

# APEIRON



APRIL 19, 2019

**WASHBURN**  
UNIVERSITY

The Apeiron is an ancient term offered by Anaximander of Miletus in the 6th century B.C. that embraces the spirit of this forum. As with the Apeiron, which is infinite and boundless, all inclusive, eternal, and unaging, this forum is designed to be inclusive with respect to student research, scholarship, creative activities, and community engagement. It is dedicated to the proposition that students are capable of work that knows no limits and transcends all boundaries.

Each student participant in the Washburn University Apeiron has worked on his or her project under the supervision of a faculty mentor. The projects, which have been reviewed by the faculty, demonstrate creativity, originality, and a level of work superior to that normally expected of students. Today's presenters exemplify the spirit of the Apeiron.



[www.washburn.edu/apemon](http://www.washburn.edu/apemon)

### *~ The Greek Alphabet ~*

A α	Alpha	N ν	Nu
B β	Beta	Ξ ξ	Xi
Γ γ	Gamma	Ο ο	Omicron
Δ δ	Delta	Π π	Pi
E ε	Epsilon	Ρ ρ	Rho
Z ζ	Zeta	Σ σ	Sigma
H η	Eta	Τ τ	Tau
Θ θ	Theta	Υ υ	Upsilon
I ι	Iota	Φ φ	Phi
K κ	Kappa	Χ χ	Chi
Λ λ	Lambda	Ψ ψ	Psi
M μ	Mu	Ω ω	Omega

# Table of Contents

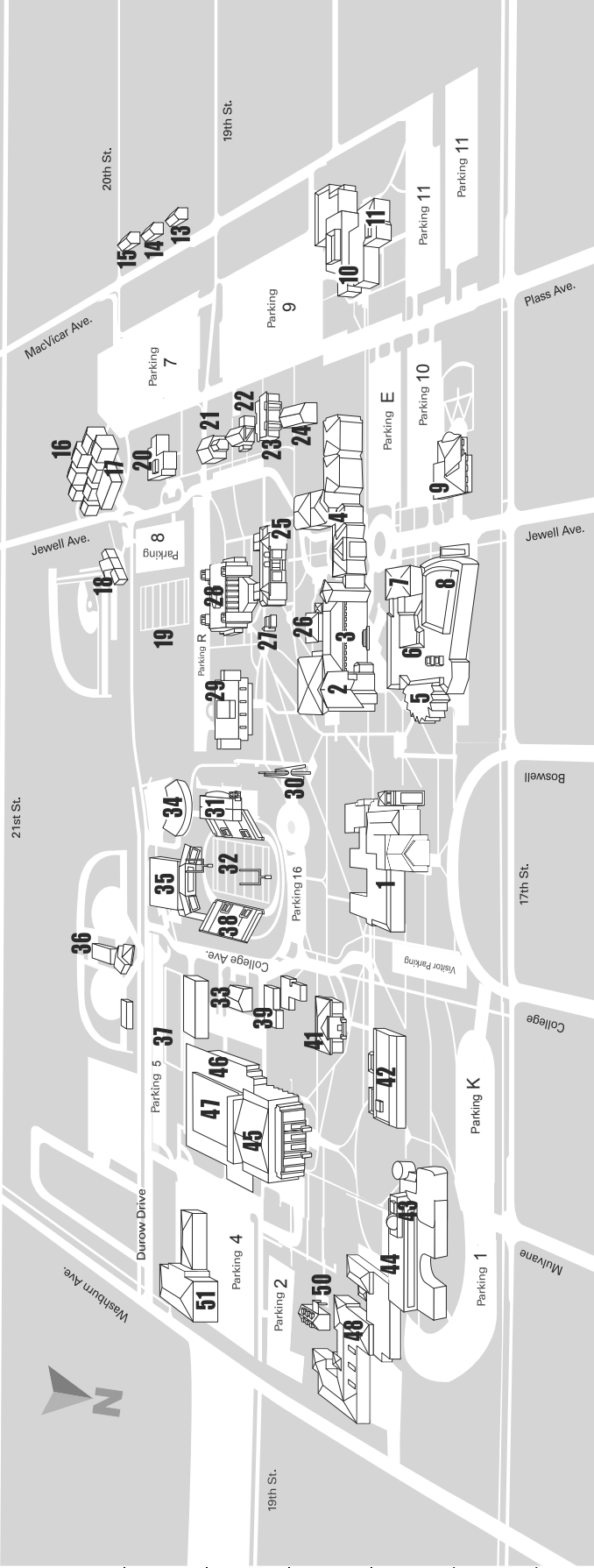
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	Page
Washburn University Campus Map .....	2
Schedule of Events .....	3
Last Lecture .....	4
Fine Arts Presentations .....	5
Oral Presentation Schedule-at-a-Glance .....	7
Oral Presentations .....	8
Poster Presentations .....	17
Reception Menu .....	48
Apeiron Committee .....	49
Index of Presenters and Mentors .....	50

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# WELCOME TO THE WASHBURN CAMPUS

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Topeka, KS 66621  
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Alpha Delta Fraternity	14	B-15	Facilities Services	39	C-5	Living Learning Ctr.	4	D-11	Stauffer Commons/Food Court	3	D-10
Alpha Phi Sorority	22	C-12	Falley Field (Baseball)	18	A-10	Mabee Library	29	C-9	Stofee Science Hall	44	E-2
Art Building	34	B-8	Garvey Fine Arts Center	6	E-10	Memorial Union	2	D-9	Student Recreation & Wellness Ctr.	35	B-7
Bell Tower	30	D-8	Henderson Learning Resources Ctr.	28	C-10	Moore Bowl	32	C-7	Tennis Courts	37	B-5
Bennett Computer Center	42	E-4	International House	26	D-10	Morgan Hall (Admissions)	1	E-7	Theatre, Andrew J. & Georgia Neese Gray	5	E-9
Benton Hall	25	C-11	KBI	51	B-2	Mulvane Art Museum	7	E-11	Washburn Village	16	A-12
Bianchino Pavilion	31	C-8	KTWU Television Station	20	B-12	Petro Allied Health Center	46	C-5	Washburn Village Commons	17	A-12
Bradbury Thompson Alumni Ctr.	9	E-12	Kuehne Residence Hall	23	C-12	Phi Delta Theta Fraternity	50	D-1,2	West Residence Hall	24	D-12
Carnegie Hall	41	D-5	Law School	10	D-14	Post Office	33	C-5/6	White Concert Hall	8	E-11
Carole Chapel	27	C-10	Lee Arena	47	B-4	Practice Field	19	B-10	Whiting Field House	45	C-4
Crane Observatory	43	E-3	Legal Clinic	11	D-15	Sigma Phi Epsilon Fraternity	15	B-15	Yager Stadium	38	C-6
Delta Gamma Sorority	13	B-15	Lincoln Hall	48	D-1	Softball Fields	36	A-6	Zeta Tau Alpha Sorority	21	C-12

*April 19, 2019*

## ***Schedule of Events***

**10:00 am**

**Student Registration and Poster Setup**

*Memorial Union, Washburn A & B Lobby*

**10:30 a.m. – 12:30 p.m.**

**Fine Arts Presentations**

*Mulvane Art Museum-Rita Blitt Gallery*

**12:35 p.m. – 3:00 p.m.**

**Oral Presentations**

*Henderson Learning Resources Center*

*Rooms 118, 203, 205, 217*

**3:00 p.m. – 3:45 p.m.**

**Welcome**

*Memorial Union, Washburn B*

Dr. Bruce Mechtly

Co-Chair, Apeiron Committee

**Recognition of Student Designers**

Rob Coffelt

Graphic Designer, University Mail & Printing Services

*Student Designers:*

Paritosha Joshy and Christina Noland

**Introduction of Last Lecture**

Garry Cushinberry

**Last Lecture**

John Hunter

Professor Emeritus of Theatre

**3:45 p.m. – 5:00 p.m.**

**Poster Session and Reception**

*Memorial Union, Washburn A*

# *Last Lecture*

“Volunteer Leadership in Your Community”

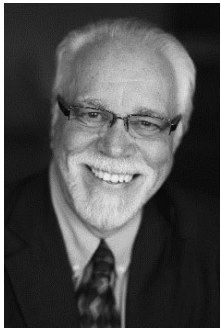
presented by

**John Hunter, MFA**

Professor Emeritus of Theatre

Memorial Union – Washburn B

3:00 pm



John Hunter is a Professor Emeritus in the Theater Department. He holds an MFA from Florida State University in Set and Lighting Design for Theater and began his career at Washburn in 1975 serving in various capacities until his retirement in 2016. During his academic career (1975-1998), John served as Chair of the Art and Theater department, and also established and served as Chair of the Mass Media department. He created over one-hundred designs for theatrical productions during this time. He joined the Washburn Endowment Association in 1998 and served as a Major Gift fundraiser for the next 9 years. Along with general fundraising and traveling throughout the United

States, John was in charge of the White Concert Hall renovation and the Yager Stadium project. John has been married for 47 years and has two children and two wonderful grandchildren.

John's professional credits include lighting designs for dance companies and productions in Russia, Australia, and New York City. He also served as the Technical Director, Designer for the State of Kansas International Economic and Cultural Exchange with Saint Petersburg Russia.

Volunteer Leadership has always been an important part of John's career. He served as Vice Chair of the Kansas Arts Commission Board under Governor Graves and Co-Leader of the Topeka Performing Arts Center project. He served on the design committee for the renovation of the Great Overland Station and served as Chair of the Quality of Life Foundation for the Heartland Visioning process. He co-chaired the development of the NOTO Arts District, and currently he is serving as the volunteer Theater Consultant for the Jayhawk Theater Project while also volunteering on various Momentum 2022 committees including Riverfront Development. John finished his working career as the Executive Director for Heartland Visioning.

John is the recipient of the following recognitions: James McKenna Award (presented in Ireland at the Gerard Manley Hopkins International Poetry Festival), Leader-Full Community Award (presented by the Kansas Leadership Forum), Distinguished Kansan of the Year for Business, Arts Leadership Award (presented by the United Way of Topeka), Service to Mankind Award (presented by the Sertoma Organization), and Sales and Marketing Executive of the Year Award.

*This lecture is made possible with support from the Washburn University Foundation. Professor Hunter has generously requested this contribution be made to the Washburn Theatre Department.*

**Fine Arts Presentations**  
**10:30 a.m. – 12:30 p.m.**  
*Mulvane Art Museum-Rita Blitt Gallery*

*WTE* denotes Washburn Transformational Experience

*WM* denotes WU-master

**Moderator: Dr. Kelly Thor**

► **10:30 a.m.**

*Welcome to the Fine Arts Presentations*

► **10:33 a.m. – 10:50 a.m.**

*Modern Views of Sexual Orientation and Their Rejection*

**Sarah A. Leal**

*WTE, WM*

Mentor: Christopher Jones, Philosophy

Sexual orientation as we understand it was conceived in 1868 and has influenced how we view the world ever since. This is especially true of and within the LGBTQ+ community. However, its creation was to separate and create an inferior “other” social group. I explore how this came to be and how rejecting this social construct can potentially eliminate discrimination toward and within the LGBTQ+ community and give us the kind of acceptance and inclusion we strive for.

► **10:50 a.m. – 12:10 p.m.**

*Ichabods Speak Out: Poems Against Racism & For Inclusivity*

**Yaretzi I. Villa, Brooke Province, and Hannah E. Hagedorn**

*WTE, WM*

Mentor: Dennis Etzel Jr, English

To introduce fresh American poets coming to the poetry scene, come hear the voices of Washburn University students read their poems taking a stand against racism and for inclusiveness.



***Which Box Do I Check?: (Multi)Cultural Voices in Poetry***

**Erica N. Faulkinbury, Samara I. Harper, and Stephanie Teater**

*WTE, WM*

Mentor: Dennis Etzel Jr, English

As Washburn University celebrates diversity and inclusivity, some students have complex cultural and diverse backgrounds. This panel is made of students who examine their cultural heritages through poetry.

***Home as Mental Health: Poems***

**Erica N. Faulkinbury and Kristie Lynn Smith**

*WTE, WM*

Mentor: Dennis Etzel Jr, English

This panel of poets explores home in all of its different facets as it relates to home: the homes left behind, sought, found, real, and imagined.

***Poets Assembled: Poems Based on Comic Books and Their Films***

**Annette Turrentine, Adam White, and Jennifer Zimmer**

*WTE, WM*

Mentors: Dennis Etzel Jr, English, and Jericho Hockett, Psychology

In the Twenty-First Century, films based on comic books have surged into pop culture bringing a new level of comic book readership along with their popularity. As a new generation is inspired by these superheroes, come listen to poems by students who are so moved.

**► 12:10 p.m. – 12:30 p.m.**

***Old, Not Obsolete: Presenting the History and Preservation of Selected Vintage Clothing Pieces from the Theatre Department's Costume Shop***

**Eleanor R. Sharemet**

Mentor: Sharon Sullivan, Theatre

This presentation will demonstrate the history of selected vintage clothing pieces from the Theatre Department through the piece's style, fabric, and construction. Then, I will discuss the care of vintage clothing and showing the preservation techniques used on the selected pieces.



# Oral Presentation Schedule-at-a-Glance

(HC = Henderson Learning Resources Center)

Time/Location	Presenter	Title
<b>12:35 pm – 12:55 pm</b>		
HC 118	Jacob Meyer, Jonah Phelps-Roper, Zekiah Nettekoven, and Jeffrey Farrar	<i>Settler of Washburn</i>
HC 203	Eleanor Sharemet	<i>The Elephant in the Basement? The British Museum's Ethnographical Collection and Its Place within the Museum</i>
HC 205	Chandler Burrows	<i>The Principate's Historians: The Roman Principate as Historical Concept</i>
<b>1:00 pm – 1:20 pm</b>		
HC 118	Steven Thornwell, Gavin Steinhoff, Derek Wright, and Vivian Liu	<i>My Daily Journal – An Online Journal</i>
HC 203	Emma Staats	<i>The Revitalization and Grand Reopening of Bods Feeding Bods: Washburn University's Food and Commodities Pantry</i>
HC 205	Paul Heffren	<i>Schiff Base Cyclization to Form a Cross Protected Tetraazamacrocyclic</i>
HC 217	LeAnne Casey	<i>Vision in Transition</i>
<b>1:25 pm – 1:45 pm</b>		
HC 118	Chaitali Marwaha, Kale Stone, Boniface Mwihaki, and Benis Munganga	<i>XFiTBod: A GYM Management System</i>
HC 203	Devyn Wilson	<i>Mentorship in Movies: Content Analysis of Last Chance U</i>
HC 205	Dekeysha Cooper	<i>Preliminary Studies on More Affordable Effective Means of Homogenization and Quantitation of Tetrahydrocannabinol (THC) in Marijuana Case Samples</i>
HC 217	Michaela Webb	<i>A Personal Code for Ethical Communication</i>
<b>1:50 pm – 2:10 pm</b>		
HC 118	Jordan Carley	<i>Beyond the Wild: Examining the Persistence of Naturalist Elements in Literary Portrayals of American Wilderness</i>
HC 203	Xavier Strong	<i>MASK</i>
HC 205	Mikaela Cox	<i>Kinesiology Tape: Physiological or Psychological</i>
HC 217	Cera Taylor	<i>The Cultural Trauma of the Spanish Civil War</i>
<b>2:15 pm – 2:35 pm</b>		
HC 118	Molly Murphy	<i>The Formation of Ideology Through Language in George Orwell's 1984</i>
HC 203	Brady Hoover	<i>First Responders Appreciation Night</i>
HC 205	Shelby Bergeron	<i>Impact medical marijuana had on property crime rate in the top 158 populated US cities in 2017</i>
HC 217	Emma O'Neil	<i>Classical Conspiracy Beliefs and Narcissistic Traits</i>
<b>2:40 pm – 3:00 pm</b>		
HC 203	Riley Voight	<i>Avryie and Every Alien</i>
HC 205	Bryce Hayden	<i>Studying the Effect of Safety Precautions on Drunk Driving Fatalities</i>

# Oral Presentations

12:35 p.m. – 3:00 p.m.  
*Henderson Learning Resources Center*

*WTE* denotes Washburn Transformational Experience

*WM* denotes WU-mester



## *Session α*

Moderators: Nan Sun and Bruce Mechtly

► 12:35 p.m. Henderson Learning Resources Center, Room 118

### *Settlers Of Washburn*

**Jacob M. Meyer, Jonah B. Phelps-Roper, Zekiah Nettekoven, and  
Jeffrey B. Farrar**

Mentor: Nan Sun, Computer Information Sciences

Settlers of Washburn is our implementation of the popular board game Settlers of Catan. Catan is a board game that is full of subtle intricacies and nuances centered around two central ideas: building and trading. Players compete to gain the most victory points by gathering resources to build roads and settlements. Resources are distributed on each player's turn which includes a build phase and a trading phase. We created an application to enable players on separate hosts to communicate with one another, initiate trade transactions, and build settlements on a shared game board over the network. This project explores client server architecture, user interface design, and the implementation of game rules and features. The technologies we use to build this application are Java Swing, Java Graphics, and Java Socket Programming.

► 1:00 p.m. Henderson Learning Resources Center, Room 118

### *My Daily Journal – an Online Journal and Mood Tracking System*

**Steven Thornwall, Gavin Steinhoff, Derek Wright, and Vivian Liu**

*WTE*

Mentor: Nan Sun, Computer Information Sciences

My Daily Journal is an online application where people can write daily journal, record their activities and events, track their mood, and answer various questions every day. The website is broken into the recording section and the reporting section. The recording section is where users can write the journal and answer survey questions. The reporting section is where users can see all their data and the results of their data analysis. The website opens with a dashboard which displays a monthly report of a user's data and links to the user's past journal entries. This project is implemented by using C sharp with the ASP.Net Core framework, SQL Server, Bootstrap which contains HTML and CSS based design templates and other interface components as well as Java scripts.

► 1:25 p.m.

Henderson Learning Resources Center, Room 118

***XFiTBod: A GYM Management System***

**Chaitali Marwaha, Kale Stone, Boniface Mwihaki, and Benis Munganga**

Mentor: Nan Sun, Computer Information Sciences

XFiTBod is an intuitive and interactive system for managing a Health and Fitness Club. The system provides a seamless user interface and enriches user experience through consistency, clarity, and ergonomics. The application tracks and manages the member's attendance, payment information, and other relevant data. Users can add, delete, edit, update, and view information. The system is broken into three main components: member, staff, and gym. The member component consists of member's information and types of membership. The staff component regulates a hierarchy of individuals who have specific access based on the assigned role. The gym component maintains the equipment, rooms, and supplies. Our system seeks to explore various modern technologies in identity verification such as facial recognition, device based QR codes and Near Field Communication protocols. The UI is designed in JavaFX and Python, and the database runs on SQL Server.

► 1:50 p.m.

Henderson Learning Resources Center, Room 118

***Beyond the Wild: Examining the Persistence of Naturalist Elements in Literary Portrayals of American Wilderness***

**Jordan Thean Carley**

WTE

Mentor: Vanessa Steinroetter, English

Naturalism, a transatlantic literary movement influential during the late nineteenth and early twentieth centuries, contributed significantly to how American writers and readers imagined the American wilderness, for instance in such works as Jack London's *Call of the Wild* (1903) or "The Law of Life" (1901). It shaped the very idea of "the West" and the way we view wild places. This idealism has expanded far beyond the early 20th century, working its way deep into the cultural consciousness of America and surfacing in far more recent works, including works of nonfiction such as John Krakauer's *Into the Wild* (1996) and Cheryl Strayed's *Wild: From Lost to Found on the Pacific Crest Trail* (2012). This presentation will examine key aspects contributing to the rise of naturalism in US literary history and then focus on tracing the re-emergence (or persistence) of naturalism as a literary form in contemporary literary portrayals of American wilderness.

► 2:15 p.m.

Henderson Learning Resources Center, Room 118

***The Formation of Ideology Through Language in George Orwell's 1984***

**Molly M. Murphy**

WM

Mentor: Karalyn Kendall-Morwick, English

Using literary theorist Mikhail Bakhtin's concepts relating discourse and ideology, the institution and maintenance of power in George Orwell's *1984* can be understood as dependent on and created through controlled linguistic processes. *1984* illustrates how power-driven discourses can be hegemonically forced upon individual and social consciousness. This paper examines two types of discourses put forth by Bakhtin which are significant in ideology formation: authoritative and internally persuasive. By analyzing a case of political power enacted through discursive processes in *1984*, we can see how interwoven language and ideology are and how dangerous restrictions on language can be.



**Session β**

**Moderators: Traci Lutz, Tony Silvestri, and Chris Jones**

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► 12:35 p.m.

Henderson Learning Resources Center, Room 203

***The Elephant in the Basement? The British Museum's Ethnographical Collection and Its Place within the Museum***

**Eleanor R. Sharemet**

WTE

Mentor: Thomas Prasch, History

This paper will examine the history of the ethnography department in the British Museum and why the museum did not accept indigenous artifacts, such as objects from the Pacific Islands and Africa as art or as an important part of the museum until after 1898 when the British Museum acquired the Benin Bronzes from the British Punitive expedition in 1897.

► 1:00 p.m.

Henderson Learning Resources Center, Room 203

***The Revitalization and Grand Reopening of Bods Feeding Bods: Washburn University's Food and Commodities Pantry***

**Emma Staats**

WTE

Mentor: Kristine Hart, Center for Community Services

In the Spring of 2014, a campus-wide food insecurity survey was conducted and the results showed that approximately 50% of Washburn students who took the survey reported that they did not always have enough food to get them through the month. This was the survey that

launched the creation of Bods Feeding Bods: Washburn University's Food and Commodities Pantry. Five years later, the number of people that utilize the pantry is not reflective of that statistic. As the Volunteer and Staff Coordinator for the last two years, I have worked with the Bods Feeding Bods' board to rebrand the pantry and relocate it to a more central and easily accessible location in the hope that it will increase awareness and utilization of the pantry. This presentation will detail the work and initial outcomes of the revitalization and grand re-opening efforts with an emphasis on my role in the process of accomplishing this project's goals over the past two years.

► **1:25 p.m.**                      **Henderson Learning Resources Center, Room 203**

***Mentorship in Movies: Content Analysis of Last Chance U***

**Devyn Wilson**

WTE

Mentor: Tracy Routsong, Communication Studies

As many individuals participate in athletics within their lifetimes, including pivotal years of development, it is important to observe and understand how coaches develop relationships with their athletes. Additionally, observations were made of coaching styles and the results yielded.

► **1:50 p.m.**                      **Henderson Learning Resources Center, Room 203**

***MASK***

**Xavier B. Strong**

WTE

Mentor: Matthew Nyquist, Mass Media

Mask is the story of a boy.. Adam... who struggles with his own identity until he begins to find a way to show himself and the world who he truly is. The film is designed to be an artistic endeavor in cinematography, lighting, and costume design.

► **2:15 p.m.**                      **Henderson Learning Resources Center, Room 203**

***First Responders Appreciation Night***

**Brady Lee Hoover**

WTE

Mentor: Matthew Hutchinson, Washburn Athletics

First Responders Appreciation Night will be an event held at Falley Field during an Ichabod baseball game. This event will give the Washburn Community the chance to recognize and show appreciation to all first responders in attendance. Throughout this event, there will be many events before the game, during the game, and after the game that will make the night memorable for all first responders and their families. After the event, there will be an oral presentation discussing the process of planning the funding, sponsorships, and preparation. The presentation

will also describe how the event turned out and how it will effect the Washburn Community, First Responders, and their family.

► 2:40 p.m.                      Henderson Learning Resources Center, Room 203

*Avryie and Every Alien*

**Riley D. Voigt**

WTE, WM

Mentor: Izzy Wasserstein, English

The presentation will cover the creative process and development of a short story and its cover art. The story explores identity, gender, and one's place in the world through the lens of a non-binary character. An excerpt will be read to help summarize these concepts and capture its tone. There will be a slideshow of a few ideas for the cover art, along with examples of other works that inspired it. The presentation will likely conclude with an update of where I am at with the story and what I learned from the project.



## **Session γ**

**Moderators: Kelly Erby and Steve Cann**

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► 12:35 p.m.                      Henderson Learning Resources Center, Room 205

*The Principate's Historians: The Roman Principate as Historical Concept*

**Chandler Lee Burrows**

Mentor: Kelly Erby, History

The Roman Principate's (27 B.C.E – third-century C.E.) use of Republican institutions, like the Senate, to disguise the autocratic power of Princeps Augustus (27 B.C.E. – 14 C.E.) and his various successors was a vital period in Roman history which bridged the gap between the Roman Republic and the unambiguous monarchy of the later Roman Empire. The contradiction between the Principate's pretensions of continued Republican government and the princeps's autocratic powers has led to a longstanding historiographical debate about which aspects of the Principate historians should emphasize. This debate has led to the emergence of three general schools of thought which have examined the Principate as an absolute monarchy, a constitutional dictatorship, and a social-political system with each school emphasizing certain themes about which factors – political, legal, social -- drive history and politics. This presentation will introduce the Principate as a system of government, provide a general outline of the Principate's historiography, discuss why historiography is important, and comment upon what it means to write about history.

► 1:00 p.m.

Henderson Learning Resources Center, Room 205

***Schiff Base Cyclization to Form a Cross Protected Tetraazamacrocyclic***

**Paul M. Heffren**

WTE

Mentor: Shaun Schmidt, Chemistry

Macrocyclic coordination complexes have been used in radiotherapy and medical imaging for many years. [46]Adamanzane is one such chelator which may have several advantages over current macrocyclic ligands. This is due to the total encapsulation of the metal ion it is expected to provide, protecting the body from exposure to potentially toxic metals. One of the major chemical intermediates in the synthesis pathway for the production of [46]adamanzane is a cross-protected tetraazamacrocyclic, however this intermediate has proven difficult to synthesize. Synthesis of one such cross-protected tetraazamacrocyclic was achieved using a Schiff base condensation reaction between a linear dialdehyde and diamine. The cross-protected tetraazamacrocyclic was also allylated and ring closing metathesis was performed as proof of concept. Finally, novel reaction schemes were also investigated in an endeavor to produce a one-pot synthesis strategy.

► 1:25 p.m.

Henderson Learning Resources Center, Room 205

***Preliminary Studies on More Affordable Effective Means of Homogenization and Quantitation of Tetrahydrocannabinol (THC) in Marijuana Case Samples***

**Dekeysha L. Cooper**

Mentor: Holly O'Neill, Chemistry

Since the legalization of marijuana for both recreational and medicinal use has become more prominent throughout the United States in recent years, there is growing concern regarding the actual amount of cannabinoids in the wide variety of plants that are bred for such purposes. Most especially concerning is the concentration of tetrahydrocannabinol, or THC, the active ingredient found in the sticky resin produced by the marijuana plant, which varies over a wide range (Upton et al., 2014) depending upon the type of marijuana plant. Since some states attempt to set a threshold above which marijuana is more strictly controlled, a need arises for an effective homogenization method and sample preparation method for the determination of purity and quantity of THC at low analysis costs. In this preliminary study, homogenization with and without liquid nitrogen was evaluated. A variety of marijuana case samples were dried for 20 hours in an oven (35-40 °C) and then homogenized using a mortar and pestle both with and without liquid nitrogen. The samples were extracted and the THC quantity within each sample extract was determined using both liquid chromatography-mass spectrometry (LC-MS) and gas chromatography-mass spectrometry (GC-MS). Preliminary results suggest that the liquid nitrogen does not improve the homogenization process.



► 1:50 p.m.

Henderson Learning Resources Center, Room 205

***Kinesiology Tape: Physiological or Psychological***

**Mikaela Cox**

Mentor: Melanie Burdick, English

Kinesiology tape became extremely popular following the 2016 Summer Olympics. The purpose of this tape was to be an affordable treatment option to help increase stability and decrease pain and swelling. This research looks at many studies conducted involving the use of this tape in comparison to other types of athletic tape. Through comparison, this piece observes whether this tape actually provides a true physiological benefit, solely a psychological effect, or a little bit of both. It also brings to question that if there is no true physiological benefit, is the psychological benefit worth the time and money for the athlete if it produces the wanted end result.

► 2:15 p.m.

Henderson Learning Resources Center, Room 205

***Impact Medical Marijuana Had on Property Crime Rate in the Top 158 Populated US Cities in 2017***

**Shelby A. Bergeron**

WTE

Mentor: Steven Cann, Political Science

In this study, requested by the Washburn's political science department, we analyze the legalization of medical marijuana effect on property crime. We wanted to know whether property crimes increase as a result of the legalization of medical marijuana in that city. We surveyed 158 cities determining the impact medical marijuana had on property crime, that no statistically significance was found between the two.

► 2:40 p.m.

Henderson Learning Resources Center, Room 205

***Studying the Effect of Safety Precautions on Drunk Driving Fatalities***

**Bryce T. Hayden**

Mentor: Steven Cann, Political Science

In 2017, twenty-nine percent of driving fatalities occurred by individuals who were drunk driving. As time has progressed, there have been significant reforms to make states comply with stricter laws to help minimize drunk driving. One would be raising the minimum drinking age to 21 years of age instead of 18 years old. Another big piece of national legislation was lowering the blood alcohol level (BAC) to .08 instead of .10. Since the 80s when the National Highway Traffic Safety Administration has recorded drunk driving fatalities, there has been a steady decrease or remains stagnant such as from 2016 to 2017 (decrease by 20 fatalities). By a state by state stance how much does strength in legislation such as sobriety checkpoints, interlock laws, revoking a license, open container laws, and additional penalties when driving drunk with a child had on the rate of drunk driving fatalities by state. I hypothesize that these don't have a direct

influence on drunk driving fatalities, and it could be the culture that has changed that counts towards a decrease in drunk driving.



## ***Session 8***

**Moderators: Miguel Gonzalez-Abellas and Leslie Reynard**

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► **1:00 p.m.**                      **Henderson Learning Resources Center, Room 217**

### ***Vision in Transition***

**LeAnne M. Casey**

Mentor: Leslie Reynard, Communication Studies

The focus of this research project is Uber Technologies, Inc. Uber has faced a multitude of crises since it was established in 2009. An analysis and case study of some of Uber's major crises within the last few years was completed, and its greatest problems are identified. The analysis builds on and identifies the importance of a crisis management plan, more specifically, how the business continuity aspect is a crucial component when a company is trying to recover from its ongoing missteps, and maintain its vision. It answers the research question: What happens to a company and its future when the visionary who created the firm is no longer the guiding force?

► **1:25 p.m.**                      **Henderson Learning Resources Center, Room 217**

### ***A Personal Code for Ethical Communication***

**Michaela L. Webb**

WTE

Mentor: Leslie Reynard, Communication Studies

Many people do not realize that communication situations should be subject to ethical consideration in order to develop the best outcomes for these. In this project, a variety of ethical values and practices that might be used to develop guidelines for a personal code of ethics are examined. These guidelines were used to create an example of a personal communication ethics that might be useful if applied to challenges that must be overcome in personal and professional situations.

► 1:50 p.m.

Henderson Learning Resources Center, Room 217

***The Cultural Trauma of the Spanish Civil War***

**Cera K. Taylor**

WTE

Mentor: Leslie Reynard, Communication Studies

This presentation is an examination of the cultural trauma experienced by the Spanish people during the Civil War of 1936 to 1939, as seen through the lens of the 2001 horror film "El Espinazo Del Diablo" directed by Guillermo del Toro. Major sections include an analysis of visual communication techniques used in the film, specifically proxemics, kinesics, and silence, as well as a brief overview of Hofstede's Dimensions of Culture, specifically the dimension of Femininity vs. Masculinity.

► 2:15 p.m.

Henderson Learning Resources Center, Room 217

***Classical Conspiracy Beliefs and Narcissistic Traits***

**Emma Hansen O'Neil**

Mentor: Jericho Hockett, Psychology

The purpose of the present study is to examine the potential relationships between conspiracy beliefs and narcissistic tendencies. Previous research has suggested an association between classical conspiracy beliefs (CCB) and factors associated to narcissism, such as a need to control, agreeableness, dogmatism, superstitious beliefs, and associations with friends and family. Due to widespread bias regarding beliefs in conspiracy theories, mild deception is used in that participants were told they were completing an online survey related to social issues and personality factors. The present research further illuminates past research on the similarities and differences in classical conspiracy beliefs (CCB) and real conspiratorial political beliefs (RCPB), thus providing additional avenues for conspiracy belief research.

## Poster Presentations

**3:45 p.m. – 5:00 p.m.**  
***Memorial Union, Washburn A***

*WTE* denotes Washburn Transformational Experience

*WM* denotes WU-mester

### 1

#### ***The Impact of Programming and Re-entry on Criminal Justice Correction***

**Hannah E. Hagedorn**

*WTE*

Mentor: RaLynn Schmalzried, Psychology

The research presented will provide insight into the significance of programming and re-entry efforts on the criminal justice system. This research will analyze published studies to see which programs have been shown to work, or not work. This will cover large scale recidivism rates, down to personally felt impacts. To end the presentation, I will cover what I have learned about this research in a real life setting through my internship with Shawnee County Department of Corrections in their programming and re-entry department.

### 2

#### ***Kombucha: A SCOBY of Possibilities***

**Jill C. Pritchard**

Mentor: Susan Bjerke, Biology

Kombucha is sweet green and/or black tea, fermented with a symbiotic culture of acetic acid bacteria and yeast (SCOBY). This beverage is thought to have originated in China over 200 years ago and is now consumed world-wide for its beneficial probiotics and antioxidants. Enriched cultures from both lab-brewed and store-bought kombucha were streaked for isolation. Individual colonies were picked to perform further biochemical analysis. Cultures of store-bought kombucha and lab-brewed kombucha were preliminarily identified for their genus names. Biochemical analysis confirmed the presence of different acetic acid bacteria in the store-bought versus lab-brewed kombucha. The store-bought kombucha yielded bacteria in the genus *Gluconobacter*, and the lab-brewed kombucha yielded bacteria in the genus *Acetobacter*. Yeast was isolated and observed from the store-bought culture, but not from the lab-brewed kombucha. Future research will include confirmation of the identities of acetic acid bacteria by sequencing of the ribosomal RNA. Further investigation into the presence and identity of yeast strains will also be conducted using differential media and biochemical tests.

### 3

#### ***3rd International Nursing Exchange Program in Fukuoka***

**KaZoua Elizabeth Lo, Mary M. VanderPutten, and Abigail Cynthia Houser**

Mentor: Susan Maendele, School of Nursing

WTE

From the School of Nursing, ten students and two faculty members join Fukuoka University at their School of Nursing to learn about the healthcare system in Japan, their community concerns, their school, and overall life in Japan.

### 4

#### ***Isolation, Purification, and Identification of Antibiotics from Soil-Dwelling Microbes***

**Gracie Elizabeth Hurr**

Mentor: Andrew Herbig, Biology

WTE

Several soil samples were collected from around Stoffer Science Hall in order to isolate species of *Streptomyces* bacteria, a genus known for being a natural producer of antibiotics. From the isolates, six were selected for characterization based on their ability to inhibit test bacteria co-cultured on solid medium. Each of the purified isolates exhibit micro- and macroscopic characteristics of *Streptomyces* spp. We have begun to further identify the species of *Streptomyces* based on 16S rRNA gene amplification and sequencing. The isolates exhibit differential inhibition of test bacteria in co-culture and plate overlay assays. Some isolates secrete a diffusible substance which inhibits Gram-negative or Gram-positive bacteria, others inhibit both. We are pursuing the concentration and purification of these substances, with the end goal of identifying the antimicrobial synthesized by each of our *Streptomyces* isolates.

### 5

#### ***Investigating the Relationships Among the Intelligence, Morality, and Personality Domains of Mindset***

**Jaymee Stickley**

Mentor: Michael McGuire, Psychology

WTE

Past research in the realm of ability mindsets has examined the broad domains of intelligence, morality, and personality. These broad domains contain narrower domains (e.g., math and reading would be considered domains within the intelligence domain). Mindset research has used several terms to define these narrower domains, adding confusion to the literature. Ability mindset exists on a continuum that ranges from fixed to growth, terms coined by Carol Dweck (2006). Holding a growth mindset is believing abilities can change and be improved upon, while a fixed mindset believes abilities are innate and stable. Holding a growth mindset has been linked to beneficial factors in many domains, but research focused on domains is lacking. Evidence supports the theory that an individual's mindset can be different in the three broad domains, but when considering two domains within the same broad domain (e.g., math and reading), mindset

should remain the same. For example, if an individual's intelligence mindset is fixed, math and reading mindset should also both be fixed. This study aims to examine the relationship between domains that have yet to be compared and to define narrower domains. I hypothesize that broad domain mindsets will not be reliably predictive of the mindset in domains within them in this study. Results are underway as the study is still being conducted.

## 6

### ***Is Light Therapy Effective for the Treatment of Seasonal Affective Disorder***

**Diana Abigail Vanegas**

Mentor: Michael Russell, Psychology

Light therapy is a treatment option for Seasonal Affective Disorder (SAD). Light therapy exposes participants to a bright light that simulates natural light using a device called a light box. This project reviews several empirical studies that have examined the effectiveness of light therapy in SAD. The project discusses the overall findings as well as the strength and weaknesses of previous investigations.

## 7

### ***The Bechdel Test***

**Kelsee R. Henry**

Mentor: Tracy Routsong, Communication Studies

The Bechdel Test was written by Allison Bechdel and she put movies to the test as to whether females can have conversations within movies with other females and the topic not be about males. The results were shocking as to which movies passed and which movies failed. With the movies that passed, it was very interesting to see how many scenes were in the movie that would be considered passing. The data collected revealed that there is a serious problem when it comes to the roles that females play in movies as well as in the real world. They are expected to stick to the status quo and only talk about the male characters if they even have speaking roles. The way that women are portrayed throughout these movies reveals a pattern that is negatively representing women and should be resolved.

## 8

### ***A Study of Expression of the "Eyeless" Gene in *Drosophila melanogaster****

**Emma M. Showalter**

WTE

Mentor: Takrima Sadikot, Biology

Mutations in the eyeless gene in *Drosophila melanogaster* may phenotypically (physical trait) be expressed as a single eye, a lack of both eyes or as a decrease in eye-size. Several such variations in this gene are known to occur naturally and each one appears to produce this range in eye abnormality. The goal of our project is to determine if the naturally occurring differences in eye

morphology and size within the same stock are a result of additional mutations that are acquired over multiple generations in the eyeless gene or are simply a result of phenotypic plasticity (different physical characteristics arising from the same genetic code). In order to test this idea, we will carry out controlled crosses between parents with like phenotypes. We will then score the resulting offspring based on eye characteristics. We also plan to isolate and analyze the DNA sequence to look for additional mutations in the eyeless gene, if any.

## 9

### ***Visual Storytelling: Photography and Narrative***

**Michaela M. Conley**

WM

Mentor: Danielle Head, Art

People are creatures who love to communicate. We spend an immense amount of time sharing our experience, especially through storytelling. One medium of storytelling that has piqued my interest is photography and I wondered if I could create visual stories that my audience could view, separate from myself, and still connect with and “read” the story. I researched examples of photo collections that engaged in storytelling to frame my own work. I drew inspiration from midphotographer Alec Soth, especially his collection, “Sleeping by the Mississippi.” I also reacquainted myself with the emotional photograph captured by Tami Silicio in 2004, featuring coffins of American soldiers covered with flags. Finally, I searched social media to try to understand what my immediate community was trying to communicate through the pictures that they shared. The photos I saw in my research used sequences, context clues, and captions to recreate the event and help others connect with our experiences. Subsequently, I set out to capture my own stories and attempt to retell them with a strategic and artistic approach.

## 10

### ***Recidivism Reduction Through Job Readiness Programs in the Kansas Department of Corrections***

**Samuel A. Cox**

WTE

Mentor: RaLynn Schmalzried, Psychology

The Kansas Department of Corrections is just a portion of the criminal justice system in America. The justice system in America combines the use of criminal justice as a mode of incarceration and psychology as a mode of rehabilitation and reentry back into society. Their goal is to provide every offender who is released from prison with the tools needed to succeed in the community. By using evidence-based practices, K.D.O.C. utilizes inmate compliance with conditions of supervision and the ability of offenders to reintegrate, which ideally results in safely reducing rates of recidivism among Kansas parolees and probationers through a customized risk-reduction plan.



## 11

### ***Reflection of a Congressional Internship in Washington D.C.***

**Samuel A. Cox**

WTE

Mentor: Michael Russell, Psychology

During my internship in Washington D.C. I assisted the Legislative Correspondent and Staff Assistant constituent communications. I filtered constituent calls to the necessary staff members. I was assigned to attend congressional hearings to monitor on behalf of permanent staff. I had the opportunity to conduct Capitol tours to visiting families and groups from Kansas. Also, throughout my time there, I was able to attend speaker series and seminars throughout Capitol Hill and the D.C. area.

## 12

### ***What are the Most Useful Methods to Teach Spanish to Kindergarten Students?***

**Nicole Murugarren Clavier**

WTE

Mentor: Miguel Gonzalez-Abellas, Modern Languages

This presentation will explain different types of methods that can be applied to teach Spanish to kindergarten students. It will consist of showing different types of activities and how to assess them, doing interviews, visiting some schools where they have a Spanish program, applying my knowledge, and creating activities that will have a specific emphasis depending on the content where they are going to be learned.

## 13

### ***Factors that Influence Maternity Leave***

**Kaylee A. Rosenberger**

WTE

Mentor: Linsey Moddelmog, Political Science

In this study, the effect that the percentage of women in government compared to the amount of maternity leave that is federally mandated by that country is analyzed. This study also takes into account the GDP per capita and the political rights score of that country in relation to the days of maternity leave. Running a regression analysis, it shows that there is a connection between the percentage of women in parliament, the GDP per capita on a nation and days of federally mandated maternity leave. It accounts for thirteen percent of the variations.

## 14

### ***Role and Effects of High School Counselors and Psychologists***

**Stephanie Jones**

WTE

Mentor: Cynthia Nebel, Psychology

Previous research on the perception of school counselors and psychologists has focused on the perceptions of teachers and school administrators. Studies conducted by both Gilman and Gabriel (2004) and Khansa (2015) stated teachers often report lower levels of satisfaction with psychological services. In contrast, school administrators and special education teachers have reported higher levels of satisfaction with school counselors and psychologists (Gilman and Gabriel, 2004 and Gilman and Medway, 2007). The current study investigated the perception of high school counselors and psychologists from a student perspective, and the effect they have on students through college in various ways. In an online survey, participants answered questions regarding their experiences with counseling/psychological services in their high school, counseling services at Washburn University, factors measuring academic achievement, and completed a subjective well-being scale (Satisfaction with Life Scale). Demographic factors were also collected for participants. Results indicated that multiple factors regarding high school counseling services are associated with students' overall satisfaction (of HS and WU counseling services), subjective well-being, and college GPA.

## 15

### ***Does Posting About Physical Activity Increase Intention to Exercise and Activity Levels?***

**Macy Christine Howell**

WTE

Mentor: Angela Duncan, Psychology

There is concern over the limited amount of physical activity college students are engaging in. Pinkerton, Tobin, Querfurth, Pena, & Wilson (2016) studied naturally occurring interactions on social networking sites including posting about physical activity. They discovered that those who share are more likely to be a student, physically active, and to check social networking sites more frequently. The purpose of this research is to identify whether posting about physical activity on social media increases both intention to exercise and activity level among college students. For four weeks, one group of participants posted about physical activity on their Facebook page according to prompts given by the researchers while a second group was instructed to post on their Facebook page about their college experiences. These findings may provide support for the use of social media as a tool to increase physical activity levels in a college population. Keywords: physical activity, social media, intentions, exercise, college students, health psychology

## 16

### ***Exploring Factors Related to Student Success in Distance Education Courses***

**Stephanie Jones**

WTE

Mentor: Linzi Gibson, Psychology

This literature review will focus on factors related to student success in distance education (online) courses. Research has shown multiple different factors, such as personality and motivation, can significantly impact a student's success in an online course. Additionally, this literature review looks into student preferences of online vs. face-to-face classes, student evaluations of instructor's teaching effectiveness in online vs. face-to-face classes, and factors which can enhance or hinder a student's experience in an online course.

## 17

### ***College Students' Evaluations of the Severity of Drinking-Related Behaviors***

**Taylor J. Barnard**

WTE

Mentor: Angela Duncan, Psychology

College campuses are plagued by the overuse of alcohol and associated negative consequences. Past research has shown that individual evaluations of consequences, and whether they are positive or negative, varies due to individual differences (Merrill, Rosen, Walker, & Carey, 2018; Mallet, Bachrach, & Turrise, 2008; Brett, Leavens, Miller, Lombardi, & Leffingwell, 2016). To address this, we developed a survey created from a list of negative consequences, identified by Merrill, Rosen, Walker, and Carey (2018). The Severity of Alcohol-Related Occurrences Scale (SAROS) utilizes a 5-point Likert scale to assess an individual's personal evaluation of the severity of alcohol-related consequences. The AUDIT will also be utilized because individuals who score higher on the AUDIT tend to normalize their consequences, and we are curious to see if a similar trend will appear when evaluating the severity of consequences. We plan to correlate scores from the SAROS with the AUDIT. We expect participants with higher AUDIT scores will rate alcohol-related consequences as less severe than those with lower AUDIT scores. This research may contribute to the development of specific interventions that target college student's perceptions about the severity of consequences for their alcohol use.

## 18

### ***Collaborative Learning Benefits on Academic Success***

**Alexsis Beckwith**

WTE

Mentor: Linzi Gibson, Psychology

Collaboration in the classroom is said to have a positive effect on how satisfied students felt in their courses and learning collaboratively led to more interactions among students and increased their perceived feelings of connections with other students in the classes that used collaboration. A study done by Laal M. & Ghodsi S. (2012) found that collaborative learning compared with competitive and individualistic efforts, resulted in higher achievement, greater productivity, a

higher percentage of caring attitudes, supportive, and committed relationships; and even greater psychological health, social competence, and self-esteem effects. The goal of this research is to look at previous studies and compare findings within the studies that have been done before. This study will also include a summary of the duties and activities of the ULA internship that have been completed throughout this semester.

## 19

### *College Students' Perceptions of Generic Medications*

**Samantha Bailly**

WTE

Mentor: Angela Duncan, Psychology

Generic medication is an effective and readily available medication, yet many people have misconceptions about it. This study intends investigate the attitudes college students have regarding generic medications. Participants completed a demographic questionnaire as well as the Attitudes Towards Generics Questionnaire (ATTOGEN) (Domeyer, Aletras, Anagnostopoulos, Katsari, & Nikas 2017). The 18 items are answered using a Likert scale of 1 (strongly agree) to 5 (strongly disagree). There are six different scales within the survey: trust, drug quality, state audit, fiscal impact, knowledge, and drug substitution. To our knowledge, the ATTOGEN has not been utilized with a traditional college-aged sample. It is expected that college students will have negative views of generic medication as indicated by their responses on the ATTOGEN. By assessing college students' perception of generic medications, we can better understand barriers to utilizing a lower cost medication alternative. Given that many college students needing medication may face significant financial barriers, this research may lead to the development of effective approaches to change perceptions of generic medications among college students and thereby increase access to needed medications.

## 20

### *A Glimpse into the Career of Speech Pathology*

**Tanya Rodriguez**

WTE

Mentor: RaLynn Schmalzried, Psychology

Currently, I am enrolled in PY 336 internship with Dr. Ralynn Schmalzried. My internship site is at the Topeka VA Hospital. At the VA hospital, I am shadowing speech pathologist Mike Simpson. For this presentation, I will be talking about my experience at the internship site. Additionally, I will be talking about research related to dysphagia.

## 21

### ***Academic Performance and Retention Rate of College-Level Student-Athletes***

**Emma Hansen O'Neil**

WTE

Mentor: Linzi Gibson, Psychology

The aim of the present study is to bring attention to the low academic performance of college-level student-athletes by identifying the causal factors and potential ways to improve academic performance and corresponding retention rate. Through a review of the past literature, the influencing factors may consist of negative self-perceptions, stress level, declaration of specific majors, and time commitment. The present study will look at each factor individually while incorporating gender and racial differences. Improving retention rate is determined by improving the student-athletes' academic performance and adjustment comfortability. Additionally, the potential ways to improve academic performance and thus retention rate will be addressed.

## 22

### ***How Sleep Affects Attention in the College Population***

**Laura L. Lightfoot**

WTE

Mentor: Michael Russell, Psychology

Sleep deficiency has been shown to lead to several problems including negative academic performance. Sleep deprivation is also shown to have an effect on daytime functioning. This study focuses on how sleep affects the college population. The participants completed The Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale which will entail questions to measure sleep quantity and sleep quality. Participants then completed the standardized go-no-go testing. Participants finished the study by reading about three pages on the four basic tastes and answered a short quiz reflecting the reading to apply sleep deprivation to the academic setting. The findings will be discussed in terms of the relative importance of sleep duration and sleep quality. Implications for student sleep habits will also be discussed.

## 23

### ***A Java Application to Extract Internet Explorer Browser Artifacts***

**Alex M. Montgomery**

Mentor: Bruce Mechtly, Computer Information Sciences

Browser artifacts are browser history, cookies, cache, and passwords left behind after using a browser. These artifacts are useful in criminal investigations in gathering digital forensic evidence of a suspect. We developed a program to parse through Internet Explorer binary files to extract these browser artifacts and display them in a readable format. For each artifact, details are shown when each item is selected. This is a Java program and can be run on any operating system.

## 24

### *Metacognition and Student Awareness*

**Morgan J. Lawrence**

WTE

Mentor: Linzi Gibson, Psychology

This literature review examines metacognition and student awareness. Students who actively use metacognitive study strategies outperform those who do not. However, most students are not aware of these strategies and tend to choose strategies that have been shown to be less helpful for long-term retrieval. This literature review examines the literature on why students consistently use study strategies that have failed and why students tend to overestimate their performance using these strategies.

## 25

### *Literature Review on the Benefits of Music in the Classroom*

**Khristyan Aanon Masters**

WTE

Mentor: Linzi Gibson, Psychology

Music is a key component in the development of our youth. Schools have been fighting to keep their music programs going in a time where school funding is so limited. Those who are supporting the fine arts truly understand the benefits of music in the classroom. Music has been linked to increased coordination, success in society, and the student's overall engagement in school. Incorporating music in any educational setting is extremely beneficial in developing language and reasoning skills, emotional development, better self-confidence, and better SAT scores!

## 26

### *Progress Toward the Synthesis of Expanded Oxophlorins*

**Ryan Haller**

WTE

Mentor: Sam Leung, Chemistry

Expanded oxophlorins are substances that could absorb within the visible spectrum of light. These compounds can be useful as photosensitizers for cancer treatment in photodynamic therapy (PDT). One way to synthesize expanded oxophlorins is to synthesize a dipyrrolyl- $\alpha,\beta$ -unsaturated ketone. This can then be combined with a dipyrromethane in a MacDonald-type synthesis. Since the dipyrrolyl- $\alpha,\beta$ -unsaturated ketones are unknown, much of our research has been focused on the synthesis of these compounds. We have been using aldol condensation in this synthesis. While aldol condensation has not been effective, a longer multi-step synthesis has been used to synthesize a dipyrrolyl- $\alpha,\beta$ -unsaturated ketone. However, because the reaction scale was too small, the MacDonald-type synthesis could not be attempted. Further studies must be performed by increasing the reaction scale.

## 27

### ***C2C: Learning Modules 4 Future Aspirations***

**Tanya Rodriguez, Ryan D. Anderson, Jayden Marie Blodgett,  
Maria Cunningham, Emili A. B. Folster, and Donnique Morris**

WTE

Mentor: Tracy Routsong, Communication Studies

The Classroom to Community (C2C) curriculum was designed for use by individuals interested in working with people. Each module was segmented into core concepts, additional readings for individual programs, and assessment pieces. Students completed the modules and provided reflections over readability of the core modules, applicability to present and future career aspirations, and suggestions for individual module components. The culminating activity will be a poverty simulation later in April.

## 28

### ***Do Facts Matter? Two Truths And A Lie***

**Christina Marie Pirtle**

WTE

Mentor: Kevin O'Leary, Communication Studies

I will present various studies/findings related to how individuals get their news (social media, TV, radio, friends/family word of mouth, etc.), if they trust the information on these various media or family/friends, if they research the information they get, and if the truth matters to them. A celebrity type game of Two Truths and a Lie was prepared to allow participation.

## 29

### ***The Big Drum Way of Life: A Potawatomi Survival Strategy***

**Emily Unruh**

WTE

Mentor: Christopher Jones, Philosophy

The rhythm of the drums signals a new way of life for the Potawatomi people, one that functions as a unique survival strategy post-colonialism. For the individuals of the tribe traveling the Trail of Death in 1838, from the Great Lakes area to the plains of Kansas, the Big Drum Way of Life is liberation. For the individuals today who live on the Prairie Band Potawatomi Nation reservation, the Big Drum Way of Life is a cultural celebration, a way to remember and continue on the circle of life. The circle is safeguarded by the women who possess a spiritual power of protection, and the evil spirits are kept outside. More than a religion, the drums act as a binding conduit that ties the past and the present, giving the group a way to honor their ancestors. Acting through colonial mimicry, the people of the tribe are able to break the mirror and both reclaim and resist the colonizers tools. It is the action of sharing the space, and uniting in a way that brings spirituality to the tribe that allowed the nation to survive. The echo of the drums beckons the future. Mourning once impossible, is now given an outlet through cultural worship, a way to remember the resilience.



## 30

### *Prevalence of Psychological Disorders in College Athletes*

**Regan Braun**

WTE

Mentor: David Provorse, Psychology

The DSM-5 Level 1 and Level 2 measures of common mental health symptoms were administered to over 150 athletes across 13 sports. Athletes endorsing items on one or more of the 13 domains assessed by the Level 1 screening measure also completed more comprehensive and diagnosis-specific Level 2 measures. The frequency and severity of symptoms reported on Level 2 measures will be contrasted across gender, college class, and sport.

## 31

### *Application of the Optimized Summed Scored Attributes Method to Sex Estimation in White and Blacks*

**Holly A. Long**

WTE

Mentor: Alexandra Klales, Sociology & Anthropology

One of the most important parts of a forensic anthropologist's job is to ID an individual through a biological profile. This includes identifying a person's sex, age, stature, and ancestry. The optimized summed scored attributes method (OSSA) was first created for ancestry estimation using the skull. Tallman and Go (2018) expanded this method for use in sex estimation of Asian populations. The goal of this research was to explore use of the OSSA method for sex estimation in US Blacks and Whites. This test determined if the method can estimate sex of an unknown individual. The project was based on an article published in the Journal of Forensic Sciences by Tallman and Go (2018) titled Application of the Optimized Summed Scored Attributes Method to Sex Estimation in Asian Crania. Use of the OSSA method for sex estimation was new and had to be tested in other populations. Data from several skeletal collections was collected by Dr. Klales from her US DOJ National Institute of Justice funded grant which was used in this project. The data was analyzed using SPSS software to identify mean, medians, and modes of trait scores which found patterns in the data and frequency rates of the cranial scores. The individual OSSA scores were summed and sectioning points were heuristically applied to find the score that best estimated the correct sex in both US Blacks and Whites. These findings were compared to Tallman and Go (2018) and suggestions were given for use of this method in casework.

## 32

### *Teaching Children as They Teach Me*

**Brianna Barrientos**

WTE

Mentor: Kristine Hart, Center for Community Services

The University Child Development Center (UCD) is a preschool that cares for the physical, intellectual, and social needs of over 40 young children from the Topeka community and from

Washburn students and faculty. Through my work with UCD over the past 16 months I have had a chance to interact with all age groups, infant to kindergarten readiness age, as a teacher's assistant and have had the opportunity to co-teach some of the lessons as well. One part of the mission of UCD is to provide a happy and relaxed place where children's experiences are broadened and enriched. During my time working with UCD, I have come to believe this mission statement applies to teachers working there as well. As an education major and future teacher, the experiences and opportunities that have come from working with this organization are irreplaceable. I feel as if I have had the opportunity to teach the children many things, but through my work I learned that the students have taught me even more. In this presentation I will cover the impact UCD has had on beginning my teaching career and the positive impact UCD has on the Topeka community.

### 33

#### *Juvenile Mental Health in the Justice System*

**Brittainie Michele Beuscher**

WTE

Mentor: Christina Menager, Psychology

Almost from the moment of its inception in 1899, the juvenile court has witnessed criticism of its handling of youths suffering from mental illness (Thomas, Stubbe, & Pearson, 1999). Upwards of 70,000 adolescents are confined each day in juvenile facilities, with an additional 10,000 in adult jails and prisons (Mallett, 2015). But how many of these youths are suffering from mental illness and are receiving help? That is where the data draws a blank. The current data findings show that we aren't doing enough for our juveniles in the justice system who have mental illness. There is a lack of consensus on diagnosis, treatment, and prevention in the juvenile justice system. along with the lack of available health care professionals to diagnose and treat these individuals who suffer from various mental health needs. There needs to be a national study conducted across the juvenile justice facilities in the United States to determine how widespread mental health affects these juveniles. This study will need to collect data on money saving alternatives, what types of mental health affects these individuals, and how we are currently lacking in initiatives to helping these juveniles. After all, these juveniles are our future for tomorrow.

### 34

#### *Nontraditional Students and Pedagogy*

**Michaela Dervin**

WTE

Mentor: Linzi Gibson, Psychology

Nontraditional students are increasing in student population (Warden and Myers 2017) and universities are finding ways in which to respond to its ever-changing student population. One way that colleges are becoming more innovative in the classroom is encouraging all students to partake in new activities and tasks both within and outside the classroom (Bossaller 2016). Throughout my internship as an Undergraduate Learning Assistant I found some elements of

literature applied in the classroom of an introductory psychology course. Through this literature review, I took a further look into how colleges are responding to nontraditional students' needs and the outside factors that impact their learning experiences. While there is not a universal answer to this, through my literature review I found that classes that took a more personal approach to components within the classroom helped students understand material and be able to apply the concepts in life application.

## 35

### ***Between a Rock and a Hard Place***

**Lauren Evans**

WM

Mentor: Christopher Jones, Philosophy

In order to explore the idea of control as it relates to sex in American society, particularly when it comes to the policing of women's sexuality and reproductive rights, I wrote a short story imagining both the worst American sexual culture has to offer and what awaits us should we choose to break free of our current ideals. Allowing people to assume control of their own sexuality and limiting the control others have over individuals will remove many of the issues we currently have with American sexual culture and lessen the oppression of those who don't wish to conform to that culture. Sexuality is deeply controlled in American society. Women especially are expected to succumb to the societal expectations surrounding our sexual culture: don't be a slut, don't be a prude, don't say no, and above all else, don't get pregnant before you're married. All of these rules, coupled with individuals' desires, can trap people between a rock and a hard place. Follow Julie as the forms of control tighten around her until she breaks every rule, and not of her own accord. But the system works, right? Society hasn't crumbled yet, so why fix it when it isn't broken? Enter Rachel, living in a utopia of free love and also Speed (the card game). A teenager who's allowed to have safe and consensual sex as she sees fit? Surely she's a depraved, neglected person who uses sex to repair what's broken inside herself. Or not.

## 36

### ***Dementia and Cognitive Decline Related to Diabetes Mellitus***

**Antony R. Furse**

WTE

Mentor: Jane Robinson, School of Nursing

This research project was conducted to review current literature about the links between long-term uncontrolled diabetes mellitus and the effects it has on cognitive decline and dementia. In addition to researching the link between the two, research was conducted on the self-care deficits that may be present in an individual with the diagnoses of diabetes mellitus and dementia.

## 37

### ***Effects of Exercise Motivations and Sleep on Burnout***

**Regan Braun and McKenna Mariah Ward**

WTE

Mentor: Angela Duncan, Psychology

The literature suggests a relationship between why a person chooses to exercise, their sleep habits, and the likelihood of that person experiencing exercise burnout. In previous research, the Pittsburgh Sleep Quality Index, the Exercise Motivation scale, and a burnout scale have been used as self-report measures designed to assess sleep, exercise motivations, and burnout. The present study is in the literature review phase and data will be collected during the Fall 2019 semester.

## 38

### ***The Effects of Peer Teaching***

**Rachael Turner**

WTE

Mentor: Linzi Gibson, Psychology

In this literature review, previous studies were looked at to see what has been done to see the effects of peer teaching within the classroom. Peer teaching is described as students teaching other students within their class. Various studies have utilized different types of classes in order to study this method of learning such as medical schools, lab classes, etc. (Grover, S., Sood, N., & Chaudhary, A., 2018). Many have found that students engage with the material and overall enjoy the process. They also take the learning seriously because they are responsible for another's learning.

## 39

### ***Topeka Community Conversation for Poverty Reduction***

**Evan Hahn**

WTE

Mentor: Richard Ellis, Center for Community Services

Thrive Topeka seeks to help people in poverty by creating positive relationships and building community across socio-economic class lines. Typically, this organization engages people in small groups throughout the year. My Community Service WTE hosted the Topeka Community Conversation for Poverty Reduction, an event that invited individuals of all backgrounds and professions to discuss the effects of poverty in Topeka. In this event, participants were asked to select an aspect of local poverty they would be most willing to change. Participants worked in facilitated groups to create a plan to volunteer in some way of their choosing to address poverty issues in their own community. This presentation will show how theories from my social work courses, my understanding of poverty issues from my work at Thrive Topeka, and Poverty Studies courses informed my approach and role in coordinating this event on behalf of Thrive Topeka and the Bonner Program.

## 40

### ***Climate Change: Archaeologists and the Difficulties They Face***

**Holly A. Long**

WM

Mentor: Laura Murphy, Sociology & Anthropology

Climate change has been a topic of debate for many years inspiring movies, scientific studies, and political debates. In this project I explore the scientific findings from studies versus the portrayal of issues of climate change in the media. I will focus on the techniques that anthropologists and archaeologists utilize when studying the effects of climate change on populations both past and present. Some of the techniques used to analyze climate change in the archaeological record will be identified and cultural responses to climate change will be examined through scientific articles, popular media, and films. Some large-scale climate events from the past will also be identified and reviewed to provide prospective on world altering events. I identify some of the issues that environmental archaeologists face when analyzing these past events and what future environmental archaeologists may or may not be able to find from our time. The interaction between scientists and those in power is taken into consideration which will tie in with this semester's Themester about freedom of speech. This project demonstrates past and present climate events and the responses by ancient and modern people.

## 41

### ***Women's Work in World War II Overshadowed by Love Stories***

**Elizabeth C. Keiswetter**

Mentors: Kerry Wynn, History, and Courtney Sullivan, Modern Languages

This poster reviews the important work women accomplished during World War II that was ultimately romanticized and overshadowed through films and novels depicting the period. I reference two American films and a French one as well as memoirs penned by women as evidence of the lack of appreciation and recognition of women's work. The major theme seen in each of these films and memoirs was the blatant overshadowing of the support and hard work women completed during World War II with the use of romance and love stories. Much of the works revolved around women in their work facilities yet deliberately focused on the relationships they had with men and how men were central aspects in women's lives. In *Swing Shift* (1984), the romance plot mutes Kay's leadership accomplishments in an aircraft factory in California, in *So Proudly We Hail* (1943), it overshadows women's military accomplishments in dangerous overseas enemy territory, and in *Lucie Aubrac* (1999), it minimizes the eponymous leader's contributions to the French Resistance. Memoirs by Lucie Aubrac and Charity Adams Earley emphasize the tremendous obstacles these women overcame in both the American military and in Occupied France, yet the films in this project concentrate on female romances as a means of glossing over their accomplishments.

42

***Supplemental Treatment for Veterans with Post Traumatic Stress Disorder***

**Anna-Marie Lauppe**

WTE

Mentor: RaLynn Schmalzried, Psychology

Through my internship at Konza Prairie Health Center I have learned about this really cool program for the S.A.V.E Farm. The pamphlet for the S.A.V.E Farm says it is a teaching farm and healing center for transitioning service members. This can be used along with normal PTSD treatments to supplement the effected veterans treatment. This led me to explore what other supplemental treatment options there are for veterans. I will be presenting on the research I have found that covers this topic.

43

***Utilizing Alternative Organic Extraction Lysis Buffers to Increase DNA Yield per KBI Policy***

**Katlyn Jo Hays**

Mentor: Takrima Sadikot, Biology

In forensic laboratories, organic extraction has been the gold standard in every biology section. Its ability to yield high DNA quantities from degraded or low amount samples make organic extraction have a high standing in all forensic lab protocols. Despite this, current methods used at the KBI laboratory utilize a lysis step that requires 16 hours of incubation at 56°C before the rest of the extraction procedure using phenol-chloroform can be completed. This long incubation period is to ensure complete lysis of cells and in turn, increases the final yield of the amount of DNA extracted. While this makes sense, it also decreases the amount of work that a forensic DNA analyst can get done in a given day. If this time could be reduced, this would allow for quicker extractions, quantifications, amplifications, and profiles generated for cases. Utilizing protocols published by Washington State Patrol (WSP) and Texas Department of Public Safety (TDPS), three new lysis buffers were tested alongside the current KBI policy using seven different dilutions and extractions were conducted at seven different time points. Results show that the addition of the reducing agent diAbstthiothreitol (DTT) shows higher DNA yields than current KBI methods for each dilution and almost every time point.

44

***Base Hydrolysis of Tosylamide to form Secondary Cyclic Amines Using a Microwave Reactor***

**Katlyn Jo Hays**

WTE

Mentor: Shaun Schmidt, Chemistry

Present research is focused on the synthesis and characterization of polycyclic cage systems containing amine functionalities such as [46]adamanzene. These macrocycles serve as a “host” to carry the metal ion “guest” through the body. Successful generation of these cage structures

has been accomplished by allylation of an amine followed by ring closing metathesis (RCM) to form macrocyclic structures. Deprotection needs to occur due to the presence of tosyl groups on the amines found in the macrocycle. This has proven to be difficult, however, with previous research often resulting in complete destruction of the compound. Partial detosylation of a tetraazamacrocycle has been achieved via the use of microwave assisted base-hydrolysis using isoamyl alcohol and sodium metal. This partial detosylation could be due to the presence of a double bond present in the structure that is inducing steric strain and hindering complete detosylation. The purpose of this research was to attempt to remove the remaining two tosyl groups from the tetraazamacrocycle by removing the tosyl groups without the aid of hydrogenation. Differing concentrations of isoamyl alcohol to sodium metal were utilized to accomplish this. However, partial detosylation was observed again, as well as other structural rearrangements. Utilizing a hydrogenation reaction might be necessary, or reforming the macrocycle structure using another protecting group other than tosyl.

**45**

***Play Therapy and its Effect on Learning***

**Victoria G. Peterson**

WTE

Mentor: Linzi Gibson, Psychology

I spent this semester studying play therapy and its effectiveness in learning. I have researched the effectiveness of play therapy for different age groups, mentally healthy and ill groups, in school setting versus clinical setting, and the effect play therapy has on learning. I looked at different types of execution of play therapy sessions such as the number of play therapy sessions, session duration/ time and different facilitators of play therapy (counselors specifically trained in play therapy and general counselors). I studied how play therapy has an impact on learning and its effectiveness in the classroom and outside the classroom. I looked at and analyzed the different methods of studying play therapy, how play therapy is deemed "effective" and speculated as to where research on play therapy can go from now on.

**46**

***The Unprecedented Parallels of the Bonner Scholar Community  
Service and the Profession of Social Work***

**Colby Andrew Nelsen**

WTE

Mentor: Richard Ellis, Center for Community Services

Throughout my time at Washburn University I have had the privilege of working and learning in the Topeka social service network. In chronological order I have worked with the Red Cross, Habitat for Humanity, Avondale Academy USD 501, YWCA Center for Safety and Empowerment, and Brewster Place Retirement Campus. Each service site offered something different and seemed to match perfectly with my Social Work curriculum. Coupled with my focus on Poverty Studies I am now better prepared for a career in Social Work.



47

***Storms Of Resistance!***

**Johnnie B. Hymon**

WTE

Mentor: Richard Ellis, Center for Community Services

My research combined with service opportunities has revealed the importance of ownership, and community leadership that reflects the culture, vision, and emphatic service. Without this transformation, agencies in place to help become extensions of a marginalized system. As a college graduate it is imperative to align community need to what has been learned. This connection reveals the importance of bringing creative innovation into service delivery in order to identify needs, and implement a process that will birth positive outcomes. Within need-based communities reside storms of racial injustice, marginalization, systemic racism, social constructs, inequality, and injustice that are in place to undermine service provider efforts. These storms must not just engage a reaction, but ignite a response that intersects education, economics, policy, community support, and faith in order to produce excellence in need based service areas. It is to this end I plan to commit my professional life of service, within our community of need.

48

***Using Art to Inspire Creativity in Young Children at the Kansas Children's Discovery Center***

**Sarina Smith**

WTE

Mentor: Kristine Hart, Center for Community Services

The Kansas Children's Discovery Center (KCDC) is a hands-on children's museum with a mission to enhance the lives of children and enrich the communities it serves. KCDC allows children to explore, create, discover, and learn through play. It features indoor education exhibits that include science, careers, building, and art for children to explore and learn in an interactive environment. Additionally, the KCDC outreach programs bring quality and hands-on experiences into the community to inspire a love for learning in every child. In this presentation, I will provide details about the organization, its programs, how I have helped expand the capacity of the organization, and what I have taken away from the experience. Specifically, I will focus on the art programming that I assisted with and created lesson plans for at the KCDC and in the community with the outreach programs. I have always had a love for working with children and creating art which made this an incredible experience. Also, as an art education major, this experience has expanded my knowledge in my field of study.

## 49

### ***Trauma and Conflict Resolution in Colombia***

**Kasey Dolores Paez**

Mentor: Tonya Ricklefs, Social Work

Every year hundreds of community leaders are assassinated in the country of Colombia. These assassinations are typically related back to the para-military and even government. During the study abroad trip to Colombia, we visited a nonprofit organization that helps rebuild communities and restores strength to those who have gone through trauma. This organization is named Senbrando Paz, which translates to “planting peace.”

## 50

### ***The Effects of State vs. Trait Anxiety on Learning and Memory***

**Rachael Turner**

WTE

Mentor: Cynthia Nebel, Psychology

In previous studies, many researchers have looked at the overall effects of anxiety on memory and learning tasks. These previous studies have found that the interaction between anxiety and performance created a bell curve (Salthouse, 2012) in which, as anxiety increases performance increases as well up to a certain point, and after that performance will start to decrease as anxiety continues to increase. Other studies have also found that higher trait anxiety is associated with lower performance (Tse, C., Pu, X., 2012), and those with higher trait anxiety are more likely to perceive situations as more stressful (Booth, R. W., Mackintosh, B., & Sharma, D., 2017). However, few previous studies have looked specifically at how certain types of anxiety could have an impact on an individual’s memory and learning abilities as well as the interaction between types of anxiety. In this study, participants’ trait anxiety was measured and then the state anxiety was manipulated and measured. The trait and state anxiety measures were used to see how they might impact learning together as well as how they impact learning individually. Participants were students recruited from introductory psychology courses to participate in this study. Overall, students had higher scores in the state anxiety condition that best matched their trait anxiety.

## 51

### ***Wellness at Washburn***

**Norman Parcels**

WTE

Mentor: TaNiqua Ward, Washburn Wellness Coordinator

Washburn University has a commitment to wellness of faculty, staff, and students. For this project, I am working with TaNiqua Ward from Employee Wellness in the planning and implementing of a Wellness Walk.

## 52

### ***Avondale Academy: Helping At-Risk Students Through a Holistic Approach***

**Kelsay Sander**

WTE

Mentor: Richard Ellis, Center for Community Services

Avondale Academy is an alternative school within the Topeka 501 school district. Avondale believes that learning is influenced by emotional state, social interactions, interpersonal relations and communication with others. For the past two years I have had the opportunity to volunteer and work at Avondale Academy where I have applied this belief in order to help students be the most successful. The Avondale staff is intentional about not only focusing on academic learning but also learning about nutrition and overall wellness, social development, emotions, self-regulation and community service. By approaching academics in a holistic way, Avondale is hoping to achieve a safe and enriching environment, that encourages students to develop behaviors, relationships and values which promote success in our communities.

## 53

### ***Bods Against the Ichabod***

**Bryce Kelly Strickland**

Mentor: Michael Russell, Psychology

With changing demographics and the growing diversity of the college population as well as the United States as a whole, it may be worthwhile to consider (or re-consider) the mascot of institutions of higher education. With respect to Washburn University in particular, the Ichabod is clearly a Caucasian male. In terms of gender at least, the Ichabod symbolizes only a minority of the student body. Washburn University officially promotes diversity and inclusion.

“Washburn is committed to cultivating a community that values diversity in culture, socio-economic status, race, ethnicity, nationality,....” (<https://washburn.edu/diversity/>). The project “Bods against the Ichabod” explored student, faculty, and staff perception of the Washburn University Mascot. A brief 12-item survey solicited participants’ opinion about the physical characteristics of the Washburn University mascot (e.g., its defined race and gender), whether the mascot accurately represents the diversity of the student body, and how the mascot’s physical characteristics impacts the perception of Washburn as a whole. Discussion will be given to the idea that perhaps another mascot would more accurately represent, encourage, and celebrate the diversity within our campus population and the surrounding community.

## 54

### ***A Closer Look at Washburn University's Recruitment and a Plan for Improvement***

**Holly Jo Johnston**

WTE

Mentor: Michael Russell, Psychology

Recruitment is a tricky thing. All colleges and universities do it, and many institutions utilize the same methods. But what is it that separates Washburn from all the rest? Recruitment is not just the admission counselors that you see sitting at high school college fairs. Recruitment efforts for all schools has dramatically changed over the past decade due to social media. Social media presents schools with a unique way to reach not only students, but also their parents. Parents nowadays are referred to as “lawnmower parents” in that they plow ahead of their child, interfering and micromanaging their children's lives to safeguard them from failure, disappointment, or even the slightest bit of struggle. Expectedly, today's parents play a significant role into which college or university their child decides to attend. The present study takes an in-depth look at Washburn University's recruitment strategies. Based on recruitment updates, both the Washburn University Vision and Strategic Plans, meeting with stakeholders (e.g., Vice President of Academic Affairs, Director of Enrollment Management), I derived a broad picture of Washburn's recruitment efforts and identified target areas for increasing recruitment. This information was used to generate a number of possible avenues Washburn University could take to increase student enrollment and will be discussed in my poster presentation.

## 55

### ***Method Development and Optimization for THC Quantification of Recovered Plant Material***

**Ian M. McClain**

WTE

Mentor: Holly O'Neill, Chemistry

Law enforcement agencies often recover samples of potentially illicit plant material. These samples are analyzed by a forensic laboratory to identify illicit compounds present such as tetrahydrocannabinol (THC), the active ingredient in marijuana using methods including gas or liquid chromatography (GC/LC) paired with mass spectrometry (MS). GC-MS, the most popular method, causes chemical alteration of the inactive THC acid (THCA) due to the high temperature required for vaporization at the GC injection site. This creates fluctuation in the observed THC concentration, which means that quantitation is unstable unless the sample is treated for decarboxylation prior to GC-MS analysis. This creates an issue for laboratories to distinguish legal hemp products from illicit marijuana as we move forward with the nationwide trend of its legalization. The quantitative procedure is far more complex and time consuming than simple identification of THC, requiring homogenization of plant material; the oily THC containing resin is difficult to mix evenly throughout the sample. Almost all of the research on THC quantitation in marijuana utilizes heavy machinery, cryogenic freezing, sieves, and expensive grinders to ensure complete homogenization, but most labs do not have the budget or

the time required to perform such procedures. The focus of this study was to test the effectiveness of homogenization with simple preparation techniques. Samples were homogenized using a mortar and pestle, with and without cryogenic freezing and sifting, followed by extraction and LC analysis with UV/visible detector to determine THC content. Initial results suggest that neither cryogenic freezing nor sifting produce significant added benefit.

## 56

### *Young Children, Germs, and Handwashing*

**Marissa Schardein**

WTE

Mentor: Katherine Ure, School of Nursing

I performed a nursing honors project at Community Action Head Start. Community Action Head Start has two types of classrooms, Early Head Start classrooms (children aged zero to three) and Head Start classrooms (children aged three to five). My nursing project was about handwashing and germs, which included creating a lesson plan and teaching in each classroom. The purpose of this project was to teach the children about germs and how to correctly wash their hands to promote understanding of why we wash our hands, when we should our hands, and how to wash our hands the correct way. Throughout this presentation my project will be described through the purpose, description of the project, and the results.

## 57

### *Poisoned by Policymakers: Understanding Governmental Distrust in Flint, MI through the Lens of Leadership Theory*

**Gabrielle (Abby) Price and Claire Leffingwell**

WTE

Mentor: Lauren Edelman, Leadership Institute

In 2011, Flint, Michigan, faced a \$15 million budget deficit. To curtail this deficit, Flint's city officials switched from purchasing treated water from Detroit to sourcing water from the Flint River in April 2014, which saved the city \$9.2 million annually. Residents began complaining about a bad taste, smell, and appearance of the water soon after. In early 2015, non-governmental third-party researchers completed analyses which exposed an extreme increase of lead in the water over the year of using the corroded Flint water system. During the water crisis, 100,000 Flint residents were exposed to lead in their drinking water. In response, institutions such as education and health systems are implementing programs to help respond to the mental and physical deficits residents are facing. These corporeal symptoms contribute to a more significant issue of distrust between Flint citizens and government officials at the local, state, and federal levels. What began as a water crisis has now shifted to a much more significant policy crisis. Because of poor policy management, Flint citizens were ill-informed about the possible lead contamination despite their voiced suspicion. This has created a culture of distrust between the Flint community and policy makers. If policy makers embrace authentic leadership and utilize processes of the social change model, they can restore peace, prosperity, and progress in Flint.

58

***Learning through Activity***

**Marissa Schardein**

WTE

Mentor: Richard Ellis, Center for Community Services

Community Action Head Start provides services to low-income families with young children through the Early Head Start (children aged zero to three) and Head Start (children aged three to five) programs. The programs provide comprehensive developmental services to these children. During my eight months working at Community Action Head Start, my main role has been creating lesson plans focused on physical activity that incorporates crossing the midline and gross motor skills and then implementing these activities in each classroom. Through this presentation, I will describe Community Action Head Start services, details of my role and experiences there, and the purpose and importance of the activities I have been creating. Finally, I will discuss the impact this invaluable experience has had on me, personally and professionally, as I embark on a nursing career, hopefully in pediatrics.

59

***LinC Bonner Scholar Sr. Intern***

**Mariah Debacker**

WTE, WM

Mentor: Richard Ellis, Center for Community Services

Being a part of the LinC Bonner Scholars Program has taught me a lot about leadership. I started out being just an observer to being an active participant in this program. Through my time being a Senior Intern, I have been able to coordinate the majority of the meetings for the 2018-2019 school year. Educating younger Bonners of the core beliefs of this organization was a goal that I strived for and keeping each Bonner activity engaged in the program. Being a student who is studying occupational therapy, I find it important to take a holistic approach to find the best ways of finding the best fit for each student to be a Bonner.

60

***Gender Differences in Attentional Bias for Grieving College Students***

**Shelby A. Schone**

WTE

Mentor: Michael McGuire, Psychology

Previous research suggests that developing an attentional bias to loss-related stimuli following a significant loss is correlated with higher levels of grief severity (Macallum & Bryant, 2011). College students and females may be more susceptible to developing an attentional bias to loss-related stimuli because of their coping styles and available resources. The current study examines the relationship between gender and student status and the likelihood of developing an attentional bias to death-related stimuli following the loss of a loved one. Participants first filled out a survey regarding whether they had lost a loved one in the past 24 months, their relationship with the person lost if applicable, how long ago they experienced the loss if applicable, their age,

and gender. Participants then completed an in-person emotional Stroop task consisting of neutral and death-related words. Attentional bias was measured by comparing response time to neutral words to response time to death-related words. Results and discussion of results will be a part of this presentation.

## 61

### *Alkylation of Nosylamide to form Azamacrocycles*

**Abigail K. Hosek**

Mentor: Shaun Schmidt, Chemistry

The present research is focused on the synthesis of polycyclic cage systems that contain amine functionalities, such as [46]adamantane. Macrocyclic complexes have been used as imaging agents and in radiotherapy. The macrocycles serve as a “host” that carries a metal ion through the body. Previous research done with this macrocycle included generation of the cage structure by alkylation of an amine followed by ring closing metathesis to form macrocycles. Deprotection of amines in the macrocycle is necessary. However, it proved difficult when removing *p*-toluenesulfonamide (tosylamide) protecting groups. The purpose of this research is to form macrocycles by alkylation of 4-nitrobenzenesulfonamide (nosylamide) followed by ring closing metathesis and deprotection of the amines. Utilizing nosylamide, instead of tosylamide, may allow for full deprotection of the amines in the macrocyclic structures.

## 62

### *Exploring the Effects of a Flipped Classroom Teaching Format in Comparison to Traditional Teaching Methods*

**Samantha L. Ford**

WTE

Mentor: Linzi Gibson, Psychology

The concept of a flipped classroom, which is an increasingly popular teaching method in classrooms from grade school to college-level classes, has been recently studied with increasing interest to investigate whether it is a superior teaching method in comparison to traditional classroom styles. A flipped classroom uses a reverse method of teaching from the traditional classroom. In the flipped classroom, students utilize technology and watch instructional videos outside of the classroom, and complete activities that may have previously been homework inside the class period. In this literature review, the benefits and drawbacks of the flipped classroom method are investigated in comparison to the traditional classroom method.

63

***Becoming a Community Resource***

**Shyla Mason**

WTE

Mentor: Richard Ellis, Center for Community Services

My perception of poverty has changed drastically since coming to college and becoming engaged in the LinC Bonner Program. Over the years at Washburn I have been given a chance to volunteer abroad and work at various sites in Topeka, such as Let's Help, Harvesters, and Helping Hands Humane Society. The current one I am at is the Community Resources Council (CRC), which helps to connect the resources available in our community with the citizens in and around Shawnee County through collaboration, advocacy, research, and education. My primary role at the CRC has been to gather new information on the organizations and tools available in Topeka for individuals seeking help and to promote events within our community that citizens can attend to gather more knowledge on poverty issues. This presentation will describe my process of growth, specifically how this experience has benefitted my learning and understanding of poverty; what one can do to help in their community; and the importance and impact having resources available plays with poverty issues.

64

***Literature Review of Primary and Secondary Symptoms of Depression and Effects on Implicit and Explicit Memory***

**Justine Marie Kovatch**

WTE

Mentor: Michael McGuire, Psychology

The goal of the current literature review is to learn more about research investigating primary and secondary symptoms of depression with an emphasis on memory loss. An additional goal is to determine whether implicit and explicit memory loss is due to the cognitive effects that fatigue has on memory, or if chemical imbalances are responsible for loss of memory. Alternatively, both may be equally responsible. The literature review will conclude with relevant treatment options including medications and therapies.

65

***Volunteer Experience at the Topeka & Shawnee County Public Library***

**Madison R. Weidenbach**

Mentor: Mary Sheldon, English

This presentation and discussion will focus on the volunteer experience completed at the Topeka & Shawnee County Public Library in order to fulfill the requirements for EN 402, as well as to gain experience in the library science field before applying to Emporia State University's School of Library and Information Management.



***Psychology in Esports: A Literature Review*****Andrew Fredrickson**

WTE

Mentor: Michael McGuire, Psychology

Esports are a form of alternative sports in which players compete in a particular video game at a professional level. There is a long history of grassroots competitive gaming, but only in recent years have esports become a viable career path, with the necessary infrastructure and audience to support the venture. As the viability of esports has increased, so too has the interest in its psychological study. The area of sports and performance psychology is robust and historied, but the application of these concepts to esports is still very much in its infancy. With that in mind, I conducted a literature review to determine what has been unveiled thus far, and what still needs studying. This survey of the literature uncovered two areas most strongly developed in the area of esports psychology: what sort of mental and psychological skills are present in these professional players, and what motivates people to become involved in esports. Present in this review are critiques of past research - primarily the simple lack of quantity of studies, but also an absence of rigorous experimental designs. I also suggest areas of potential further study, including an emphasis on stress and anxiety sourced from the high-pressure, highly-scrutinized competitive environment.

***Development of a Behavioral Baseline of Captive L. Rosalia at the Topeka Zoo*****Brandon McPhail**

Mentor: Rodrigo Mercader, Biology

Manipulating environmental conditions or altering groups in controlled experiments is often not possible in zoos. This often leaves behavioral observations as one of the primary mechanisms to assess the outcomes of environmental modifications or introductions of new members to exhibits. These observations require a behavioral baseline as a reference. Here we intend to establish a baseline for the golden lion tamarins, *Leontopithecus rosalia*, at the Topeka Zoo. *L. rosalia* is an endangered social primate found in Brazil living in groups of 2-11 individuals. Behaviors that were we recorded were vocalizations, grooming, eating, movement, hiding, interactions with enrichment, and any signs of stress. Behavioral observations were obtained from January 22nd to April 5th using scan sampling. Their behavior was variable and the two demonstrated distinct differences, though some trends were noticeable. Both seemed to interact more with the environment, and had little preference when it came to enrichment objects. Additionally, they both appeared to spend more time in the open than in hiding. Overall the results of this study present a baseline to compare their behavior for future studies.

68

***Molecular Cloning and Analysis of Naegleria gruberi Potassium Two-Pore Channel cDNAs***

**Paul M. Heffren**

WTE

Mentor: John Mullican, Biology

*Naegleria gruberi* is a free-living ameboflagellate ubiquitous in freshwater and wet soil. The genus *Naegleria* is well known for its ability to transform between amoeboid, flagellate, and cyst forms depending upon environmental conditions. Analysis of the *N. gruberi* genome (strain NEG-M) indicates the presence of a putative potassium two-pore channel (K2P) gene. Due to similarities in the stimuli that activate K2P channels and environmental cues that cause *N. gruberi* to transform, this gene was chosen for further analysis. We hypothesize that the K2P channel, which is known to respond to changes in pH, voltage, and membrane stretch, may play a role in the signaling cascade(s) that contribute to the different amebae transformations. Using the JGI genome sequence database for *N. gruberi* NEG-M, we designed primers to clone the cDNAs of the K2P mRNAs from both the EGB and NEG-M strains of *N. gruberi* into mammalian expression vectors. We present an initial characterization of the cDNA sequences, comparing them to gene sequences, and highlight exon/intron splice sites. Based on protein alignment of known K2P channels and use of protein structure modeling software, we conclude that the *N. gruberi* K2P protein is of the 4TM/2P (4 transmembrane domains, 2 P loop domains) type. The cloned sequences will be used to analyze the protein, including transfecting mammalian cell lines devoid of K<sup>+</sup> channels to determine the pH sensitivity of the *N. gruberi* channel via electrophysiology studies.

69

***Literature Review on Whether Exam Wrappers Can Boost Exam Performance***

**Daniel Kalas**

WTE

Mentor: Michael McGuire, Psychology

Many instructors have different methods of trying to teach their students better ways to succeed in class and on exams. A proposed method for enhancing students' metacognitive abilities and thus class performance is exam wrappers. Lovett (2013) defined exam wrappers as "Structured reflection activities that prompt students to practice key metacognitive skills after they get back their graded exams" (p 18). This poster presentation will examine and review the advantages and disadvantages of exam wrappers on metacognition and exam grades. Additionally, based on conclusions stemming from a review of the literature, recommendations will be suggested in terms of new ways of using exam wrappers and different questions that can have greater benefits on students' course work.

70

***Poverty and Civic Engagement***

**Garrett C. Rogers**

Mentor: Richard Ellis, Center for Community Services

Loud Light is a non-profit devoted to raising voter turnout and civic engagement through non-partisan efforts. One of the ways in which Loud Light attempts to accomplish its task is by helping potential voters navigate the registration process. During my time with Loud Light, the Kansas Supreme Court was determining the legitimacy of the birth certificate requirement proposed by former Secretary of State Kris Kobach. This compounded previously existing confusion and resulted in some voter disenfranchisement. This presentation will be about how low-income citizens become disenfranchised with the electoral process, as well as possible remedies that may foster an increase in voter registration and participation.

71

***A Comparative Analysis of Stature Estimation Methods for Application in Forensic Anthropology.***

**Susie C. Athey**

WTE

Mentor: Alexandra Klaes, Sociology & Anthropology

Forensic anthropologists use either anatomical or mathematical methods to estimate stature. Anatomical methods use all bones contributing to stature; mathematical methods use correlations of long bones. This research aims to validate each method, compare accuracy, and to determine if soft tissue or age corrections improve accuracy. 72 white males and females were used from the William M. Bass Donated collection. Measurements were summed for anatomical methods (n=2), soft tissue correction factors were applied, or entered in sex/bone specific regression equations to estimate stature using mathematical methods (n=4). Applied age-correction factors (n=2) were tested for accuracy and estimated stature with and without age correction factors was compared to known stature to determine accuracy. Female stature was more accurate than males as stature was typically underestimated. Revised methods (anatomical and mathematical) provided more accurate estimates than original methods. Raxter et al.'s (2006) revision of Fully's method provided stature estimates closer to known height in 80.9% of individuals. Ousley (1995) and Wilson et al. (2010) produced higher accuracy rates per individually tested bones (76.4-93.0%) than originals. Age correction factors didn't improve accuracy. Results suggest that Wilson et al. (2010) and Ousley (1995) are comparable; outperforming anatomical methods. Wilson et al.'s tibia equation accurately estimates actual stature overall (93.0%).

72

***Guilty until Proven Innocent***

**Madison J. Dressman**

Mentor: Christina Menager, Psychology

The court relies on the idea that the average citizen has common sense and common knowledge that allows the jury to figure if an eyewitness testimony is a correct telling of circumstances. Countless psychologists have poured hours upon hours of time, energy, and money into studying the consequences of faulty memory in eyewitness testimony, information that should be noted and used to change our justice system for the better. The information can be used to keep the innocent safe and free while serving justice to those who seek to undo our society. Unfortunately, the work of these psychologists are often unheard of or disregarded by those in the field of Law. One unnamed judge even going as far to say “Jurors have been deliberating about questions regarding perception and memory for over 200 years and there is nothing new a psychologist can tell us about these processes” (Yarmey & Jones, 1983, p. 13) Modern DNA testing in different case studies has shown that false eyewitness identification is responsible for more false convictions compared to all other causes combined. To understand exactly why this crisis is effecting our judicial system, we need to study how human memory works. This way we can have a deeper understanding of how natural faults in memory can lead to real life consequences, such as identifying the wrong individual in a criminal lineup.

73

***Women Empowering Women - Working with Survivors of Abuse***

**Rheagan Rose Hageman**

WTE

Mentor: Kristine Hart, Center for Community Services

The YWCA Center for Safety and Empowerment provides support, advocacy, emergency housing, and other services to anyone in the local area who has experienced a form of victimization. These include, but are not limited to, domestic violence, sexual violence, human trafficking, and stalking. I worked alongside the advocates to provide a safe environment for the women in the shelter. The shelter can hold up to 18 women, but more if there are women in high lethality. I helped provide a safe place for these women to stay, focusing on what their goals are and how we could get them to where they wanted to be. I helped women get to appointments, provided food for them to cook their own meals, and helped the women realize how strong they truly are.

***Individualism, Collectivism, and the Role of Fixed vs Growth  
Mindsets in Culture***

**Ryan F. Yowell**

WTE

Mentor: Linzi Gibson, Psychology

The purpose of the study was to distinguish the benefits of collectivism on creativity compared to that of individualism. Participants took four tests, each measuring either cultural orientation or levels of creativity. Tests were comprised of fill in the blank questions, as well as a divergent thinking task geared to evoke creative usages for everyday items. This research provides insight into how cultural orientations of individualism and collectivism are related to creativity, allowing for a growth mindset and more novel output. Creativity is valued highly in our society, and the current study hopes to support that by adopting collectivist ideals, creative output is increased, correlating with a higher growth mindset and intellectual advancement.

# *Reception*

## Polynesian Menu

Kalua Pork Sliders on Hawaiian Buns

Grilled Tilapia Bites with Mango Salsa

Seasoned Tofu with Mango Salsa

Pineapple Coleslaw

Coconut Rice

Pineapple Upside Down Bars

Mai Tai Mocktail

Pineapple Infused Water



# Apeiron Committee 2019

**Courtney Sullivan and Bruce Mechtly, Co-Chairs**

**Administrative Support by Christine Rhoads**

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- Paul Byrne
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# ***Index of Presenters and Mentors***

(name, page number)

Anderson, Ryan D., 27	Head, Danielle, 20
Athey, Susie C., 45	Heffren, Paul M., 13, 44
Bailly, Samantha, 24	Henry, Kelsee R., 19
Barnard, Taylor J., 23	Herbig, Andrew, 18
Barrientos, Brianna, 28	Hockett, Jericho, 6, 16
Beckwith, Alexsis, 23	Hoover, Brady Lee, 11
Bergeron, Shelby A., 14	Hosek, Abigail K., 41
Beuscher, Brittainie Michele, 29	Houser, Abigail Cynthia, 18
Bjerke, Susan, 17	Howell, Macy Christine, 22
Blodgett, Jayden Marie, 27	Hurr, Gracie Elizabeth, 18
Braun, Regan, 28, 31	Hutchinson, Matthew, 11
Burdick, Melanie, 14	Hymon, Johnnie B., 35
Burrows, Chandler Lee, 12	Johnston, Holly Jo, 38
Cann, Steven, 14	Jones, Christopher, 5, 27, 30
Carley, Jordan Thean, 9	Jones, Stephanie, 22, 23
Casey, LeAnne M., 15	Kalas, Daniel, 44
Conley, Michaela M., 20	Keiswetter, Elizabeth C., 32
Cooper, Dekeysha L., 13	Kendall-Morwick, Karalyn, 10
Cox, Mikaela, 14	Klaes, Alexandra, 28, 45
Cox, Samuel A., 20, 21	Kovatch, Justine Marie, 42
Cunningham, Maria, 27	Lauppe, Anna-Marie, 33
Debacker, Mariah, 40	Lawrence, Morgan J., 26
Dervin, Michaela, 29	Leal, Sarah A., 5
Dressman, Madison J., 46	Leffingwell, Claire, 39
Duncan, Angela, 22, 23, 24, 31	Leung, Sam, 26
Edelman, Lauren, 39	Lightfoot, Laura L., 25
Ellis, Richard, 31, 34, 35, 37, 40, 42, 45	Liu, Vivian, 8
Erby, Kelly, 12	Lo, KaZoua Elizabeth, 18
Etzal, Dennis Jr, 5, 6	Long, Holly A., 28, 32
Evans, Lauren, 30	Maendele, Susan, 18
Farrar, Jeffrey B., 8	Marwaha, Chaitali, 9
Faulkinbury, Erica N., 6	Mason, Shyla, 42
Folster, Emili A. B., 27	Masters, Khrystyan Aanon, 26
Ford, Samantha L., 41	Murugarren Clavier, Nicole, 21
Fredrickson, Andrew, 43	McClain, Ian M., 38
Furse, Antony R, 30	McGuire, Michael, 18, 40, 42, 43, 44
Gibson, Linzi, 23, 25, 26, 29, 31, 34, 41, 47	McPhail, Brandon, 43
Gonzalez-Abellas, Miguel, 21	Mechtly, Bruce, 25
Hagedorn, Hannah E., 5, 17	Menager, Christina, 29, 46
Hageman, Rheagan Rose, 46	Mercader, Rodrigo, 43
Hahn, Evan, 31	Meyer, Jacob M., 8
Haller, Ryan, 26	Moddelmog, Linsey, 21
Hansen O'Neil, Emma, 16, 25	Montgomery, Alex M., 25
Harper, Samara I., 6	Morris, Donnique, 27
Hart, Kristine, 10, 28, 35, 46	Mullican, John, 44
Hayden, Bryce T., 14	Munganga, Benis, 9
Hays, Katlyn Jo, 33	Murphy, Laura, 32



Murphy, Molly M., 10  
 Mwihaki, Boniface, 9  
 Nebel, Cynthia, 22, 36  
 Nelsen, Colby Andrew, 34  
 Nettekoven, Zekiah, 8  
 Nyquist, Matthew, 11  
 O'Leary, Kevin, 27  
 O'Neill, Holly, 13, 38  
 Paez, Kasey Dolores, 36  
 Parcels, Norman, 36  
 Peterson, Victoria G., 34  
 Phelps-Roper, Jonah B., 8  
 Pirtle, Christina Marie, 27  
 Prasch, Thomas, 10  
 Price, Gabrielle (Abby), 39  
 Pritchard, Jill C., 17  
 Province, Brooke, 5  
 Provorse, David, 28  
 Reynard, Leslie, 15, 16  
 Ricklefs, Tonya, 36  
 Robinson, Jane, 30  
 Rodriguez, Tanya, 24, 27  
 Rogers, Garrett C., 45  
 Rosenberger, Kaylee A., 21  
 Routsong, Tracy, 11, 19, 27  
 Russell, Michael, 19, 21, 25, 37, 38  
 Sadikot, Takrima, 19, 33  
 Sander, Kelsay, 37  
 Schardein, Marissa, 39, 40  
 Schmalzried, RaLynn, 17, 20, 24, 33  
 Schmidt, Shaun, 13, 33, 41  
 Schone, Shelby A, 40  
 Sharemet, Eleanor R., 6, 10  
 Sheldon, Mary, 42  
 Showalter, Emma M., 19

Smith, Kristie Lynn, 6  
 Smith, Sarina, 35  
 Staats, Emma, 10  
 Steinhoff, Gavin, 8  
 Steinroetter, Vanessa, 9  
 Stickley, Jaymee, 18  
 Stone, Kale, 9  
 Strickland, Bryce Kelly, 37  
 Strong, Xavier B., 11  
 Sullivan, Courtney, 32  
 Sullivan, Sharon, 6  
 Sun, Nan, 8, 9  
 Taylor, Cera K., 16  
 Teater, Stephanie, 6  
 Thornwall, Steven, 8  
 Turner, Rachael, 31, 36  
 Turrentine, Annette, 6  
 Unruh, Emily, 27  
 Ure, Katherine, 39  
 VanderPutten, Mary M., 18  
 Vanegas, Diana Abigail, 19  
 Villa, Yaretzi I., 5  
 Voigt, Riley D., 12  
 Ward, McKenna Mariah, 31  
 Ward, TaNiqua, 36  
 Wasserstein, Izzy, 12  
 Webb, Michaela L., 15  
 Weidenbach, Madison R., 42  
 White, Adam, 6  
 Wilson, Devyn, 11  
 Wright, Derek, 8  
 Wynn, Kerry, 32  
 Yowell, Ryan F., 47  
 Zimmer, Jennifer, 6

## *Notes*





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*Special thanks go to the  
College of Arts and Sciences,  
Washburn Transformational Experience,  
Vice President for Student Life,  
Washburn University Foundation,  
Friends of Mabee Library,  
School of Business,  
School of Nursing,  
School of Applied Studies,  
Alpha Lambda Delta Honor Society,  
Mortar Board Honor Society,  
University Relations,  
and Vice President for Academic Affairs  
for their support of student academic and  
creative excellence through Apeiron.*

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