson, Emily Cleveland, Steven Greathouse, Ben Locke, Ramey Sola, Beth Wild

Faculty Sponsor(s)
Kay White

Abstract/Description
Senior Human Service majors will discuss the experiences they have encountered at their internships throughout the community followed by question and answer segment.

Human Services Connection: Be Somebody’s Somebody
SH320
9:00-10:00 AM

Presenter(s)
Steven Greathouse, Randi Mehrmann, Addie Smith, Kaylee Smith

Faculty Sponsor(s)
Mary Garrison

Abstract/Description
Every year Human Service Connection goes on a performance learning trip. These trips allow students to gain experience with a specific, underrepresented population. This year, four students got the opportunity to travel to Los Angeles, California, to spend two days working with the homeless population. While there, students spent most of their time in and around Skid Row. This presentation will focus on their experiences in Los Angeles and the knowledge they gained while working with this population.

LEARNING OUTCOMES
1. Understanding Skid Row: What is it, how it was formed and why?
2. Issues that contribute to homelessness
3. Demographics that make up homelessness

Big Blue Backpacks
SH320
10:00-11:00 AM

Presenter(s)
Latasha Wilson, Bryn Agnew, Ashley Horan, Trista Smith, Jonathan Raedk

Faculty Sponsor(s)
Mary Garrison

Abstract/Description
With the focus on students in need at Dennis Lab School, Big Blue Backpacks aims to provide them with products that contribute to nutrition and wellness over the weekend in the academic school year. Through community contributions, volunteerism, and the drive and dedication of a Leadership Team, Big Blue Backpacks hopes to extend their network in the upcoming years to help children throughout the city of Decatur. This presentation serves to educate the University about the program, who and what this program serves, and how they can contribute and become involved.

The Art of Color Mixing: How you Perceive Color
SH320
11:00-11:30 AM

Presenter(s)
Natalie Wolfe

Faculty Sponsor(s)
Dr. James St. James

Abstract/Description
This presentation goes in depth about how you perceive color. It not only goes into the anatomy of the eye and the brain, but also delves into various studies that contribute to discoveries about how we perceive color.

Analysis of mucosal antibodies in red-eared slider turtles (Trachemys scripta elegans)
LT52001
8:00-8:30 AM

Presenter(s)
Hannah Bond

Faculty Sponsor(s)
Dr. Laura Zimmerman

Abstract/Description
In this study, the immune system of the Red-Eared Slider turtle was further investigated by analyzing antibodies found in mucosal secretions. Turtles from Rock Springs Conservation Area were collected via traps. Blood samples and mucosal swabs were then collected from each turtle. The samples were then analyzed using Enzyme-Linked Immunosorbent Assay (ELISA) to measure the total amount of antibodies in each sample. Results from this study will be used in future studies to compare how turtles tolerate invading parasites.

College of Arts & Sciences

Dr. Randy Brooks, Dean

College of Arts & Sciences

At Millikin University we expect and are continuously surprised how our students discover, create, and use newly acquired knowledge. This is true of first year students in University Studies classes as evident in today’s Freshman Focus Presentations AND this is true of ALL Millikin students at every stage of their academic development in their disciplines. Our students do not attend Millikin University to merely consume and regurgitate what professors know. Millikin students are here to be the makers, the innovators, the research collaborators and the creative users of new knowledge.

In the 2016 Celebrations of Scholarship you have the opportunity to hear and see the results of our students’ recent research and creative projects presented by students. The College of Arts & Sciences students have been at national and regional conferences sharing their outstanding research, exemplary models of social action, and top-quality college competitions such as MOOT Court and the Ethics Bowl. Now is your chance to enjoy these presentations and new work firsthand on our own campus.

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See the Results of Our Students’ Research

2016 CELEBRATIONS OF SCHOLARSHIP | COLLEGE OF ARTS & SCIENCES
Control of Citrobacter freundii with multiple bacteriophages to overcome rapid development of phage resistance

LTSC001 9:00-9:30 AM
Presenter(s): Emily Talbot
Faculty Sponsor(s): Dr. Jeffrey Hughes
Abstract/Description: The increase of antibiotic-resistant bacteria has fueled research for new methods to control bacterial growth. Bacteriophages—viruses of bacteria—have been studied as anti-bacterial agents for some time, but this work has been overshadowed by the success of antibiotics. The treatment effects of bacteriophage were examined against Citrobacter freundii. 25 phages were isolated from Decatur, IL city sewage and three were isolated for further study. Infecting Citrobacter cultures with one phage killed most cells, but combinations of two or three phage killed every host cell. This suggests that combinations of bacteriophage could potentially control Citrobacter infections without also producing phage resistance.

Innate immune and antitoxic costs of low temperatures in Green Tree Frogs and Cuban Tree Frogs (Osteopilus septentrionalis) and invasive tropical Cuban Tree Frogs

LTSC001 9:00-9:30 AM
Presenter(s): Kelsey Gay
Faculty Sponsor(s): Dr. Travis Wilcoxen
Abstract/Description: We studied physiological costs associated with low temperatures in Green Tree Frogs and Cuban Tree Frogs. 107 tree frog tadpoles were raised and, as young frogs, divided into a control group maintained at 20°C and an experimental group at 10°C. The experimen-
tal group was placed in the refrigerator for six to eight hours per day for 14 days. Both species were negatively affected by low tem-
peratures, with a decrease in bacterial killing ability and antioxidants on their skin. Cuban Tree Frogs spreading north may be slowed by low temperatures, but we do not expect significantly greater deaths.

Potential of cantharidin-containing liposome and gold nanoshell complexes to induce apoptosis

LTSC001 9:30-10:00 AM
Presenter(s): Aaron Fleming
Faculty Sponsor(s): Dr. Jennifer Schroeder
Abstract/Description: One concern with chemotherapy is that it can damage all cells within the body. One solution is to encapsulate an apopotic agent within a liposome to prevent healthy cell exposure, and tethering a hollow gold nanoshell as a guide to tumors. Heating these complexes will release cantharidin, an apoptotic agent. It is uncertain whether the nanoshells are harmful to cells. To examine potential toxicity, this project examined cell viability by exposing MCF-7 and MDA-MB-231 breast cancer cells to nanoshell samples, as well as nanoshell-liposome complexes and conducting MTT assays and real-time PCR.

Communication

Uncertainty Reduction Theory related to Trustworthiness

SH420 8:00-8:15 AM
Presenter(s): Braley Boga
Faculty Sponsor(s): Dr. Brandon Hesley
Abstract/Description: A brief poster session of research on environmental advocacy related to coal, fracking, dam building, airport expansion, and drought.

Communication-480

Capstone Presentations

SH420 8:15-9:30 AM
Presenter(s): Brandon Harvey, Samantha Jancov, Grace Manzanos, Manasseh Morris, Hannah Wheeler, Joanne Roberson, Jeffrey Broch, Benjamin Poumeline, Ethan Francis, Leann McHale, Alize Moorehead, Peter Smisek
Faculty Sponsor(s): Dr. Nancy Curtin
Abstract/Description: Senior Communication students present their capstone projects.

Research in Environmental Advocacy

SH420 9:30-10:00 AM
Faculty Sponsor(s): Dr. Tom Duncanson
Abstract/Description: This paper is a follow up to last year’s communication research regarding Ray Rice and the Baltimore Ravens’ PR failure and the NFL’s crisis communication failure. This paper addresses the two bleeding obvious categories of the NFL crises, image and injury. This article offers suggestions for repair to the specific crises and also chronicles the injury timeline of the NFL and the newly risen concussion crisis. This article also peeks at the future of the NFL due to the aforementioned crises and analyses Timothy Coombs’ Situational Crisis Communication Theory as well as Bruin’s Image Restoration Theory.

Communication-480

Capstone Presentations

SH420 10:30-11:45 AM
Presenter(s): Hunter Bailey, Sarah Daniels, Rachel Dohger, Makeneiz Finks, Alex Gyri-
on, Mikayla Shaw, Katie Sajzlovecia, Alyssa Viscardi, Hannah Woodard, Joshua Colvin, Ishiah Edwards
Faculty Sponsor(s): Dr. Nancy Curtin
Abstract/Description: Senior Communication students present their capstone projects.

A Broken League A Communication of the NFLs Crisis

SH420 10:00-10:30 AM
Presenter(s): Eric Shaffer
Faculty Sponsor(s): Dr. Brandon Hesley
Abstract/Description: This paper presents an analysis of the NFL’s crisis communication failure. This paper addresses the two bleeding obvious categories of the NFL crises, image and injury. The NFL faces significant greater deaths.

Studies in Argument

SH418 1:00-2:00 PM
Presenter(s): Dana Casper, Kayleigh Furtkner, Trevor Hooth, Dany Popoca
Faculty Sponsor(s): Dr. Tom Duncanson
Abstract/Description: There are arguments in the sense of conflict, and then there is the elevated sense of argument as reasoning with one another. These four presentations explore the ways people argue in obvious and un-obvious ways in public communication and popular culture.

English Student Publishing

SH 2ND FLOOR HALLWAY 1:00-2:00 PM
Presenter(s): Student writers, editors and designers of Millikin University publishing ventures will exhibit and discuss current publications and related business processes with visitors to the publications exhibit.

English

Writing Historical Fiction for Youth

SH317 3:00-3:30 PM
Presenter(s): Mikayla Mendenhall
Faculty Sponsor(s): Dr. Michael Cook
Abstract/Description: Elaborating from last year’s presentation on how children can learn through historical fiction, I will share my approach to writing my own piece of adolescent literature. This work aims to provide a clearer view of what life was like for children in the Midwest from 1949-1952. Young men leaving home to aid in the war effort is a well-known fact; however, few people think about what happened to the small communities they left behind. This piece will bring history to life for young readers while making history relevant and help-
ing readers to make meaningful connections to an important era in our history.

Biology (cont.)

that highlight various cultures including an-
eas such as food, dress and communication practices. Six different cultures will be repre-
sented. Come see, learn and experience what life is like in various cultures!

STUDIES IN ARGUMENT

SH418 1:00-2:00 PM

Presenter(s): Dana Casper, Kayleigh Furtkner, Trevor Hooth, Dany Popoca

Faculty Sponsor(s): Dr. Tom Duncanson

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Capstone Presentations

SH420 10:30-11:45 AM

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Faculty Sponsor(s): Dr. Nancy Curtin

Abstract/Description: Senior Communication students present their capstone projects.

Military Medal

SH317 2:00-3:00 PM

Presenter(s): Amanda Pippitt, Michael Cook, Rachel Bich, Sam Miller, Mikayla Mendenhall, Ryan Morgan, Matthew Greno

Faculty Sponsor(s): Dr. Michael Cook

Abstract/Description: This year, a group of Millikin Students and Faculty established the Millikin Medal for Excellence in Young Adult Literature. Using funding from a Millikin Performance Learning Enhancement Grant (PLIG), our project brought together future educators, writers, historians, librarians and parents to establish and facilitate a sustainable literary award. This presentation will cover how the group was set up, how funding was secured, how a short list was chosen, how criteria was agreed upon, and ultimately how the win-
ning life was chosen. Valuable experiences ranging from critical thinking to collabora-
tion and exposure to diverse authors and novelists will also be discussed.

Fiction for Youth

SH 2ND FLOOR HALLWAY 1:00-2:00 PM

Presenter(s): Student editors and leaders of Collage, The Decaturian, Blue Satellite, Millikin Premiers Writers, and Bronze Man Books

Faculty Sponsor(s): Dr. Stephen Frech

Abstract/Description: Elaborating from last years presentation on how children can learn through historical fiction, I will share my approach to writing my own piece of adolescent literature. This work aims to provide a clearer view of what life was like for children in the Midwest from 1949-1952. Young men leaving home to aid in the war effort is a well-known fact; however, few people think about what happened to the small communities they left behind. This piece will bring history to life for young readers while making history relevant and help-
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English

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Hemingway's Lady Brett
Ashley: A New Approach
SH412
1:30-2:00 PM
Presenter(s):
Taylor Hagendorf
Faculty Sponsor(s):
Dr. Dan Monroe
Abstract/Description:
In this research paper, I closely examine Hemingway's complex character, Lady Brett Ashley, in the novel the Sun Also Rises. I argue that a new approach to understanding her character is necessary in order to fully appreciate the dynamic process through which Hemingway created her. I believe that by further examining her, we are better able to understand Hemingway as a person and his multifaceted perspective of women, gender roles, and sexuality.

Hemingway's Atheism
SH412
2:00-2:30 PM
Presenter(s):
Taylor Hagendorf, Austin Jesse
Faculty Sponsor(s):
Dr. Dan Monroe
Abstract/Description:
Ernest Hemingway was raised in a religious household, but his fiction suggests a certain agnosticism, even atheism. The paper examines the evidence in Hemingway's work for his atheism.

Fandoms Influence on the 1960s
SH412
2:30-3:00 PM
Presenter(s):
Emily Wunnenberg
Faculty Sponsor(s):
Dr. Dan Monroe
Abstract/Description:
Looking through the 1960s, certain fandoms rose in American culture. The paper explores the physical and psychological effects of fans on the long stories.
Political Science (cont.)

The Effects of Political Culture in France and the United States on Immigration Policy
SH409
2:30-3:00 PM
Presenter(s):
Kathleen Wrigley
Faculty Sponsor(s):
Amber Lusvardi
Abstract/Description:
Amber Lusvardi

Abstract/Description:
Though many report that enrollment in undergraduate Political Science programs is decreasing, many institutions defy this trend. By looking at data from each state, it becomes apparent that enrollment trends sought to be analyzed on a state or regional level as opposed to a national scale. When analyzed on this regional level, a correlation between political culture and enrollment can be observed. By reviewing specific cases and trends by political culture, the author shows the enrollment trends in each political culture and therefore which cultures seem to demonstrate higher interest in Political Science. This information revolutionizes efforts to recruit students.

Sociology Capstone II Research Projects
SH412
9:00-10:00 AM
Presenter(s):
Megan Haley, Iman Ewueojie, Felice Cobb, Seth Thraneburg, Doug Easter, Lelthy Woffle
Faculty Sponsor(s):
Dr. Kenneth Laundra
Abstract/Description:
Senior students in the sociology capstone course will present on original research conducted over this past semester. Includes social science research on representations of black men in the media, attitudes toward marijuana legalization in Illinois, narcissistic effects of social media, and how food affects mood.

Sociology Capstone III Research Projects
SH412
10:00-11:00 AM
Presenter(s):
Megan Haley, Iman Ewueojie, Lelthy Woffle, Doug Easter, Felice Cobb, Seth Thraneburg
Faculty Sponsor(s):
Dr. Kenneth Laundra
Abstract/Description:
Senior students in the sociology capstone course will present on original research conducted over this past semester. Includes social science research on representations of black men in the media, attitudes toward marijuana legalization in Illinois, narcissistic effects of social media, and how food affects mood.

Millikin Premier Writers (MPW)
SH432
2:00-3:00 PM
Presenter(s):
Dr. Carmella Braniger, Emma Hoyer, Katherine Viviano, Sydney Doherty, Elise Schnabel
Faculty Sponsor(s):
Dr. Carmella Braniger

Millikin's Premier Writers (MPW) gathers outstanding samples of first-year student writing at Millikin University for publication and release into the academic community. The program seeks to foster an environment where students can do the disciplines, meaning peers can motivate peers to create high-quality work, improve writing and editing skills, and inspire student leadership. Recently, the program was awarded a two-year PLEG (Performance Learning Enhancement Grant), in recognition and support of the organization's contribution to university-wide performance learning.

Come to our 2016 COS panel to hear about MPW's new developments, celebrate its third year of publication, and hear from a panel of featured MPW writers and editors, who will discuss their experiences as first-year writers and second-year revisers.
A Look Inside the Process

Often, the only public presentation of an artist’s work is the finished product. Audiences typically don’t have the opportunity to see the applications of theory and practice taking place in the process of the creation of art. The celebrations of scholarship in the College of Fine Arts allow us to look inside the process, which involves analysis, research, development of structural and conceptual frameworks, and critically informed aesthetic judgment. This is the scholarship that informs and is embodied in a work of art.

We invite you to explore the process of creation with our students, and hope that the insights offered will allow you to enjoy the finished products of art making even more fully. Who knows, you may enjoy seeing the process as much, if not more, than the product!

College of Fine Arts

A Look Inside the Process

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of 2015 under a SURF Grant in order to create videos intended to be used as supplemental tutorials for dance courses at Millikin and beyond. Also, a group of 16 students attended the American College Dance Association’s East-Central Regional Conference. Details will be presented and discussed from both of these exciting new experiences for the dance program at Millikin.

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**Sweetest Devotion**  
KAEUPER HALL  
2:45-3:00 PM

**Presenter(s):** Brittni Johansen; **Performers:** Lexi Johnson, Rachel Humphrey  
**Faculty Sponsor(s):** Angela Miller

**Abstract/Description:** This is about a 4-5min dance piece. Two dancers will dance to the song ‘Sweetest Devotion’ by Adele.

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**Shakespeare Corrected**  
KAEUPER HALL  
3:00-3:30 PM

**Presenter(s):** Janine Norman, Dana Anderson, Audrey Allen  
**Faculty Sponsor(s):** Alex Miller

**Abstract/Description:** Millikin graduate Dana Anderson, and current students Janine Norman and Audrey Allen will speak about their transformative experience working with Shakespeare Corrected. During the course of 4 months, these young women have volunteered an average of 15 hours a week directly working with the offenders at the Decatur Correctional Center. The process resulted in a fully mounted production of Shakespeare’s Much Ado About Nothing. Dana, Janine, and Audrey will read excerpts from personal journals created by women of Decatur Correctional as well as show excerpts from this year’s production.

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**Bilingual Public Reading: La Moneda / The Different Lives of Men**  
ALBERT TAYLOR THEATRE  
10:00-11:00 AM

**Presenter(s):** Daniel Mendoza  
**Faculty Sponsor(s):** Dr. Tom Robson; Dr. Eduardo Cabrera

**Abstract/Description:** Students Daniel Mendoza will present public readings of his play ‘La Moneda’ / ‘The Different Lives of Men’. The play will be read once in English and once in Spanish, and there will be opportunities for discussion of the play in both languages.

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**The Preparation Behind the Practice**  
ALBERT TAYLOR THEATRE  
11:00-12:00 PM

**Presenter(s):** Ali Atkenson, Heather Banks, Anna Brockman, Catherine Cable-Barber, Mia Fowler, Alyssa Soto  
**Faculty Sponsor(s):** Lori Bales

**Abstract/Description:** Students from Acting for the Musical Stage will present research relevant to their performance scenes, highlighting specific information that informed approach and choices and then they will present their scenes.

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**Research in Dance: SURF and ACDA Conference Details**  
KAEUPER HALL  
2:00-2:45 PM

**Presenter(s):** Patricia Bales, Catherine Cable-Barber, Emilio Canals, Cassidy Burroughs, Stay Davis, Kella Hamed Ramon, Darinus Lee, Ben Locke, Theresa O’Shaunnessy, Maurice Randall, Fabrizio Seraphin, McKena Silva, Ariana Shelton, Josh Miller, Molly Will  
**Faculty Sponsor(s):** Angela Miller

**Abstract/Description:** Ariana Shelton worked with Assistant Professor, Angela Miller during the summer
College of Professional Studies

Engage in the Practical Application of Skills

In the College of Professional Studies, we value the development of professionals who engage in active learning while acquiring knowledge. We believe there is no better example of active learning than an individual's engagement in scholarly endeavors. Scholarly engagement improves the body of knowledge of the professional. Scholarly engagement advances the application of theoretical concepts to practiced performance. Scholarly engagement supports the development of partnerships within communities. Scholarly engagement shapes the future of the professions in which we practice.

We celebrate scholarly engagement when Exercise Science and Sport students investigate concussive sports injuries and use that knowledge to improve the overall health of athletes in rural communities.

We celebrate scholarly engagement when School of Education students complete comprehensive research based upon observations of students in their learning environments.

We celebrate scholarly engagement when undergraduate School of Nursing students use translational research to improve best practice in the clinical arenas.

We celebrate scholarly engagement when the School of Nursing graduate students design final projects which pair inquiry and evidence-based practice with focused residencies to improve patient outcomes through quality improvement initiatives.

Global Education: How Are Other Countries Improving Their PISA Scores And What Can The U.S. Learn From Their Reforms?

SH303
8:00-9:00 AM

Presenter(s):
Whitney Baker, Alyssa Becker, Rebecca Roland, Laura Brenneman, Megan Grady, Summer Hemphill, Emma Hoyer, Lauren Rhodes, Mary Rossi, Cara Wilson

Faculty Sponsor(s):
Dr. Denise Love

Abstract/Description:
Our presentation examines the reforms that countries such as Finland, Germany, South Korea, Poland, Ireland, Australia, and China have enacted over the last decade to improve their international standings in educational outcomes. The rankings of these countries have improved over the last decade while the United States’ ranking has declined. The purpose of our research was to determine if there are reforms that other countries are making that might help the U.S. reform the effectiveness of its education system.

What You See Isn’t Always What You Get: Important Findings from Case Studies of Kids, K-12 and Secondary

SH303
9:00-10:00 AM

Presenter(s):
Miranda Ryan, Andrew Gaust, Alaina Frederick, Ryan Wood, Kendall Kot, Ashley Wright

Faculty Sponsor(s):
Dr. Georgette Page

Abstract/Description:
Our presentation examines the reforms that countries such as Finland, Germany, South Korea, Poland, Ireland, Australia, and China have enacted over the last decade to improve their international standings in educational outcomes. The rankings of these countries have improved over the last decade while the United States’ ranking has declined. The purpose of our research was to determine if there are reforms that other countries are making that might help the U.S. reform the effectiveness of its education system.

Bilingual Education - An Exploration of Issues

SH303
1:00-2:00 PM

Presenter(s):
Trey Pogue, Jacqulyn Raet, Chelsea Davis, Stacey Burnett, Amanda McNerney

Faculty Advisor(s):
Dr. Joyce Bezdicek

Abstract/Description:
Students in this session will be presenting their Issue Papers from ED 209/IN 251 – Foundations of Bilingual Education. In the course we study about immigrants and refugees, the history of bilingual education within the sociopolitical context of the United States, and program models for serving English language learners (ELLs) in U.S. schools. At the end of the course students complete an Issue Paper, where they research a topic that we’ve discussed in the course. The topics students will be presenting include issues of segregation, cultural identity, crossing the border, and challenges faced in coming to the United States.
Exercise Science & Sport

How dance attire and mirrors affect a dancer’s skill development and body image
SH303 11:30-12:00 PM
Presenter(s):
Sarah Bradley, Meagan Booth
Faculty Sponsor(s):
Dr. Angela Doehring
Abstract/Description:
I am going to summarize my study that I approved by the IRB council, “Evaluating the use of the mirror and attire in adult level ballet and jazz dancers to better understand how it influences body image and learning retention during dance class.” I observed a ballet and jazz dance class offered from the dance department and I counted how many times the women and men adjusted their clothing, stared at themselves in the mirror while not learning dance material, and adjusted their hair both when they were forced to wear typical dance attire, leotard and tights, versus clothing of their own choice. I also counted in minutes how long it took them to learn choreography with a mirror and without a mirror. Finally, concluding my study, I gave them a survey in regards to their body image and self esteem in dance clothes versus clothing of their own choice. My presentation will be about my findings from this study, what current teachers in the dance world are doing to minimize the negative effects of mirrors and revealing clothing, and my own thoughts on the matter. My fellow classmate will then give a brief overview of how this disruption in body image can influence the development of disordered eating among dancers.

Nursing

Applying Benner’s Novice to Expert Theory in the Undergraduate Evidence Based Practice Curriculum
LTSC108 10:30-11:00 AM
Presenter(s):
Taylor Dixon
Faculty Sponsor(s):
Dr. Sheryl Samuelson
Abstract/Description:
The purpose of this evidence-based project was to develop a baccalaureate-level curricular schema integrating the Benner practice levels as guides to improve evidence-based student learning and development while offering specific implications for teaching and curriculum improvement.
Entrepreneurship

2016 Business Creation Competition
SCO207
8:00 AM-12:00 PM
Presenter(s): TBD
Facility Sponsor(s): Andy Heise
Abstract/Description: The 2016 Business Creation Competition showcases student ideas and concepts for a business. Students compete individually or as a team for cash prizes up to $3,000 and seed funding based on the quality, creativity, and innovation of their business. Students prepare a business model and presentation for a panel of four judges made up of outside business professionals and entrepreneurs. Each judge will have $750 they can choose to invest in any way they see fit. This means they could invest all $750 in one business, divide it among several businesses, or choose not to invest their money at all.

2016 Freshman Business Plan Competition
SCO207
1:00-3:00 PM
Presenter(s): Slices
Michael Barber, Madi Gulla, Mike Neal, Kyren Shell-Moore
Brow Boutique
Peyton Burton, Grace Ganley, Brent Mauck, Emilio Tejada
Logo Smash
Ryan Dobey, Casson Copeland, Matthew Gnadinger
Millicab
Jacob Edensrod, Deja Hawthorne, Maxine Kol, Greg Swannepoel, Adia Taylor
Faculty Sponsor(s): Dr. Mark Munoz, Dr. Tony Liberatore
Abstract/Description: Select teams of freshmen from the Fall 2015 BU100 Business Creation course present the business plans they created and compete for up to $4,000 in international immersion scholarships.

MU Performance Consulting: A Student-Run Venture
SCO208
3:00-3:30 PM
Presenter(s): Hannah Haak, Brandon Kersten, Taylor Sanders, Court Tulak, Taylor Wilson
Faculty Sponsor(s): RJ Podeschi
Abstract/Description: Millikin University Performance Consulting (MUPC) focuses on providing a platform for students to develop on a personal and professional level, and ensures that the technical work the organization provides adds value to the surrounding community. This presentation will discuss: what MUPC is and how it functions, how it turned into a student-run venture, how we focus on sustainability, and what we see for the future of MUPC. Students of any major who are interested in IT or Project Management should attend.

Disney Marketing Trip Reflection
SCO208
3:30-3:45 PM
Presenter(s): Paige Ehrat, Sarah Smolenak, Emilee Gerk
Faculty Sponsor(s): Dr. Carrie Trimble, RJ Podeschi
Abstract/Description: Our presentation is a reflection on our 2016 Disney Marketing trip. On this trip we planned a vacation for another family and our goal was to make it match the family’s wants. We also experienced many backstage tours and learned about their new technology.

Bringing Innovation to Life

In Tabor, students engage in scholarship not only through research, but through putting their ideas and discoveries into practice. They may build a new venture or solve a complex business problem for a client. In Tabor, we believe competing will give you the confidence you need to succeed. See the action today as students from a variety of majors across campus compete for cash prizes in the Business Creation Competition where their “pitches” will be judged by entrepreneurs and venture capitalists. Or, watch our newest Millikin students compete for prizes in the Freshmen Business Plan Competition. If you can’t fit in either of these events, perhaps you would like to see what students learned about brand loyalty, technology, and Mickey Mouse during an immersion course at Disney World. Whatever you choose, I think you will be impressed by the capabilities of our Millikin students. This is a fantastic way to lift up and celebrate their good works. Please join Tabor for a picnic on the quad at 3:30 PM where we will announce awards.
The Millikin University English Language Center (ELC) is a 4-level program that prepares international students for undergraduate degree programs at Millikin University or improves the English language proficiencies of students who intend to return to their home countries after one or two semesters. The ELC curriculum combines general English and academic English skills focus with project-based learning, performance learning and community outreach.
The Long-Vanderburg Scholars Program honors the first two African American graduates of Millikin University, Fred Long and Marian Vanderburg. In 2010, under the leadership of 1975 Millikin University alumnus and Caterpillar Inc. CEO, Doug Oberhelman, the program received a generous gift from Caterpillar Inc. and was renamed the Long-Vanderburg Caterpillar Scholars Program.

The Long-Vanderburg Scholars Program is an honors program that provides historically underrepresented students and those committed to social justice and diversity & inclusion, with the opportunity to uphold and contribute to the legacy of academic excellence, leadership, and service at Millikin University. Scholastic Achievement, Civic Responsibility, Leadership, and Educational Advancement are emphasized through a four-year program offering both curricular and co-curricular activities.

During Celebrations of Scholarship, Freshman through Senior Long-Vanderburg Scholars will present original research that explores their position in society, their ever-growing leadership models, their professional creeds, and also their development as citizen-scholars. Join them as they showcase what it means to be Long-Vanderburg Scholars at Millikin University!

**Long-Vanderburg Scholars Program**

**Personal Leadership Philosophy/Model**

**SH310**

8:00-12:00 PM

**Presenters(s):**

Heather Banks, Rebecca Fonseca, Phillip Ganley, Courtney Gingerm, Shuneka Hawkins, Summer Hempfih, Jocelyn Hernandez, Halye Hogenkamp, Michael Lamborn, Darianne Mahin, Timothy McElroy, Ryan Morgan, Kertya Taylor, Anastasia Tomas

**Faculty Sponsor(s):**

Kimberly Mungaray

**Abstract/Description:**

Each student will prepare a creative video demonstrating their personal leadership philosophy and field questions (if they are able to be there as some students will be presenting other scholarship on the day or are studying abroad).

**Trail Mix: The Path I Walk**

**SH302**

8:30-11:30 AM

**Presenters(s):**

Joshua Miller, Megan Shukers, Alec Reyes, Lexi Leggs, Maddi Boeglin, Kyle Brown, Brian David, Brettney Freeman, Alan Hernandez, Lauren Jones, Mikaila Powell, Shelly Ulrich

**Faculty Sponsor(s):**

Maire Fox

**Abstract/Description:**

Trail Mix! It’s not about the snack: Come and partake in our experience as we share what it’s like to walk our walk, talk our talk, and live our lives. Like the snack, we come in all assorted flavors and mix of ingredients. We provide the world with opportunity to expand and grow. We nourish our communities and give strength to those we love. And, we provide sustenance to all who enter our lives. Trail Mix: The Path I Walk. It’s about our journey to where we are now.

**LV Presentations: Year One**

**SH310**

1:00-4:00 PM

**Presenters(s):**

Kasia Ball, Dakari Bass, Emilio Gamal, Alicia Cunningham, Gina Moriarty, Jordan Mosley, Cody Rodas, Justyn Stanford, Adia Taylor, Maya Van Lysbettens, Noah Villarreal, Raleigh Williams, Keylos Williams, Jaliyah Windham

**Faculty Sponsor(s):**

Vicky Gilbert

**Abstract/Description:**

The First-Year LV students will present their individual analyses of selected representations of identity in popular culture, what those representations could mean in light of social justice and personal understanding, and incorporate concepts of identity and self-reflection as LV scholars in regard to leadership, historical understanding of diversity and culture, and extension of social justice.
Honors Freshman Focus Panels

Millikin’s Honors Program introduces students to college level scholarship, research, critical thinking, and writing. Freshman Honors seminars involve intense discussion and require active participation. Honors Scholars are chosen based on their academic achievements, involvement in high school, and an interview/selection process. During Celebrations of Scholarship, freshmen present research from their first year as an Honors student. Join them as they celebrate their first successful year at the University!
Controversial Issue Topic
SH317
9:00-10:00 AM
Presenter(s):
Marissa Drake
Faculty Sponsor(s):
Dr. Michael O'Conner

Controversial Issue Topic
SH317
9:00-10:00 AM
Presenter(s):
Colby Jones
Faculty Sponsor(s):
Dr. Michael O'Conner

Controversial Issue Topic
SH315
9:00-10:00 AM
Presenter(s):
Maya Hoyt
Faculty Sponsor(s):
Dr. Michael O'Conner

Horror Writing
Project Presentation
SH327
9:00-10:00 AM
Presenter(s):
Allison Hodges
Faculty Sponsor(s):
Judith Crowe

Science Fiction Presentation
SH319
9:00-10:00 AM
Presenter(s):
Allyson Inebrigtson
Faculty Sponsor(s):
Dr. Michael George

Controversial Issue Topic
SH315
9:00-10:00 AM
Presenter(s):
Sydney McRae
Faculty Sponsor(s):
Judith Crowe

Science Fiction Presentation
SH319
9:00-10:00 AM
Presenter(s):
Colby Jones
Faculty Sponsor(s):
Dr. Michael O'Conner

Controversial Issue Topic
SH315
9:00-10:00 AM
Presenter(s):
Andrew Moody
Faculty Sponsor(s):
Dr. Michael George
Controversial Issue Topic
SH317
10:00-11:00 AM
Presenter(s):
Jacob Hamilton
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH318
10:00-11:00 AM
Presenter(s):
Shannon Netemeyer
Faculty Sponsor(s):
Dr. Michael O’Conner

Science Fiction Presentation
SH318
10:00-11:00 AM
Presenter(s):
Joesph Wachtel
Faculty Sponsor(s):
Dr. Michael George

Science Fiction Presentation
SH319
10:00-11:00 AM
Presenter(s):
Ashlei Whitney
Faculty Sponsor(s):
Dr. Michael O’Conner

Controversial Issue Topic
SH319
10:00-11:00 AM
Presenter(s):
Quinn Nguyen
Faculty Sponsor(s):
Dr. Michael George

Horror Writing
Project Presentation
SH319
10:00-11:00 AM
Presenter(s):
Dakota Rosles
Faculty Sponsor(s):
Dr. Michael George

Science Fiction Presentation
SH319
10:00-11:00 AM
Presenter(s):
Michael Williams
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH319
10:00-11:00 AM
Presenter(s):
McKenna Silva
Faculty Sponsor(s):
Dr. Michael O’Conner

Science Fiction Presentation
SH319
10:00-11:00 AM
Presenter(s):
Kymbry Wronosiek
Faculty Sponsor(s):
Dr. Michael O’Conner

Controversial Issue Topic
SH319
10:00-11:00 AM
Presenter(s):
Maddi Delano
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH319
10:00-11:00 AM
Presenter(s):
Katelyn Poke
Faculty Sponsor(s):
Dr. Michael O’Conner

Science Fiction Presentation
SH319
10:00-11:00 AM
Presenter(s):
Emilio Tojado
Faculty Sponsor(s):
Dr. Michael O’Conner

Controversial Issue Topic
SH319
10:00-11:00 AM
Presenter(s):
Brittany Krohn
Faculty Sponsor(s):
Dr. Michael O’Conner

Language and Science Fiction
SH319
11:00-12:00 PM
Presenter(s):
Sarah Behery
Faculty Sponsor(s):
Dr. Michael George

Controversial Issue Topic
SH319
11:00-12:00 PM
Presenter(s):
Kassandra Bergmann
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH327
11:00-12:00 PM
Presenter(s):
Julissa Leal
Faculty Sponsor(s):
Dr. Michael George

Science Fiction Presentation
SH319
11:00-12:00 PM
Presenter(s):
Paige Woolard
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH318
11:00-12:00 PM
Presenter(s):
Alexsenia Ratia
Faculty Sponsor(s):
Dr. Michael George

Horror Writing
Project Presentation
SH318
11:00-12:00 PM
Presenter(s):
Caroline Lodovisi
Faculty Sponsor(s):
Dr. Michael George

Science Fiction Presentation
SH319
11:00-12:00 PM
Presenter(s):
Sarah Behery
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH327
11:00-12:00 PM
Presenter(s):
Madison Merz
Faculty Sponsor(s):
Dr. Michael O’Conner

Horror Writing
Project Presentation
SH327
11:00-12:00 PM
Presenter(s):
Matthew Nanefski
Faculty Sponsor(s):
Dr. Michael O’Conner

Controversial Issue Topic
SH319
11:00-12:00 PM
Presenter(s):
Matthew Nanefski
Faculty Sponsor(s):
Dr. Michael O’Conner

Controversial Issue Topic
SH319
11:00-12:00 PM
Presenter(s):
Sarah Behery
Faculty Sponsor(s):
Dr. Michael George
23rd Annual Poster Symposium 1:00-3:00 PM

The 23rd Annual Millikin University Celebrations of Scholarship Poster Symposium

In Honor of Judith and Dr. G. Richard Locke

Begun in 1993 with funding from the Office of the Provost, the Poster Symposium is now in its 23rd year. The Poster Symposium provides students with an opportunity to share their scholarly work, and in the process increase campus and community awareness of the variety of scholarly activities conducted by students and faculty each and every year. Further, the symposium is an excellent means of introducing and encouraging students to explore and participate in research opportunities at Millikin University.

Judith “Judy” and the late G. Richard “Dick” Locke, M.D. began providing financial support in 1994 for the Poster Symposium prizes awarded to the top rated student presentations. Many bright, talented students have benefited from their generosity. Judy Locke continues to support undergraduate research at Millikin University through not only treasure but also of her time. Judy returns to campus annually to serve as a Poster Symposium judge and has greatly enjoyed the time she spends with students and faculty.

In celebration of the Locke’s unwavering support of Millikin, the University seeks to establish an endowed fund naming The Judith and G. Richard Locke Undergraduate Research Poster Awards in perpetuity. Judy Locke has provided the seed money to establish the fund and a local family foundation has pledged to provide the award funding while the University raises the remaining funds needed. To ensure the continued excellence and growth of the COS Poster Symposium, Millikin wishes to create new award opportunities for group scholarship presentations and specific academic areas. Group presentations require an increasingly important skill set that Millikin students must strengthen during their time on campus in order to achieve professional success.

01. PREVALENCE OF BLOOD PARASITES IN RELATION TO HETEROPHYLOCYTE RATIO AND ASYMMETRY IN BIRDS OF PREY ADMITTED TO THE ILLINOIS RAPTOR CENTER

Biology

Authors: Jessica M. Brininger, Dr. Travis E. Wilkerson, Jane Seitz, & Jacques Nuzzo

Millikin University & Illinois Raptor Center

Abstract/Description

Vertebrates are a common host of Haemosporidia, an Order of intracellular parasites comprised of many species. Blood parasites such as Plasmodium spp., Haemoproteus spp., and Leucocytozoon spp. are often tolerated by many bird species, but severe parasitism can indicate poor immune quality of host birds. Birds may be more susceptible to parasites when they are facing stressors in their environment. One way to determine suboptimal environmental conditions during development, which may then lead to an increased risk of infection, is to observe fluctuating asymmetry. As for immune defense, leucocytes are an essential component of immunity and certain leuco- cyte differentials can be indicative of stress. Specifically, the heterophil:lymphocyte ratio (H/L ratio) is a valuable measure of chronic stress. We examined blood smears from three different raptor species, Great Horned Owl (Bubo virginianus), Barred Owl (Strix varia), and Red-tailed Hawk (Buteo jamaicensis). We found a significant association between Haemosporinae prevalence and species. We then compared parasite prevalence to H/L ratio and asymmetry score. H/L ratio did not significantly influence the likelihood of infection with any of the parasites. However, we found that asymmetry significantly influenced the likelihood of infection with Haemosporinae and Leucocytozoon but not Plasmodium. Overall, our findings suggest that stress during development may have long-lasting effects on susceptibility to parasitic infection in birds of prey.

02. A COMPARISON OF ADMISSION AND POST-REHABILITATION HEMATOLOGICAL METRICS FOR SIX SPECIES OF RAPTORS AT THE ILLINOIS RAPTOR CENTER

Biology

Authors: Morgan Kunchelose, Dr. Travis Wilkerson, Jane Seitz & Jacques Nuzzo

Millikin University & Illinois Raptor Center

Abstract/Description

Wild birds are subject to naturally occurring and human-caused incidents that impact their health. One group of wild birds that are often the focus of wildlife rehabilitation efforts are birds of prey, or raptors. We are interested in the circumstances that led to admittance of a raptor at the Illinois Raptor Center (IRC) and their overall health state upon admission to the center and prior to release. We examined hematological metrics including hemocrit, protein levels, calcium levels, and antioxidant capacity. We hypothesized that these hematological metrics will differ in samples taken from birds upon admission to the IRC compared to release. Further, we hypothesized that baseline values from birds at release would be indicative of normal, healthy wild raptors. We concluded that calcium and hemocrit are good indicators of the overall health of raptors prior to release, though several steps have been taken toward solving this issue. Hepatic function from the food raptors consume is potentially a much greater conservation issue than previously indicated. Lead has negative neurological and hematological impacts on birds. We collected blood samples from raptors admitted to the Illinois Raptor Center in Decatur, Illinois for rehabilitation. From a blood sample, we determined lead content with an ESA Leadcare II lead analyzer. We tested if lead toxicity appears at a frequency in any species at a rate that differs from random. We also used spatial autocorrelation analyses to determine if birds that were positive for lead were associated with specific hunting regions and matched the results of the spatial autocorrelation analyses with public-hunting data found through the Illinois Department of Natural Resources. We have found that lead toxicity appears among species at a rate that differs from random. We have also found that there was no significant association between hunting region 3 and 4, despite substantial differences in hunting ac- tivity, and the ratio of those with lead levels greater than 3.3 g/ml to those with lead lev- els less than 3.3 g/ml. Overall, our work will help better understand the sources of lead in multiple species of raptors, including these non-scavenger species.

03. QUANTIFICATION OF LEAD IN CENTRAL ILLINOIS BIRDS OF PREY

Biology

Authors: Shelby Cheko, Dr. Travis Wilkerson, Jane Seitz, Jacques Nuzzo

Millikin University & Illinois Raptor Center

Abstract/Description

Some studies of raptors across the United States have revealed lead poisoning in birds of prey caused by human activities. Although several steps have been taken toward solving this issue, the ingestion of lead from the food raptors consume is potentially a much greater conservation issue than previously indicated. Lead has negative neurological and hematological impacts on birds. We collected blood samples from raptors admitted to the Illinois Raptor Center in Decatur, Illinois for rehabilitation. From a blood sample, we determined lead content with an ESA Leadcare II lead analyzer. We tested if lead toxicity appears at a frequency in any species at a rate that differs from random. We also used spatial autocorrelation analyses to determine if birds that were positive for lead were associated with specific hunting regions and matched the results of the spatial autocorrelation analyses with public hunting data found through the Illinois Department of Natural Resources. We have found that lead toxicity appears among species at a rate that differs from random. We have also found that there was no significant association between hunting region 3 and 4, despite substantial differences in hunting activity, and the ratio of those with lead levels greater than 3.3 g/ml to those with lead levels less than 3.3 g/ml. Overall, our work will help better understand the sources of lead in multiple species of raptors, including these non-scavenger species.
06. AN ESSENTIAL SOLUTION: TOXICITY OF FIVE ESSENTIAL OILS IN MCF-7 CANCER CELL LINES.

**Abstract/Description:**
Cancer treatment is often costly and harmful to the individual undergoing treatment. Complementary and Alternative Medicine (CAM) has recently seen an increase in popularity, especially in herbal treatments (Koppikar et al. 2008). Rosemary, eucalyptus, lemon, cinnamon, and clove leaf extracts comprise Thieves, known to support the body’s defense. To test any anti-cancer properties of these components, we utilized MCF-7 breast cancer cells as a model system. Individual oils were diluted using dimethyl sulfoxide (DMSO), and cells were treated with these essential oil dilutions in triplicate. Following a 48 hour treatment, we performed harvest and MIT cell viability assays. Cell death was observed with oils, with more death in the dilutions with the highest concentrations of the essential oils.

**Author(s):**
Stephanie Schroeder and Dr. Judy Parrish

**Millikin University**

08. ANALYSIS OF MUCOSAL ANTIBODIES IN RED EARED SLIDER TURTLES (TRACHEMYS SCRIPTA) BIOLOGY

**Abstract/Description:**
In environments of prey scarcity, some species resort to cannibalism. In wolf spiders (Lycosidae), cannibalism increased with hunger, yet spiders attacked conspecifics slower than predacious insects with novel prey. To study the characteristics of the mucosal immunity in turtles, we recorded whether the antibodies will bind to LPS in the immune system of turtles has almost exclusively done on the humoral immune response in blood samples. Some of these studies looked at how age, environmental temperature, and exposure to novel bacteria affect the immune systems of turtles (Zimmerman et al. 2002; Zimmerman et al. 2003). However, the immune response to mucosal secretions of turtles has not been previously studied. There is very little known about the components and function of the mucosal immunity of turtles. In our research, we looked at the characteristics of the mucosal immunity in the red-eared slider turtles (Trachemys scripta elegans). During June and July 2015, female red-eared slider turtles were collected from Rock Springs in Decatur, Illinois. Blood samples and cloacal swabs were collected from each turtle. Pleurotomarion length was also collected as a growth parameter. Samples were then stored in the freezer until the enzyme-linked immunosorbent assay (ELISA) was to be run. The ELISA were run during February 2016. First, we removed the total antibodies in the mucosal samples could be measured using a serial dilution ELISA. Samples of turtle plasma, whole plasma, cloacal swabs, and pure buffer were used in the ELISA. Once optimal dilution was found, we looked at what the antibodies would bind to (Lipopolysacharide and Keyhole Limpet Hemocyanin). From our results, we were able to compare the characteristics of mucosal antibody with age of the turtles.

**Author(s):**
Hannah L. Bond and Dr. Laura M. Zimmerman

**Millikin University**

10. THE EFFECTS OF VARIOUS LEVELS OF HERBIVORY BY THE PAINTED-LADY CATERPILLAR ON THE PHOTOSYNTHETIC RATE OF SOYBEANS

**Abstract/Description:**
Crop plants, such as the soybean (Glycine max) are able to convert solar energy into chemical energy that can be stored for use at a later time. While there are several factors that may affect photosynthetic rate, herbivory commonly occurs in soybeans. In this study, we sought to determine if the photosynthetic rate of the soybean would be significantly affected by various levels of herbivory. The research that has been done on the immune system has almost exclusively done on the humoral immune response in blood samples. Some of these studies looked at how age, environmental temperature, and exposure to novel bacteria affect the immune systems of turtles (Zimmerman et al. 2002; Zimmerman et al. 2003). However, the immune response to mucosal secretions of turtles has not been previously studied. There is very little known about the components and function of the mucosal immunity of turtles. In our research, we looked at the characteristics of the mucosal immunity in the red-eared slider turtles (Trachemys scripta elegans). During June and July 2015, female red-eared slider turtles were collected from Rock Springs in Decatur, Illinois. Blood samples and cloacal swabs were collected from each turtle. Pleurotomarion length was also collected as a growth parameter. Samples were then stored in the freezer until the enzyme-linked immunosorbent assay (ELISA) was to be run. The ELISA were run during February 2016. First, we removed the total antibodies in the mucosal samples could be measured using a serial dilution ELISA. Samples of turtle plasma, whole plasma, cloacal swabs, and pure buffer were used in the ELISA. Once optimal dilution was found, we looked at what the antibodies would bind to (Lipopolysacharide and Keyhole Limpet Hemocyanin). From our results, we were able to compare the characteristics of mucosal antibody with age of the turtles.

**Author(s):**
Sarah Simms, Dr. Judy Parrish and Dr. Travis Wilcoxen

**Millikin University**

11. EFFECTS OF ACUTE TEMPERATURE CHANGES ON REACTION RATE AND SWIMMING SPEED OF BULLFROG TADPOLES, RANA CATESBEIANA (ANURA: RANIDAE)

**Abstract/Description:**
Temperature changes have effects on amphibian locomotion performance. The effects of acute temperature changes on locomotion performance were studied in 45 tadpoles, Rana catesbeiana, with a control room temperature group of 15 at approximately 20°, an experimental hot group of 15 at approximately 30°, and an experimental cold group at approximately 15°. Reaction time and swimming speed were observed with a stopwatch and a constant stimulus. We used frozen water bottles and infrared heat lamps for the experimental temperature groups. We used five minute acclimation times for testing and recorded the time for each tadpole for 10 trials. We used a two-way repeated measures ANOVA, and we found that there is a significant difference among caterpillar treatments. We hypothesized that plants will be less affected by herbivores because re- productive phases, as the plant will be larger and more developed. We also hypothesized that plants that as the number of herbivores increases, the plant will be less successful in its ability to photosynthesize. Results revealed that photosynthetic rate is not significantly different between developmental stages, and that there is a significant difference among caterpillar treatments. Plants fed on by two caterpillars had a significantly higher increase in photosynthetic rate than those with one caterpillar. Herbivory can significantly increase the photosynthetic rate of soybeans as leaf damage causes the plant to increase its photosynthetic rate within the levels of herbivory tested.

**Author(s):**
Kelsey Geing and Dr. Marianne Robertson

**Millikin University**
12. INNATE IMMUNE AND ANTIOXIDANT COSTS OF LOW TEMPERATURES IN NATIVE Hyla Cinerea AND INVASIVE TROPICAL Osteopilus Septenriodalis

Biology
Author(s): Kelsey Going and Dr. Travis Wilcoxen

Millikin University

Abstract/Description: Temperature fluctuations affect amphibian immune systems and thermal tolerance capacity. To complete the study, 87 tree frog tadpoles were raised through metamorphoses as, and as young frogs, divided into a control group maintained at room temperature of approximately 20°C and an experimental group at approximately 80°C. Individuals in the low temperature group were placed in the refrigerator for six to eight hours per day as a representation of normal ambient temperatures in northern regions of Gulf states. Cuban Tree Frogs had a significantly greater survival rate than Green Tree Frogs in the control group, but there was no significant difference between experimental groups. We also found that both species were negatively affected by low temperatures, with a decrease in bacterial killing ability and immune defense among tadpoles from different treatment groups. We found that neither acidity nor the presence of a pathogen, nor a combination of the two, had a significant effect on growth or immune defense, as measured by snout-to-vent length and A. hydrophila killing ability or immune defense, as measured by snout-to-vent length and A. hydrophila killing ability. As a result, we conclude that acidity and pathogen stressors, in Cuban tree frogs, this experiment could hold implications for the future of native species as a result of increased invasive species survival in the presence of environmental stressors.

13. EFFECTS OF WATER ACIDIFICATION ON THE GROWTH, DEVELOPMENT AND IMMUNE DEFENSE OF CUBAN TREE FROGS IN THE ABSENCE OF A PATHOGEN

Biology
Author(s): Mackenzie Peck and Dr. Travis Wilcoxen

Millikin University

Abstract/Description: Freshwater acidification, an issue that is largely linked to industrialization and human activity, poses a threat to natural environments. Amphibians are especially threat ened by this issue, due to their permeable skin and sensitivity to environmental disturbances. We exposed Northern Leopard frog tadpoles (Rana pipiens) to neutral (pH 6.93- 7.80) and acidic (pH 5.86-6.76) water, and measured tadpole locomotion performance immediately following exposure to a tactile stimulus in both water conditions. We also monitored the growth of the tadpoles to include as a random variable in statistical analyses. We performed 10 trials of locomotion behavior in response to a tactile stimulus for each tadpole, and plan to use RNA-Seq to analyze our data. Our research is ongoing, but we hypothesize that tadpoles exposed to acidic water will swim more slowly than tadpoles exposed to neutral water when introduced to a tactile stimulus. Our results could hold implications for the overall survival of Rana pipiens populations in areas of North America affected by freshwater acidification.

14. THE EFFECT OF WATER ACIDIFICATION ON THE LOCOMOTION PERFORMANCE OF NORTHERN LEOPARD FROG TADPOLES, RANA PIPIENS (ANURA: RANIDAE)

Biology
Author(s): Mackenzie Peck, Dr. Marianne Robertson and Dr. Travis Wilcoxen

Millikin University

Abstract/Description: Freshwater acidification, which occurs naturally but has become more prevalent in the past few decades, is largely linked to anthropogenic practices and poses a threat to natural aquatic environments. Amphibians are especially threatened by freshwater acidification, due to their permeable skin and sensitivity to environmental disturbances. We exposed Northern Leopard frog tadpoles (Rana pipiens) to neutral (pH 6.93-7.80) and acidic (pH 5.86-6.76) water, and measured tadpole locomotion performance immediately following exposure to a tactile stimulus in both water conditions. We also monitored the growth of the tadpoles to include as a random variable in statistical analyses. We performed 10 trials of locomotion behavior in response to a tactile stimulus for each tadpole, and plan to use RNA-Seq to analyze our data. Our research is ongoing, but we hypothesize that tadpoles exposed to acidic water will swim more slowly than tadpoles exposed to neutral water when introduced to a tactile stimulus. Our results could hold implications for the overall survival of Rana pipiens populations in areas of North America affected by freshwater acidification.

15. POTENTIAL OF CANCER-CONTAINING LIPOSOMES CONTAINING CANCER-ATTENUATING VENOMS AND ANTIOXIDANTS ON THEIR IMMUNE RESPONSE AFTER TREATMENT

Biology
Author(s): Aaron Fleming, Dr. Jennifer Schroeder, and Dr. Anne Ramnath

Millsaps College

Abstract/Description: The use of cancer-containing liposomes in combination with anten- cipations for the future of native species as a result of increased invasive species survival in the presence of environmental stressors.

16. THE EFFECTS OF TAIL DAMAGE ON TADPOLE DEVELOPMENT IN CUBAN TREE FROGS (Osteopilus Septenriodalis) AFTER METAMORPHOSIS

Biology
Author(s): Nicole Koch and Dr. Travis Wilcoxen

Millikin University

Abstract/Description: Tadpoles have many predators in the wild and they have difficulty escaping from predators, especially in earlier stages of development. Tadpoles do not have a skeletal system and, in general, less myotomes in the tip of their tail. When a predator attacks the tip of their tail, they are able to escape because it simply tears off. We examined the effects of tail damage in the early tadpole stages on the development of the tadpole and its learning and swimming abilities after metamorphosis. The purpose of this study was to test how physical injuries in the beginning of an organism’s life may affect the organism’s development and abilities in the remainder of their life. We obtained 120 Cuban tree frog tadpoles, and we divided them into two groups: a control group and an experimental group. The treated group cut their tadpole’s tails, and we observed the behavioral changes in both groups. We found that the experimental group had significantly lower swimming capacity and ability to escape from predators.

17. DEVELOPMENT, GROWTH, AND SURVIVAL OF A WEB-BUILDING FUNNEL WEB SPIDER AGelenopsis Pennsylvanica (Aranaeae, Agelenidae)

Biology
Author(s): Daniel Sinclair, Tanner Holmes, Dr. Marianne Robertson and Dr. Travis Wilcoxen

Millikin University

Abstract/Description: The spider Phidippus audax, which is an active hunter, can survive throughout its life cycle as a scavenger. We examined whether a web-building funnel web spider, Agelenopsis pennsylvanica, could survive and develop throughout its life cycle as a scavenger. The different groups of spiders were given three different diets and their development, growth, and survival were compared. A control group fed the prey (n = 64), an experimental group fed dead prey (n = 63), and an artificial environment group fed a mixture of live and dead prey (n = 62). We recorded and analyzed their survivorship, instar duration, and size throughout the six instars. Spiders fed live prey and spiders fed dead prey had significantly higher survivorship than those fed dead prey. However, there were trade-offs to survivorship and development. Spiders fed a mixture prey showed no costs so this diet could be utilized in nature.
18. IDENTIFICATION OF OPIOID RECEPTORS IN THE HERMIT CRAB (Coenobita clypeatus) AND THE CRAYFISH (Orconectes rusticus).

Biology

Authors: Monradosele Kagiso Kogapha and Dr. Samuel Galewsky

Millikin University

Abstract/Description: The analgesic and sedative effects of opioid drugs are dependent upon the activation of opioid receptors. In addition to their analgesic and sedative effects, chronic opioid use leads to tolerance, dependence, and multiple other negative side effects. Because of the high liability and negative side effects associated with current opioid drugs, opioid receptors are currently hot topics in research to discover better opioid drugs devoid of the negative side effects of the current drugs. Hundreds of opioid receptor genes have been identified in vertebrates and invertebrates. A putative opioid receptor RNA from the hermit crab and the crayfish was identified in vertebrates compared to hundreds of opioid receptor genes in invertebrates. The purpose of this study was to identify opioid receptors in the hermit crab and the crayfish, both of which are invertebrates. A putative opioid receptor DNA from the hermit crab and the crayfish was reverse-transcribed using a primer sequence derived from the Chinese scallop, Chlamys farreni. DNA from the reverse transcription was amplified at 37°C using the degenerate reverse-transcribed primer. One high 475 base-pair DNA fragment and another low 200 base-pair fragment were amplified at 37°C using the degenerate reverse-transcribed primer. Preliminary results suggest in vivo SAMase activity did not significantly enhance expression of the reporter genes. Experiments to determine mutations rates are ongoing. These results appear to contradict previous studies and require further analysis to understand their implications.

19. CONTROL OF CJTR/BACTER PRESENCE WITH MULTIPLE BACTERIOPHAGES TO OVERCOME RAPID DEVELOPMENT OF PHAGE RESISTANCE.

Biology

Authors: Emily Talbott

Millikin University

Abstract/Description: The increase of antibiotic-resistant bacteria has fuelled research for new methods to control bacterial growth. Bacteriophages—viruses of bacteria—have been studied as anti-bacterial agents for some time, but this work has been overshadowed by the success of antibiotics. The treatment effects of bacteriophage were examined against Citrobacter freundii. 25 phages were isolated from Decatur, IL, city sewage and three were isolated for further study. Inoculating Citrobacter cultures with one phage killed most cells, but combinations of two or three phage killed every host cell. This suggests that combinations of bacteriophage could potentially control Citrobacter infections without also producing phage-resistance.

20. SAMASE-INDUCED ACTIVATION OF SOS RESPONSE IN ESCHERICHIA COLI FAILS TO EXPRESS TRANSLESION DNA POLYMERASES OR ENHANCE MUTAGENESIS.

Biology

Authors: Sarali Garcia

Millikin University

Abstract/Description: Inducing the SOS response helps repaired damaged DNA in Escherichia coli but also increases mutations rates in a process known as error-prone repair. In vivo expression of SAMase induces the SOS response but with out a corresponding increase in the rate of mutations. Presumably, lack of induction of translesion DNA polymerases/ enzymes expressed during the SOS response and known to be the cause of error-prone nick repair during SOS induction can explain this lack of increased mutations in cells with SAMase activity. Cells with gallactosamine gene repressor fusions to the promoters of other recA (SOS inducing enzyme), lexA (SOS repressor), and trimetoprim-mediated DNA polymerases II, IV, and V, respectively were transformed with SAMase expression plasmids and assayed for galactosamine reporter enzyme activity. Preliminary results suggest in vivo SAMase activity did not significantly enhance expression of the reporter genes. Experiments to determine mutations rates are ongoing. These results appear to contradict previous studies and require further analysis to understand their implications.

21. VARIATION IN SERO-PREVALENCE OF ANTI-BODIES AGAINST MYCOPLASMA GALLI SEPTICUM AND AVIPOXVIRUS IN NINE SPECIES OF BIRDS WITH DIFFERENTIAL ACCESS TO FEEDERS.

Biology

Authors: Emily Vana and Dr. Travis Wilcoxen

Millikin University

Abstract/Description: This poster is an overview of Mycoplasma gallisepticum (MG) Comptorix and the Avipoxvirus including how they are transmitted and their origins. The objectives were to accomplish a technique to assess the prevalence antibodies of MG and avian pox exposure in wild songbirds (ELISA assay), accumulate a list of avian species that have MG and avian pox negative and positive, and examine the differences between control and feeder sites as well as the species that tested MG and avian pox positive. Results indicated that our hypotheses were supported. Birds at feeder sites would have greater prevalence of antibodies against MG and avian pox as compared to control sites and birds would have a greater prevalence of antibodies against MG and avian pox as compared to control sites and birds would have a greater prevalence of antibodies against MG and avian pox as compared to control sites and birds would have a greater prevalence of antibodies against MG and avian pox as compared to control sites and birds would have a greater prevalence of antibodies against MG and avian pox as compared to control sites and birds would have a greater prevalence of antibodies against MG and avian pox.
composites showed an increase in fluorescence when heated in a sand bath for one hour at 77°C. Thus, testing the targeted release of fluoresce when heated in a sand bath for one hour at 77°C. Thus, testing the targeted release of fluoresce

**SYNTHESIS OF TRICYCLIC COMPOUNDS WITH A CANTHARIDIN-LIKE PHARMACOPHORE VIA DIELS-ALDER ADDITION IN AQUEOUS SOLUTION**

**Chemistry**

*Author(s):* Ariel Spengler and Dr. George Bennett

**Abstract/Description:** The aqueous method of Diels-Alder reactions involves using a solventless approach to achieve desired products. The aqueous method is more environmentally friendly than the traditional organic solvent approach due to its ability to minimize the use of harmful solvents.

- More effective. The three adducts were characterized using techniques such as HPLC and NMR spectroscopy.
- A crystal structure of the product from furfuryl acetate and furan-2-carboxylic acid (furfuryl acetate, furan-2-carbaldehyde, and furan-2-carboxylic acid) by both solventless Diels-Alder reactions and aqueous methods to effect Diels-Alder reactions.
- An x-ray powder diffraction analysis will be reported.

**SYNTHESIS AND STRUCTURAL STUDIES OF RHODIUM (III) CONTAINING DOUBLE PEROVSKITES**

**Chemistry**

*Author(s):* Ravee Frey and Dr. Paris W. Barnes

**Mikilin University**

**Abstract/Description:** Rhodium-containing solids have the potential to have magnetic properties and are therefore of great interest in solid-state chemistry. However, the high cost and rarity of rhodium-containing compounds (e.g., [Rh(cod)Cl]2 (cod oxide 53±5) limits the amount of research done on these materials. The purposes of this research project are to synthesize and study the structural properties of nine different A2RhB′06 double perovskites, where B′ is pentavalent Sb, Nb, or Ta and A is divalent Sr, Ca, or Ba. Preliminary structural parameters of the double perovskites were determined using X-ray powder diffraction. Results of the preliminary powder diffraction analysis will be reported.

**32. MY ACADEMIC JOURNEY: STUDYING ABROAD IN THIS GLOBAL ERA**

**English Language Center School of Education**

*Author(s):* Joosang Lim and Emmy Tran

**Mikilin University**

**Abstract/Description:** This narrative study investigates two international students’ life and academic experiences in the U.S., focusing on reasons for studying abroad and challenges they have experienced during their stayings. Findings indicated that various components were entangled in complex ways for explaining the students’ decision-making, such as improving English language competence and getting a better education. At the same time, they have faced various challenges. This study will provide authentic and meaningful information for faculty and students who are interested in studying abroad.

**33. USING DARK GLOBAL CLUSTERS AND DWARF GALAXY DATA TO CONTRAST THE FREE-STREAMING SCALE AND THE PROPERTIES OF THE DARK MATTER PAR TICLE**

**Physics**

*Author(s):* Zechariah Miller, Hunter Somers, Ben Woodall and Dr. Casey R. Watson

**Mikilin University**

**Abstract/Description:** We use high-dispersion data to establish the best-fit Burkert dark matter halo parameters for 12 Milky Way dwarf spheroidal galaxies (dSphs). We show that these best-fit parameters are strongly correlated with the half-light radius of the dSphs, and compare our findings to the results of previous studies.

**34. CORRELATIONS BETWEEN THE DARK MATTER HALO PROPERTIES AND HALF-LIGHT RADIUS OF MILKY WAY DWARF SPHEROIDAL GALAXIES**

**Physics**

*Author(s):* Zechariah Miller, Hunter Somers, Ben Woodall and Dr. Casey R. Watson

**Mikilin University**

**Abstract/Description:** We use high-dispersion data to establish the best-fit Burkert dark matter halo parameters for 12 Milky Way dwarf spheroidal galaxies (dSphs). We show that these best-fit parameters are strongly correlated with the half-light radius of the dSphs, and compare our findings to the results of previous studies.
36. THE EFFECT OF DC ELECTROMAGNETIC STIMULI IN CONJUNCTION WITH STANDARD CRYOGENIC TREATMENT OF METALS

Physics

Author(s): Kyle Leavold, Austin Evans, James Seyfert, Dr. Casey Watson and Peter Paulin
Millikin University, 300 Below Inc.

Abstract/Description:
We explore modifications to the basic cryogenic procedures utilized by 300 Below Inc. to strengthen metal components. We consider the effects of adding DC electromagnetic stimuli in our efforts to further optimize the cryogenic treatment, i.e., to augment the already improved tensile strength, shear strength, thermal and electrical conductivity, etc. resulting from 300 Below Inc.’s traditional cryogenic procedures. We report on the wear test performance of AC magneto-cryogenic treated samples relative to standard cryogenically treated samples and control samples.

38. EXAMINING THE EFFECTS OF MAGNETIC FIELDS AND POST-TREATMENT HEATING UPON THE STANDARD CRYOGENIC TREATMENT OF METALS

Physics

Author(s): Austin Evans, Kyle Leavold, James Seyfert, Dr. Casey Watson and Peter Paulin
Millikin University, 300 Below Inc.

Abstract/Description:
We explore modifications to the basic cryogenic procedures utilized by 300 Below Inc. to strengthen metal components. We consider the effects of additional heating of steel samples after the completion of standard cryogenic treatment and the application of both AC and DC magnetic fields of various strengths to steel samples before and during the standard cryogenic treatment. We report on the wear test performance of samples that have undergone these additional processes and compare them to the performance of untreated samples and samples subjected to the standard cryogenic treatment.

40. THE SIGNIFICANCE OF A STANDARDIZED NURSE BEISIDE REPORT

Nursing

Author(s): Emily Love and Julie Snyder
Millikin University

Abstract/Description:
End-of-shift report is a critical period for both incoming nurses and patients. We consider the effects of additional heating of steel samples after the completion of standard cryogenic treatment and the application of both AC and DC magnetic fields of various strengths to steel samples before and during the standard cryogenic treatment. We report on the wear test performance of samples that have undergone these additional processes and compare them to the performance of untreated samples and samples subjected to the standard cryogenic treatment.

41. MACON COUNTY HOMELESS COUNT 2016

Behavioral Sciences - Human Services

Author(s): Addie Smith, Kaylee Smith
Millikin University, DOVE Inc.

Abstract/Description:
The Point In Time count and Housing Inventory Count of Macon County are surveys conducted annually to report data about our homeless population. This poster is representative of both the PIT and HIC data collected on January 28-29, 2016. We gathered information on the numbers and demographics of homeless individuals, and the utilization of shelter and transitional housing beds. Further, we will discuss what this data means in regards to potential areas for growth related in homeless services offered in Macon County.
45. DRINKING IN THE MILLIBUBBLE COLLEGE STUDENT DRINKING BEHAVIORS IN RELATION TO HOUSING AND COLLEGE SATISFACTION

Behavioral Sciences - Psychology

Author(s):
Emily Cleveland, Trista Smith & Samantha Bies
Millikin University

Abstract/Description:
The consumption of alcohol is something that occurs on most college campuses. Students at different universities face different policies, and means of policing those who do not follow them. Because of the reputation that alcohol and alcohol-related incidents has received in relation to a student's housing and satisfaction with college, we are looking to determine the amount of alcohol consumed in relation to a student's housing and satisfaction with college. On our campus there are not many options for on campus housing, and only seniors are allowed to live off campus. This has resulted in many different groups of people being pushed into one apartment complex. This housing dilemma is the reason we are interested in looking into the effects of housing on alcohol consumption. We also want to survey satisfaction with the university to see how that influences consumption levels. We will be examining alcohol consumption by using a modified College Alcohol Study survey from the Harvard School of Public Health. This information will be used to determine if individuals are at risk for Alcohol Use Disorder as classified by characteristics listed in the DSM 5. Currently, we have completed the survey design and are applying for IRB approval. We hypothesize that students who consume large quantities of alcohol will be less satisfied with their college experience, more problems associated with their drinking behavior, and will have lower self-esteem.

46. EMOTIONAL LEARNING SELECTIVELY AND RETROACTIVELY STRENGTHENS MEMORIES FOR RELATED EVENTS

Behavioral Sciences - Psychology

Author(s):
Avigail Monroy and Dr. James St. James
Millikin University

Abstract/Description:
No abstract submitted

47. An Examination of World Press Freedom: Comparing the U.S., the UK, and other Nations

Communication

Author(s):
Heather Banks, Genevieve Breitbach, Meghan Bryan, Emily Chudzik, Olivia Cuff, Sarah Dunn, Rachel Head, Brandon Jamaska, Brandon Kersten, Joel Kimling, Ashton McGregor, Esmay Mundy, Fraser Moore, Erin O’Brien, Crystal Presti, Jacob Sagan, Fabrizio Seraphin, Mikayla Shane, Alyssa Soto, Trinity Thomas, Jake Wagner, Emily Wunnenberg
Millikin University

Abstract/Description:
It might surprise the observer to learn that the U.S. and UK do not rank among the nations with the freest journalists and news industries in the world. This paper explores the legal, institutional, and cultural reasons why this is so.
# Presentation Schedule

## MORNING

<table>
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<tr>
<th>Time</th>
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**Location Abbreviations:**
- **SH** - Shilling Hall
- **SH Hallway** - Hallway of Shilling Hall
- **LTSC** - Leighty-Tabor Science Center
- **AT** - Albert Taylor Theatre
- **SCO** - ADM-Scovill Hall
- **PMC** - Perkinson Music Center
- **KH** - Kaeuper Hall
CELEBRATIONS of SCHOLARSHIP AND POSTER SYMPOSIUM

millikin.edu/academics/celebrations