

13<sup>TH</sup> ANNUAL  
**AES**

**ACADEMIC  
EXCELLENCE  
SHOWCASE**

**THURSDAY • MAY 31 • 2018**

**POSTERS • TALKS • PERFORMANCES**

A conference of student work

Featuring a Special Presidential Plenary at 11:30 a.m.





# ACADEMIC EXCELLENCE SHOWCASE

13<sup>TH</sup> ANNUAL

# AES

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## A message from Rex Fuller, president, Western Oregon University

This year's Academic Excellence Showcase marks its 13th iteration. This long-standing tradition is a fundamental factor in WOU's commitment to engaged learning. Through this event, our students are able to engage in scholarly and creative activities that expand their learning and promote a campus culture of academic excellence. The presentations by our students provide strong evidence that Western Oregon University is, first and foremost, a university dedicated to student achievement.

At WOU, students are encouraged to explore creative applications of their studies under the guidance of faculty by engaging in professional-level scholarly and creative activities. Some of the students whose projects are abstracted in this publication will go on to present their work before state, regional or even national conferences. Some will be published in WOU's PURE Insights, a competitive journal of student work. Still others will be presenting work that has become the basis of a lifetime pursuit and passion.

Whatever comes after the Academic Excellence Showcase, participating students are the embodiment of a transformative education that stimulates lifelong learning and exploration. I congratulate our faculty, who motivate and engage our students to take their classroom experience on a journey that transcends the boundaries of the traditional classroom.

The Academic Excellence Showcase is one the university's highlights during the academic year. I want to thank the students who have chosen to share their work with us and faculty for nurturing and guiding the pursuits of our students. Western Oregon University commends your dedication, and we are proud of all you do because together we succeed.

## A message from the Western Oregon University Program for Undergraduate Research Experiences

*Sponsor of the 2018 Academic  
Excellence Showcase*



The Program for Undergraduate Research Experiences (PURE) began in 2004, when a group of faculty formed a task force to examine the state of undergraduate scholarship at Western Oregon University. We were impressed by what we saw happening across the campus. We recognized that the research experience takes many forms: academic papers, exhibits, posters, laboratory investigations, performances, and service learning projects, to name just a few. The PURE task force identified numerous ways to help facilitate and enhance undergraduate research experiences at WOU. One recommendation: to facilitate greater participation by the entire campus in celebrating our students' accomplishments—resulted in Academic Excellence Showcase. Showcase was built upon the annual academic excellence event hosted by WOU's chapter of the Honor Society of Phi Kappa Phi. Today, Showcase is a professional-style conference with a plenary keynote session. The entire event is sponsored by PURE and organized by the Academic Excellence Showcase implementation committee. Again this year, the campus community has responded enthusiastically to the call for participation, as evidenced by this impressive proceedings volume. This exciting event celebrates some of the most remarkable academic accomplishments made by WOU students. We hope you will join us in attending as many sessions as possible and congratulating students on their outstanding scholarship.

PURE Executive Members: Ava Howard (chair), Paula Baldwin, Mike Baltzley, Scott Beaver, Adry Clark, Xiaopeng Gong, Shaun Huston, Gavin Keulks, Sue Kunda, Margaret Manoogian, Rebecca McCannell, Jennifer Taylor and Gregory Zobel.

## A message from Dr. Stephen Scheck, provost and vice president for academic affairs, Western Oregon University

Today's Academic Excellence Showcase provides compelling snapshots of the academic discoveries that take place every day at WOU—on stage, in the lab, at the library or in the field. We are a place where the faculty encourage students to view learning as a dynamic process that extends beyond the traditional classroom, where students are urged to pursue their interests and commit to a quest of creativity and inquiry. Today's Showcase is vibrant evidence of that intellectual and personal growth, illustrating the richness in diversity of scholarship.

It is a pleasure for me both to acknowledge the efforts of our students presenting their work today and to convey my appreciation to our faculty for their support of our students. I strongly encourage those students participating today as observers to become involved and to take advantage of being at WOU, where professors are eager to mentor you in your own engagement of discovery.

## A message from the Western Oregon University Chapter of The Honor Society of Phi Kappa Phi

Western Oregon University's chapter of Phi Kappa Phi is pleased and honored to provide ongoing support to the university's important tradition of recognizing and celebrating student excellence through the 2018 Academic Excellence Showcase. Faculty members of Phi Kappa Phi developed criteria for and selected outstanding posters from student entries this year. Founded in 1897, Phi Kappa Phi (PKP) is the nation's oldest, largest and most selective all-discipline honor society. WOU's chapter was founded in 1979 and held the first initiation on May 9, 1980. For more than 30 years, Phi Kappa Phi—with the support of its members, as well as employees across campus—has supported academic excellence on campus, celebrating our students' outstanding research and creative endeavors.



## Outstanding AES 2018 Posters Awards

The Program for Undergraduate Research Experiences (PURE) has partnered with WOU's chapter of the Honor Society of Phi Kappa Phi to select the top posters of AES 2018. Showcase is already an event of academic excellence, and the posters selected for this award represent the best of the best. The recipients of this distinguished award will receive a certificate, be featured on a list of winners on PURE's website and will be invited to become part of a special summer exhibit in the Hamersly Library.

*Don't want to carry around a proceedings from session to session?*

For an electronic showcase schedule and to download events to your mobile device or calendar, go to:

[http://digitalcommons.wou.edu/aes\\_event/2018](http://digitalcommons.wou.edu/aes_event/2018)

# MAURICE CHALLENGE COMPETITION

## \$5,000 AWARD

Werner University Center, Ochoco Room  
1 - 2 p.m.

Please join us at this reception to celebrate the Maurice Challenge Competition, including the presentation of the \$5,000 award to the student winner of the 2018 contest. Learn more about the competition, its student winners, and how more students might participate in the future.

This year's finalists and their projects are:

**Moises Mendoza Medina: *No More Pay for Play***

**Jeremiah Price: *Chitty Chitty Bang Bang Community Theatre***

This unique competition offers WOU students a rare opportunity to win an unrestricted cash award based on their ability to define a problem of importance to them and to pursue solving that problem without restrictions on their creativity, innovation or execution. Ultimately, the competition intends to help students broaden their knowledge about themselves and their abilities, as well as learn more about the global community. The winner(s) are chosen by the committee based on the a) innovation, design and execution of the project over its implementation, b) depth of knowledge gained through the student's project, c) impact of the project on the campus and community, and d) the quality, clarity and appropriateness of the analysis report and presentation to the committee.

**Maurice Challenge Committee:** Daryl Thomas, chair; Bob Hautala and Patricia Flatt, faculty members; Cristina Garcia Toche, Rachel Schneider, Noah Levine, student members; Linda Stonecipher, staff member.



*Pictured above: previous student finalists*

## SPECIAL EVENTS

8 to 8:20 a.m., WUC Willamette Room

### **Phi Kappa Phi First-Year Writing Awards**

Awards for outstanding essays produced in Writing 122 and 115.

10:32 to 11:02 a.m., WUC Willamette Room

### **Peter Sears Prize and Meyer Prize for Literature**

Awards for the best poems written by a WOU undergraduate and awards for the best essays in the study of literature.

1 to 1:30 pm, Departs from AES Information Desk, WUC

### **Walking Tour: Campus Trees**

The University Tree Advisory Committee will lead a walking tour of significant trees on the WOU campus with discussion of botanical and historical information.

1 to 2 p.m., WUC Ochoco Room

### **Maurice Undergraduate Initiative**

Please join us at this reception to celebrate the Maurice Challenge Competition, including the presentation of the \$5,000 award to the student winner of the 2018 competition, followed by a brief overview of the winning project by its student.

1 to 3 p.m., Campbell Hall Art Gallery

### **Art & Design Student Exhibition Reception**

Join the Art Department in celebrating the work of students in our annual juried student exhibition. There will be coffee, tea, cookies and some students on hand to chat about the work.

3 to 4:30 p.m., HWC 301\*

### **Outstanding Student Awards in Health and Exercise Science**

A highly select group of students in the Division of Health and Exercise Science will receive an "Outstanding Student Recognition Award" from our division for their outstanding academic achievement and their service to the profession and/or community. *\*By invitation only*

6 to 8 p.m., WUC Willamette Room\*

### **Natural Science and Mathematics Student Recognition Night**

This event recognizes the achievements of outstanding students who are working towards degrees in biology, chemistry, Earth science and mathematics. *\*By invitation only*



# PRESIDENTIAL PLENARY

Sponsored by President Rex Fuller and PURE (Program for Undergraduate Research Experience)

11:30 a.m. to 12:15 p.m.

Presidential Meet & Greet to follow  
Werner University Center, Pacific Room



**POWER:** Money, time, emotion, influence, politics, knowledge, weapons, images, love.

**POWER:** How much do we have? To what ends do we use it? Do we balance ethos, pathos, and logos?

**POWER:** People want it; few can handle it. What do we need to know about managing power and using it in an ethical, responsible manner?

## Dr. Ava Howard

*Welcome*

PURE Director/Biology

## President Rex Fuller

*Opening Comments*

WOU President

## Dr. Melinda Shimizu

*Plenary Theme Comments*

Earth/Physical Science

## Dr. Marcus Wenzel

*Power, Paradoxes and Pecha Kuchas*

Division of Education and Leadership

The feeling of powerless over people, places and things is a miserable mental state most folks would studiously try to avoid. No one wants less power—everyone wants more. Teachers often use the power of persuasion, convincing students that their subjects are worth their time, money and energy. Yet, it can be risky to seem too power hungry. Explicit power can manifest itself through manipulation, which involves one person doing something to someone else to control their actions and attitude. Defined in this way, manipulation would seem a creepy and disturbing basis for a pedagogical approach. However, I argue more subtle classroom displays of power can instead foster student motivation, which is created with someone. The purpose of this presentation is to introduce the mindset necessary to foster those congenial—yet—cunning power moves teachers can employ with their students. Using words from men and women through history who have studied and mastered the game of power, I explore a devious yet democratic point of view for content delivery.

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Dr. Marcus Wenzel teaches in undergraduate and graduate teacher education licensure courses. He has taught at WOU since 2011. A building principal once called his classroom “organized chaos” which suited Wenzel just fine.

## Dr. Debi Brannan

*Social Justice, Power and Inequities; Why We Should Care*

Behavioral Sciences

Social justice is a topic that is tossed around but when asked, few people can explain exactly what it is. While there are different definitions, most have similar themes such as social action and interaction, critical inquiry, personal commitment and advocacy for historically marginalized and oppressed groups. With attention and commitment we can enact social justice and give power and voice to those who have been kept silent. Making small changes in the way we view the world and how we listen to others can lead to enormous differences.

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Dr. Debi Brannan teaches in courses such as research methods, social psychology and occupational health psychology. She has taught at WOU since 2011. Dr. Brannan is an applied social psychologist with a focus understanding how positive

interactions and social support buffer individuals from stress and negative health behaviors.

## Dr. Jie Liu

Computer Science

*Artificial Intelligence 3.0 – Another Revolution*

Over the course of two centuries, the industrial revolution largely freed humans from many manual tasks, allowing us to focus on innovations that our ancestors never dreamed of, such as flying across oceans. During the half-century following, the digital revolution brought even more changes enabled by computers, which now perform quadrillions of floating-point operations per second. All over the world today, many people can barely function without their smartphones and the internet. Like it or not, artificial intelligence (AI) 3.0 has launched another revolution. Machines now prevail over humans when doing challenging mental activities, such as playing poker. This talk is about AI and will cover three topics: the AI revolution is real and will affect just about everyone and everything we do; AI is different from human intelligence; and machines will NOT surpass human innovation or decision-making...at least for the near future.

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Dr. Jie Liu teaches graduate level and undergraduate level classes in computer science and information systems. He has taught at WOU since 1989. He is on sabbatical this school year and working at HP in Corvallis as a senior data engineer so he gets to play with a lot of expensive tools and systems related to big data and artificial intelligence.

## Dr. Mark Henkels and Connor Amundson

Social Sciences

*Aphorisms Abound: Power in Social and Political Analysis*

“Power tends to corrupt, and absolute power corrupts absolutely”. Lord Acton’s famous words may be a particularly apt aphorism these days, but there is no end to the litany of pithy phrases that reflect, or deflect, the truth about our social and political context. But maybe the one we should pay most attention to declares, “Owning a great golf course gives you great power.” (Donald Trump)

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Dr. Mark Henkels is a professor of politics, policy and administration. He has taught at WOU since 1988. The year he received his doctorate his father also earned a master’s, his sister earned a master’s of social work, another sister earned a bachelor’s, and another sister graduated from high school.

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Connor Amundson is an undergraduate student majoring in political science, with a minor in legal studies. He graduates in 2018 and has been accepted with scholarship at several law schools. He is one of a group of Chemeketa students who led their Mock Trial team to a regional tournament against various Division I schools.

**POWER ON CAMPUS:** How are we employing power to learn, to shape our communities, to impact our worlds, and to be a community? The diverse presentations address how power can be framed in multiple relationships and approaches on and off campus. These rich presentations and performances align with Dr. Melinda Shimizu's vision for the theme when she proposed it: "[Power] could include the STEM approach to power (as in sources we use for fuel or to move machinery or power our cities,

etc.) and the understanding of power in social settings (classroom, institutions, society at large, etc.). This could include folks from many disciplines and backgrounds sharing their experiences or studies related to the subject of power."

**Power is intense, exciting and an equilibrium of responsibility and privilege. We're glad you can join us as we reflect on power's multiplicity of impacts and manifestations.**

### Dr. Emily Lilo

Health & Exercise Science

#### *The Power of Language to Change Health*

When I say "health," what comes to mind? How is it the same or different than when I say "illness"? What about the difference between "illness" and "disease"? Your impressions of these words are influenced by your life experiences, the positionality of your cultural identities and the intersectionality of your identities with those of the mainstream. Language has the power to change the world by influencing our perceptions of causes and effects, attributions of responsibility and expectations for solutions. Language also has the power to bring us together or tear us apart. Changing the words we use can change reality. So, let's use that power to change the world together to reduce disparities, increase equity, and put the power of good health in everyone's hands.

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Dr. Emily Lilo teaches in courses in public health. She has taught at WOU since 2017. She is passionate about public health and working to reduce health disparities, but she seriously considered becoming a marine biologist so that she could spend her days swimming with dolphins.

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### Dr. Margaret Manoogian

Behavioral Sciences

#### *The Intergenerational Transmission of the Armenian Genocide: Family Member Empowerment through Narratives, Rituals and Generative Acts*

The legal definition of genocide by the UN Convention on the Prevention and Punishment of Genocide (1948) states that genocide is a set of acts "with the intent to destroy, in whole or in part, a national, ethnical, racial or religious group." Acts of genocide are intentional displays of power as they influence individual and family well-being, the disruption of culture, and the forced relocation of families from their homelands. The transmission of genocide across generations demonstrates how these experiences of trauma are narrated over time. Armenian family narratives suggest that individuals will seek ways to empower family members and genocide may spur generative acts with heightened concern to ensure that younger generations understand the stories and meanings of genocidal experiences (Manoogian, Walker, & Richards, 2007). Transmissions may be reshaped across generations such as the retelling of genocide experiences to emphasize heroism, resilience and family strength.

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Dr. Margaret Manoogian teaches courses in aging and gerontology. She has taught at WOU since 2011. Did you know that she created the Career Development Center at what was once called Western Oregon State College and served as its first director between 1986-1991?

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### Dr. Michael Phillips

Theatre and Dance

#### *Portal Theatre's No Belles*

Student performers:

#### **LINDSAY SPEAR**

Lindsay is a senior in the B.F.A. program at WOU. She has performed in numerous productions at WOU, including *The Best Little Whorehouse in Texas* (Miss Mona), *This Girl Laughs, This Girl Cries, This Girl Does Nothing* (Albienne), *Cymbeline* (Imogen) and others. She has worked with Enlightened Theatrics, Portal Theatre, Staged! and Northwest Children's Theatre.

#### **CATI RANGEL**

Cati is a junior in the BFA Acting program here at Western. Recently, she was Angel in WOU's production of *The Best Little Whorehouse in Texas*. After graduation she is planning on going to graduate school and living in Chicago. Besides acting, her other passions are dogs and horror movies.

#### **MEGHAN DOERFLER**

Meghan is a junior in the B.F.A. Acting program at WOU. She was recently in Albany Civic Theatre's production of *Pride And Prejudice* as Miss Bingley and has been in *Radium Girls* as Mrs. MacNeil, Clerk, and Wiley, *Much Ado About Nothing* as Margaret, and several other shows at WOU. She would like to thank Michael Phillips for giving her this opportunity as well as her family for its constant support.

Musician:

#### **MICHAEL PHILLIPS**

In 2013, *The New York Times* began an obituary: "She made a mean beef stroganoff, followed her husband from job to job and took eight years off from work to raise three children." Never mind that Yvonne Brill was a well-respected rocket scientist. The story of women in science is a story of broken barriers, shifting social attitudes and groundbreaking discoveries. In excerpts from *No Belles*, Portal Theatre weaves together moving stories of some of the most remarkable women to don a lab coat. Women who, with determination, persistence and a love of the work, changed the face of science.

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Dr. Michael Phillips teaches courses in theatre history and directing. He has been at WOU since 2003. He is the artistic director of Portal Theatre, a devised theatre company associated with WOU.

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### Dr. Ava Howard

PURE Director/Biology

#### *Closing Comments*



*Morning Session*

**ART & VISUAL COMMUNICATION DESIGN**

ART & DESIGN PORTFOLIO PRESENTATIONS  
 Session chairs: Jen Bracy, Jody Garrison  
 Richard Woodcock Education Center (RWECC) 101

9 to 9:15 a.m., RWECC 101

**Bethany Coma**

*Art Portfolio Presentation*

Mentor: Jodie Garrison



Bethany Coma

9:13 to 9:30 a.m., RWECC 101

**Eric Frey**

*Art Portfolio Presentation*

Mentor: Jodie Garrison



Eric Frey

9:30 to 9:45 a.m., RWECC 101

**Margaret Harrington**

*Visual Communication Design Portfolio Presentation*

Mentor: Jen Bracy



Margaret Harrington

9:45 to 10 a.m.

*Refreshment Break*

10 to 10:15 a.m., RWECC 101

**Zhiying Huang**

*Visual Communication Design Portfolio Presentation*

Mentor: Jennifer Bracy



Zhiying Huang

10:15 to 10:30 a.m., RWECC 101

**Zhilin Li**

*Visual Communication Design Portfolio Presentation: A New Beginning*

Mentor: Jennifer Bracy



Zhilin Li

10:30 to 10:45 a.m., RWECC 101

**Peijie Lin**

*Visual Communication Design Portfolio Presentation*

Mentor: Jennifer Bracy



Peijie Lin

**BUSINESS & ECONOMICS**

GENERAL BUSINESS & ECONOMICS

Session chairs: John Leadley, Keven Malkewitz  
 Werner University Center (WUC) Calapooia Room

9 to 9:15 a.m., WUC Calapooia Room

**Nicholas Ketcham**

*Logo Life Cycles*

Although extant research has provided important and essential insight into logo design, the approaches taken have utilized individual logos at a single point in time. An unfortunate consequence of this "snapshot in time" approach is that it does not provide insight into perhaps the most common challenge that managers face, which is the management of their firms' logos over time (e.g., how frequently should logos be updated, and to what degree redesigned logos should be similar/different to firms' previous logos). This research addresses this shortcoming of previous research by examining logo life cycles. We begin with descriptive research identifying logo life cycle metrics (e.g., how long are logos utilized before they are changed, industry averages for logo change, etc.). We then evaluate the degree of logos' perceptual fluency and conceptual fluency change over the logo life cycle. The managerial implications and the limitations of the research are then addressed, followed by suggestions for future research.

Mentor: Keven Malkewitz

9:15 to 10 a.m., WUC Calapooia Room

**Nicholas Marlas, Sophia Dykast, Leialoha Kekahuna, Emmitt Potter**

*Tech Leadership Analysis*

Students from BA 474 Business Leadership conducted a strategic leadership analysis of the technology industry to determine the best leadership principles, qualities, skills, traits, etc. for senior leaders to be effective in this highly competitive and rapidly changing industry. Their leadership analysis included senior leaders from Airbnb, Microsoft, HP, and Uber.

Mentor: Paul Disney

**DANCE**

ACADEMIC EXCELLENCE IN DANCE

Session chair: Amy McDonnell  
 Maple Hall (MH)

9 to 9:10 a.m., MH

**Alaina Meyer**

*CurrentBeing*

Mentor: Darryl Thomas



9:10 to 9:20 a.m., MH

**Caitlin Rose**

*Kurt Jooss and De Neue Sachlichkeit*

The choreography of Kurt Jooss should not have been categorized as Ausdruckstanz (Expressionist Dance) but rather under the German art movement De Neue Sachlichkeit (The New Objectivity), especially when comparing his work, *The Green Table* to the work of De Neue Sachlichkeit artist George Grosz and his painting *The Eclipse of the Sun*.

Mentor: Sharon Oberst

9:20 to 9:30 a.m., MH

**Paige Scofield**

*Fragments of the Subconscious: Greed*

A dance film on human greed

Mentor: Darryl Thomas



9:30 to 9:40 a.m., MH

**Elizabeth Dunn*****The Importance of Dance Improvisation for Dancers***

Dance improvisation is important to all dancers and should be included in all dance classes.

Mentor: Sharon Oberst

9:40 to 10 a.m., MH

**Sharon Lane*****Appalachia - Traditions of Dance***

I have recently been made aware, through the research of my mother, that a large portion of my ancestors lived in the hills of the Appalachia region for many generations. Through conversations with my mother and some research, I have become fascinated by these resilient people, who were virtually forgotten by the rest of the United States for generations. The poverty and lack of education with which these people lived is devastating to see, but despite this, their rich cultural heritage managed to shine through, especially in song and dance. Because I am a dance major, their dances drew me in. I felt this connection through the dances that cut through time, space and cultural differences. This presentation will be in two sections. The first will be an introduction and breakdown of the dances themselves. The second will explore the cultural implications of the dances and will include a live dance presentation at the end. Throughout, I hope to convey to the audience the power of dance to connect us all.

Mentor: Cynthia Gutierrez-Garner

10 to 10:15 a.m., MH

**Alaina Meyer*****False Hologram***

Mentor: Darryl Thomas



10:15 to 10:30 a.m., MH

**Caitlin Rose*****Involuntary State***

Involuntary State explores the effects of depersonalization disorder, a disorder in which a person feels unreal or out of control of their own actions, as if in a dream.

Mentor: Sharon Oberst

10:30 to 10:45 a.m., MH

**Andrew De La Paz*****Last Light***

A dance piece inspired by the will of life that we all have within ourselves until our very last breath.

Mentor: Cynthia Gutierrez-Garner

**EARTH SCIENCE**

SHAPING OUR WORLD: GLACIERS AND THEIR IMPACT ON WESTERN NORTH AMERICA

Session chair: Melinda Shimizu

Werner University Center (WUC) Pacific Room

8 to 8:15 a.m., WUC Pacific Room

**Emily Carlston*****Glacial Preservation: A Look inside Nature's Freezers***

We often hear about the geochemical data that is preserved in the neatly compacted layers of glaciers and what they tell us about past environments. What is less commonly told is the importance of the biological and organic material that gets trapped in each layer as the glacier grows. These specimens can be accessed through ice cores that are often discussed when talking about evidence glaciers, but also are found through glacial melt and retreat. One of the most famous

examples of this is Ötzi the "Iceman" found in 1991, but there have been other instances of things as large as mammoths and as small as viruses that have been found amazingly preserved. A unique quality of ice preservation is that the process keeps the soft tissue intact, which provides unique clues that traditional fossils do not. Materials that have been trapped in the ice for centuries give a wealth of information that has been literally frozen in time. Every new discovery gives us further insight into our past and to what the environments might have looked like.

Mentor: Melinda Shimizu

8:15 to 8:30 a.m., WUC Pacific Room

**Tunya Dhevaphalin*****What Evidence Exists to Support a Snowball Earth?***

The Earth has experienced a lot of changes over its history. 650 million years ago, an event called snowball Earth is hypothesized to have occurred. Evidence has been found that suggests the Earth had once been completely glaciated at one point, but there is also contrary evidence that suggests that this event did not happen. There are many pieces of evidence that support the hypothesis that snowball Earth did occur as well as other evidence that may need to be found first in order to draw a better conclusion and confirm the occurrence of snowball Earth. Some evidence that would help settle the debate includes temperature and depositions records through carbon dating ice cores. In this presentation, we will look at the physical, chemical, biological and conceptual evidence of that supports the hypothesis of snowball Earth. We will also look at counter evidence that does not support the snowball Earth hypothesis.

Mentor: Melinda Shimizu

8:30 to 8:45 a.m., WUC Pacific Room

**Lexington Taylor*****What's The Deal With Isostasy?***

The current climate is causing glaciers to melt, and this in turn affects sea level. Measuring changes to sea level is complicated by isostatic rebound, which also occurs after glaciers melt. Most research into this topic encounters difficulty in gathering data or adjusting old data. One solution to this problem is glacial isostatic adjustment (GIA), which requires that the past eustatic sea level data is adjusted for. Because the Earth is constantly changing and different factors affect each area in different ways, there are a lot of different models to address this problem. This presentation will look broadly at the approaches being used to account for isostasy in modeling and how relevant it is when predicting sea level change.

Mentor: Melinda Shimizu

8:45 to 9 a.m., WUC Pacific Room

**Connor Pomeroy*****The History of Objective Glacial Measurement.***

Glaciers have been around since the dawn of mankind, moving both quickly and slowly. Trying to measure and anticipate how a glacier moves as a response to the surrounding environment has long been a challenge. Despite technological and intellectual setbacks, over the past century, scientists have created and refined many objective forms of measurement to track the movement of glaciers. This presentation compiles a brief history of these forms of tracking glacial movement, as well as some of the drawbacks. This history describes the creation of new forms of measurement and their implementation on glacial bodies across the world. By exploring and critiquing these methodologies, perhaps the future of tracking glacial movement will lead to safer and more responsible interactions with these natural wonders.

Mentor: Melinda Shimizu

9 to 9:15 a.m., WUC Pacific Room

**Walter Schoen*****Glacial Movement***

Both slow, creeping and grinding glacial movement called creep and sudden, powerful, fast glacial movement called surging have a dramatic impact on their

environments and are processes that are still not fully understood. In glaciated areas, it is important to understand how and why glaciers move not only for construction but for personal safety. Many papers were compiled in order to find out the causes for the movement and to see if they apply to all glaciers. Using these studies, we learn that glacial movement is the end result of many interacting variables. Examples are included from Alaska, Iceland, Greenland and North America. Glacial growth and movement seem to be a factor of seasonal changes, gradient, and internal strength and composition. Glacial surges and their causes are not well known, so this presentation will discuss what we do know, and the importance and implications of surging.

Mentor: Melinda Shimizu

9:15 to 9:30 a.m., WUC Pacific Room

**Aaron Orr**

*Ice and Fire: An Analysis of Glacier-Volcano Interactions in Iceland and the Pacific Northwest*

Volcanoes and glaciers are both incredible natural structures that already pose looming threats to their surroundings. However, these two geologic entities are not always spatially isolated and can often occur together. Resulting glacier-volcano interactions can produce catastrophic events that wreak havoc on their surroundings in the form of floods, debris flows and channelized lava flows. Glacier-volcano interactions are not only found in constantly frigid environments like Iceland and Antarctica, but also in areas like the Pacific Northwest along the northern Cascades. With such a widespread geographical occurrence, these interactions are not only important to polar regions. Understanding how glaciers and volcanoes affect one another—and how these glacial-volcanic phenomena affect humans and their environment—is imperative to predicting future catastrophes and reducing risk to human lives. This presentation will explore where volcanoes and glaciers co-occur, how they affect one another and how these interactions impact humans and the environment.

Mentor: Melinda Shimizu

9:30 to 9:45 a.m., WUC Pacific Room

**Brenden Fricke**

*How Melting Glaciers Will Affect Life in the Pacific Northwest*

Glaciers have been a crucial element to the health of Oregon's rivers and streams and for humans. The increase in global and local temperatures has caused most glaciers in the Pacific Northwest to melt and shrink, reducing stream output and increasing sediment deposition. How will melting glaciers affect life in the Pacific Northwest if glaciers continue to retreat at the rate they are? It is known that melting glaciers drop sediment that had been previously frozen in the ice, and that glacial melt is important for rivers and streams late in the summer when there is less rainfall. However, what is less clear is how these changes in glacial volumes and melting cycles will affect human life. In order to find this out, a variety of research papers on glacial hydrology, river hydrology and sedimentology were used to piece together probable outcomes and scenarios that could and have come from retreating glaciers. Since nothing can be 100 percent certain in this project, and in the research papers, there is some speculation and debate as to what the future may hold for glaciers. One thing that is for certain is that change is coming, and preparations need to be made.

Mentor: Melinda Shimizu

9:45 to 10 a.m.

*Refreshment Break*

10 to 10:15 a.m., WUC Pacific Room

**Kyle Warren**

*How did Glaciation Affect the Willamette Valley?*

The idea of massive floods causing mass devastation across an area has been seen all over the world from Native American tales to the Bible. At the end of the last Ice

Age, a series of floods swept across the Pacific Northwest, permanently changing the landscape. This presentation will describe the events now known as the Missoula Floods and will explain how floods originating in Montana impacted the Willamette Valley of Oregon. Thanks to the incredible force of water, the Missoula Floods scoured the landscape and dumped a majority of the sediment here in the Willamette Valley, giving us the rich fertile land that is the foundation of our agricultural economy.

Mentor: Melinda Shimizu

10:15 to 10:30 a.m., WUC Pacific Room

**Thomas Jacobus**

*How is Black Carbon Accelerating Glacial Ablation*

Today more than 90 percent of Earth's glaciers are rapidly melting. Although Earth's quickly rising temperatures play a major role in this process, some secondary processes have been adding to the loss of glacial ice and snowpack every year. Black Carbon from anthropogenic sources and forest fires are increasingly accelerating the melting rate on glaciers. The increase in forest fires year after year, allied with winds that drive the smoke towards glacial regions, deposit black carbon on glaciers. Forest fires smoke has been traced and measured in Greenland, China and U.S., showing its impact to glacial environments. Further studies have looked at the impacts of this smoke on glacial ice showing that when it deposits on top of glaciers, it greatly reduces its albedo, accelerating the rate in which glaciers are wasting away. As this pattern continues, cities and whole regions that depend on the water that melt from these glaciers during dry season will have longer and more frequent droughts and increase the planet's rate of solar energy absorption, leading to even higher temperatures, potentially more fires and further melting of glacial ice.

Mentor: Melinda Shimizu

10:30 to 10:45 a.m., WUC Pacific Room

**Makani Stormont**

*Effects of Retreating Glaciers on Seasonal Water Availability*

Glacial recession caused by slowly warming temperatures will have a substantial impact on the availability of fresh water for hundreds of thousands to millions of people in the coming decades. The meltwater provided by glaciers in the summer months is a vital resource to several regions of the world; some much more reliant than others. This presentation will highlight the role that glaciers play in the hydrology of glacially fed river systems and attempt to understand the severity of changes to future water availability as a result of retreating glaciers. Freshwater shortage could have devastating effects on agricultural yield, drinking water availability, hydroelectric power generation, sanitation, industrial processing and dozens of other uses especially in the late summer of already-water strained areas. Despite the amount of research being done on this subject, there is still significant evidence missing for drawing conclusions on the state of future freshwater output of glaciers. Further knowledge and understanding of the topic may prove critical in adapting to water scarcity for certain areas.

Mentor: Melinda Shimizu

**ENGLISH, WRITING, AND LINGUISTICS**

LITERATURE, WRITING, AND LINGUISTICS

Session chair: Henry Hughes

Werner University Center (WUC) Willamette Room

8 to 8:20 a.m., WUC Willamette Room

**Phi Kappa Phi First-Year Writing Awards**

8:20 to 8:30 a.m., WUC Willamette Room

**Justin Nelson**

*The Writer as Filmmaker: A Linguistic Analysis*

The focus of this presentation will be the sentence structure and punctuation in Pulitzer Prize-winning author Donna Tartt's *The Goldfinch*, using the analogy of



the writer as a filmmaker to guide the interpretation. Using this analogy, I will show how Tartt's syntax and punctuation is specifically crafted to reflect aspects of filmmaking such as cinematography, scene construction, stage direction, etc. In order to show that Tartt's prose is crafted like a film, I will also contrast it with J.K. Rowling's *Harry Potter* to demonstrate the difference between the basic linguistic features necessitated by the register of narrative fiction and the writer as filmmaker's approach to style.

Mentor: Cornelia Paraskevas

8:30 to 8:37 a.m., WUC Willamette Room

### Alexander Holmberg

#### *Case Study of an ESL Learner's Writing Complexity Progression*

This study reviews ways of evaluating complexity in language learners' academic writing. The prevalence of writing in academic settings for grading makes understanding writing complexity incredibly important. Evaluating one aspect of writing complexity is not enough, so for this study, both syntactic and lexical complexity were evaluated. Syntactic complexity is established by looking at sentence or clause length. Lexical complexity is evaluated by content versus function words and usages of different parts of speech (e.g., nouns, verbs, adverbs). Using data from a single ELL written more than six months apart can help show the changes in his or her writing and its complexity. Understanding the progression an ELL student will go through in his or her writing complexity can help teachers anticipate the struggles and developmental processes students go through during the writing process.

Mentor: Robert Troyer

8:37 to 8:44 a.m., WUC Willamette Room

### Madeleine Hannah

#### *Motivation Over Time: Learning English as a Second Language*

In the 20th century, R.C. Gardner developed the Attitude/Motivation Test Battery (AMTB) to assess an English as a Second Language (L2) learner's beliefs and feelings about learning foreign languages. Using a Language Motivation Assessment (LMA) based on Gardner's AMTB, this study examines the factors that affect motivation, the ways a learner's motivation can change over time, and strategies that can be used to increase motivation for a learner who is primarily extrinsically motivated. The data from the LMA was supplemented with information gathered during informal meetings with the study's participant in which aspects that might affect motivation were discussed. The findings suggest that a variety of factors influence motivation, including the reasons an L2 learner is studying the language, cultural and familial pressures and support, and the L2 learner's experiences with teachers. The results also show that reducing language anxiety and giving a lighter class workload may help increase a learner's motivation over time, especially if the learner is extrinsically motivated.

Mentor: Robert Troyer

8:44 to 8:51 a.m., WUC Willamette Room

### Noah Nieves Driver

#### *Second Language Anxiety and How to Manage It*

Anxiety when communicating in a second language can be detrimental to language learning and performance and has been identified as one of the most important predictors of language learning and performance (Zhang and Zhong 2012.) This paper begins with a brief overview of prior research done on second language anxiety when communicating outside of a classroom setting and focuses on the causes, repercussions and possible ways to diminish anxiety in similar situations for verbal second languages (L2s). This paper analyzes one Western Oregon University student and studies how his anxiety while communicating in L2 English affects his overall use of the language and offers ways to diminish the anxiety in future similar social situations.

Mentor: Robert Troyer

8:51 to 8:58 a.m., WUC Willamette Room

### Kristin Norman

#### *Avoidance Strategies in English Second Language Learners*

Avoidance is a communication strategy employed by language learners when they find some target-like feature in the language challenging and then choose an alternate route. The alternate route could be as simple as choosing to use the word "good" instead of the word "helpful" if the latter is difficult to pronounce. Studying avoidance has immense practical value in second language acquisition. The occurrence of avoidance usually reflects structures in the second language that might be difficult, different or even non-existent in the learner's first language. This research project looks at avoidance strategies of two college-aged English language learners. The study explores ways teachers can approach avoidance when it occurs and determine when avoidance is beneficial or harmful to a learner's growth.

Mentor: Robert Troyer

8:58 to 9:08 a.m., WUC Willamette Room

### Justin Nelson

#### *Metaphor: A Cognitive View and a Contextualist View*

I analyze the differences between two contemporary approaches to metaphor: the cognitive approach and the contextualist approach. The cognitive view sees metaphor as a conceptual entity unique to itself, whereas the contextualist view sees metaphor as a communicative device used to trigger the intended meaning, within the bounds of the context. I synthesize the two views by drawing a distinction (or identifying a continuum) between "dead" and "alive" metaphors and drawing a distinction (or identifying a continuum) between the "automatic" and "non-automatic" processing of speech.

Mentor: David Hargreaves

9:08 to 9:18 a.m., WUC Willamette Room

### Ellie Phillips

#### *Charles Dickens' Corruption and Idealization Personified*

Charles Dickens' *Oliver Twist* chronicles the journey of a young orphan boy in his quest for a home. Corruption and virtue are prevalent throughout the entirety of the novel, mainly identified in the two central settings where *Oliver Twist* spends time. Dickens juxtaposes the corrosive city of London and the idealized countryside in order to emphasize that London provides a systematic pattern of corruption that impartially oppresses and debases its inhabitants. The pastoral countryside acts as the counterpart, not where the good people exist, but where they go to escape the evils of London. This paper will explore these two places and how Dickens uses them to support Oliver's search for home.

Mentor: Marjory Lange

9:18 to 9:42 a.m., WUC Willamette Room

### Erin Roan, Natalie Sassaman, Chelsie Ward-Sowards

#### *Wuthering Heights: A Study of Character and Boundaries*

*Wuthering Heights* by Emily Brontë is a classic novel that has been critiqued from many perspectives for generations. This canonical text receives new insights when critique is paired with visual aids that demonstrate the complex relationships at play in the novel. This three-part presentation will begin with an exploration of the influence of Nelly as narrator and how that warps the representation of the patriarchal figure Edgar's relationship with his wife and daughter. The second will explore the role of the father within the novel and how it influences various events throughout the novel. The final part will address the role of physical boundaries in the form of gates, doors and windows, and the separation and confinement that affects other relationships in the novel.

Mentor: Kit Andrews

9:45 to 10 a.m.

### *Refreshment Break*

## MORNING PRESENTATIONS AND PERFORMANCES

10 to 10:08 a.m., WUC Willamette Room

**Eric Frey**

### *Wreckreational Fishing and selected poems*

A short lyrical prose essay exploring the environmental dissonance of human interactions in nature. Using art and language, this essay dives into the paradoxes of recreation, such as angling and boating, and the environmental impacts that humanity leaves in its wake. I draw from my experiences as a soldier and outdoorsman to illustrate how spaces and places affect our lives and memories.

Mentor: Henry Hughes

10:08 to 10:16 a.m., WUC Willamette Room

**Kaitlin Boyer**

### *The Dangers, Risks and Joys of Being Young*

A reading of poems related to religion, sexual abuse and youth.

Mentor: Henry Hughes

10:16 to 10:24 a.m., WUC Willamette Room

**Madeleine Hannah**

### *Selected Poems*

A selection of poetry concerning nature, fears and the way small things can be extraordinary.

Mentor: Henry Hughes

10:24 to 10:32 a.m., WUC Willamette Room

**Maria Cabrales**

### *"The Neighborhood is Changing"*

A collection of poetry celebrating and exploring Chicano family life and culture.

Mentor: Henry Hughes

10:32 to 10:47 a.m., WUC Willamette Room

**Peter Sears Prize**

10:47 to 11:02 a.m., WUC Willamette Room

**Meyer Prize for Literature**

## HEALTH AND EXERCISE SCIENCE

HEALTH AND EXERCISE SCIENCE INDIVIDUAL PRESENTATIONS

Peter Courtney Health and Wellness Center (HWC) 203

Session chairs: Tom Kelly, Jennifer Taylor-Winney

10 to 10:15 a.m., HWC 203

**Stephanie Oseguera**

### *The Growing Epidemic of the United States*

With a chronic disease like Type 2 diabetes becoming an epidemic in the United States, this case study went past the negative connotation applied to this condition through the media and into the life of a middle-aged mother of four. Incorporating the biopsychosocial model, we will look into the lifestyle changes, emotional struggles and social life hardships this woman must face on a daily basis due to her condition. In addition, research discussing how Type 2 diabetes can be prevented in women who dealt with gestational diabetes during their pregnancies, and the prevalence and effects depression can have on someone with Type 2 diabetes, will be discussed.

Mentor: Janet Roberts

10:15 to 10:30 a.m., HWC 203

**Michael Weaver**

### *The Effects of Outdoor Education on School-Aged Children*

Nature and the outdoors are integral to our mental health, and therefore time

spent learning about and exploring nature in an outdoor environment should be encouraged in schools today. Numerous studies have been conducted on the benefits of nature and the outdoors on one's health. These studies have further been broken down and explored in areas of concentration that include the effects of nature on our emotional health, our mental health and even on our physiological health. In every instance, research overwhelmingly supports the notion that the inclusion of time spent in nature or outdoors has exponential benefits to our lives. This presentation explores the effects of outdoor education on school-aged children and takes a closer look at the physiological and emotional benefits of time spent outdoors. It will focus particularly on the areas of biological and physiological research and discussion as it highlights the positive effects of outdoor education on general cognition, as well as mental and emotional health.

Mentor: Gay Timken

10:30 to 10:45 a.m., HWC 203

**Kourney Wellette**

### *Empowering Chronic Lyme Disease Patients with the Biopsychosocial Model*

Currently, the Centers for Disease Control and Prevention does not recognize the existence of chronic Lyme disease and suggests patients' symptoms are all in their heads. Lyme disease is caused by spiral-shaped bacteria transmitted by a tick bite. Medical professionals are trained to treat patients for Lyme only if they have signs of the bull's-eye rash after a bite. However, the rash is only present in about half of those infected, leaving many cases undiagnosed and allowing the bacteria to spread. This is what is considered chronic Lyme disease. This case study looks at the experience of three individual patients who have tested positive for Lyme disease, who never had the bull's-eye rash and who are currently being treated for the chronic form of the infection. These patients' main complaint was the poor care they received due to the current treatment approach, a lack of funding and the inadequate education of medical professionals. Using the Biopsychosocial Model instead of the Medical Model not only helps address and empower patients with chronic Lyme disease, but it also helps those suffering from other chronic diseases that are prevalent in this nation.

Mentor: Janet Roberts

## HONORS GENERAL SCIENCE

SCIENTIFIC STORYTELLING USING STUDENT-CREATED VIDEOS:

ENERGY RESOURCES POWERING OUR FUTURE

Session chairs: Philip Wade, Arlene Courtney

Natural Sciences (NS) 101

8 to 8:15 a.m., WUC Pacific Room

**Jacob Martin, Kaylee DeBolt, Danielle Durand**

### *This is What Happens When You Play With Nukes*

Fission occurs when heavier atoms break apart; while fusion is when lighter atoms are forced to merge together into a heavier element. This documentary addresses how reactors use these atomic properties to provide power. Additionally, the background of atomic energy will be addressed. Nuclear weapons were developed during the Manhattan Project for World War II, leading to the creation of nuclear reactors. There has been continued development since the original reactor, named the Chicago Pile, was created. The operation of these reactors produce nuclear waste that leaves radioactive material. To avoid adverse ecological effects, this waste material needs to be properly disposed of. Radioactive materials must be properly handled to avoid events such as those from Chernobyl and Fukushima, where reactors failed. This led to greatly improved reactor design to prevent these disasters from happening again.

Mentors: Arlene Courtney, Philip Wade



8:15 to 8:30 a.m., WUC Pacific Room

**Virginia Link, Rachel Bayly, Amber Rynearson**

*Engines: A Steamy Topic*

Since their invention engines have had profound effects on human lives and the planet. This presentation explores types of engines, fuels, and their combined effects—past, present, and future—on the environment. Beginning with steam engines, spark ignition engines, charged ignition engines and gas turbines, this presentation examines how they work and the fuel types associated with them. Efficiency regarding energy use and emissions is discussed as well. Though they have been extremely helpful, many of these engines have negative consequences for the natural world, including global warming, ozone depletion and smog. This presentation will discuss new developments in engine technology, including new engine types, fuel resources and devices, that seek to reduce negative impacts on our world.

Mentors: Phillip Wade, Arlene Courtney

8:30 to 8:45 a.m., WUC Pacific Room

**Jessica Brenner, Jennifer Romadka, Brianna Moodie**

*Fossil Fuels: An Examination of Past and Present Viability*

Coal, oil, and natural gas are examined in depth through a short video documentary. We will begin by outlining production methods to inform the viewer of basic context. Following a description of production methods, we will discuss excavation and harvesting methods. Establishing an understanding of these methods will improve comprehension of their environmental impacts. The historical and forecasted uses of fossil fuels are briefly discussed, culminating in a discussion of environmental impacts. After viewing this documentary, individuals should have a basic grasp of how fossil fuels are formed, harvested and processed and of how they affect the world around us.

Mentors: Phillip Wade, Arlene Courtney

8:45 to 9 a.m., WUC Pacific Room

**Morgan Montoya, Sean Tellvik, Rebecca Tew**

*Geothermal Energy and Space Heating Is Hot Right Now*

In an effort to take advantage of the Earth's renewable resources, more people have been turning to geothermal and solar energy systems to heat and cool indoor environments. With advances in technology, humans can now harness the Earth's natural ability to produce heated air and water. Ground source heat pumps use Earth's constant underground temperatures to manipulate indoor temperatures. Other space heating systems that are able to heat and cool buildings use solar energy. Hydronic systems, which use radiation from heated water, can also be used for heating homes and buildings. This project will compare how different types of heating and cooling systems have developed over time and examine the benefits and impacts of each one.

Mentors: Phillip Wade, Arlene Courtney

9 to 9:15 a.m., WUC Pacific Room

**JulieAnne Ohashi-Sides, Sierra Fresh, Emily McKnight**

*Types of Electricity: AC vs DC*

Since the 1880s, two types of electrical currents have been utilized: alternating current (AC) and direct current (DC). Direct current, discovered by Thomas Edison, gained a competitor when Nikola Tesla discovered alternating current in 1884. Electricity is merely the movement of electrons through a conductor, such as a wire. The difference between alternating and direct current lies in the direction electrons flow; in DC the electrons flow in a single direction, while in AC electrons change direction periodically. The debate of which current to use spurs from the advantages and disadvantages of each. Considering the differences of power transmission, trade-offs, wire diameter and grid synchronization, DC offers a better alternative. AC was more favorable at the time of its discovery because of the cheap costs of its usage and easy household conversion, though it does pose bigger safety hazards. DC can now be converted so that it does not lose as much energy from power lines to appliances. With that in mind, converted direct current

is still more expensive to use than alternating current, but as the result of modern technology, DC is becoming the more favorable form of electricity.

Mentors: Philip Wade, Arlene Courtney

9:15 to 9:30 a.m., WUC Pacific Room

**Aubrey Manculich, Kaiana Bradley, Caitlin Healy**

*Alternative Vehicles: More Than Just a Prius*

As taxes on fuel rise and environmental restrictions are tighten, a source that many are turning toward in order to reduce impact and save on costs is alternative vehicles. These environmentally aware transportation options come in many forms, including electric vehicles, hybrid vehicles and fuel cell vehicles. While each comes with its own set of advantages and disadvantages, it is important to recognize each of them as viable options for lessening the impact on the environment through the use of alternative sources of energy. In pursuance of fully comprehending the benefits that these vehicles present as opposed to traditional combustion engines, it is important to consider each vehicle's history, cost, internal functions, advantages and disadvantages, fuel economy and emission standards as well as new innovations for each technology. After examining each of the previously listed aspects, a complete comparison between the different alternative vehicle options can be made to assess whether they will pose a practical, or possibly superior, option in the foreseeable future.

Mentors: Phillip Wade, Arlene Courtney

9:30 to 9:45 a.m., WUC Pacific Room

**Seraphim Benoist, Susannah Doepken, Lindsay Spear**

*The Electrifying Power of Knowledge*

In 2014, it was recorded that the United States was, on average, consuming electricity at 12,986.74kWh per capita, whereas the rest of the world fell to 3,128.4kWh per capita. With the United States being such a large consumer of electricity, it is vital to see where this energy comes from and how it is being used. The United States depends mostly on fossil fuels to create the electricity needed, using coal, natural gas and petroleum, as well as some renewable resources for creation and distribution across the country. This means it is not a completely clean energy source that can always be relied upon. A vital portion of understanding electricity is learning the history that surrounds it, how it was created, how it is used today, and how it is projected to be used in the future. This documentary will examine the ways in which electricity is created and brought from the factory to consumers, the inner workings of generators, and the development of circuits. Also addressed are the potential ways to limit waste of electricity and the ways in which the production will increase and adapt in a world that continually moves forward.

Mentors: Phillip Wade, Arlene Courtney

9:45 to 10 a.m., WUC Pacific Room

**Magen Boegli, Sarah Hughes, Darynn Lung**

*Dam it's Windy: A Short Film on Hydro and Wind Power*

Hydro and wind power are alternative, renewable sources of energy that are becoming more prominent in American society. Humans have been harnessing both wind and water to produce energy for thousands of years and have slowly improved methods to generate increasing amounts of energy. From early uses in grinding wheat into flour to providing electricity to entire cities, both wind and water have been essential in human development. Although each utilize different sources of energy, both use turbines to turn kinetic energy into mechanical, and then use a generator to transform that into electrical energy to be distributed to homes and businesses. Hydropower is the world's leading source of renewable energy and provides highly efficient, emission-free power with low environmental impact. Electricity harnessed from wind and water reduces the use of fossil fuels without compromising ecological well-being, making them popular alternative energy sources. The purpose of this research film project is to collect and report the most current information on these increasingly popular forms of renewable electricity.

Mentors: Arlene Courtney, Phillip Wade

**INTERNATIONAL EDUCATION & SERVICES**

STUDY ABROAD: ENCOUNTERS AND PERSPECTIVES

Session chairs: Bryan Dutton, Misty Weitzel  
Peter Courtney Health and Wellness Center (HWC) 204

9:15 to 9:30 a.m., HWC 204

**Haley Morris**

*Rwanda: The Journey*

Five short weeks turned into a lifetime of gained perspective. As one of nine U.S. students selected to participate in a National Science Foundation research grant, I had the opportunity to live, work and travel throughout the small East African country of Rwanda. A rapidly developing nation, Rwanda has experienced a dramatic increase in contraceptive use in the past 10 years. Using a qualitative approach, my colleagues and I examined what factors led to this increase, how other sub-Saharan nations could experience the same success, and how this rise can continue. From this research to the people I met and the experiences I gained along the way, this presentation will serve to share some of the encounters that have changed my life and widened my understanding of the world. My hope is to share with you a vast nation of progress, beauty and unimaginable strength.

Mentors: Bryan Dutton, Misty Weitzel

9:30 to 9:45 a.m., HWC 204

**Kayla Searls, Madison Overholser**

*Two Voices: One Trip: Querétaro*

In this session, we will share about our study abroad experience in Queretaro, Mexico, where we studied last summer. We will show pictures of places we went and things I saw, and we will also share how the experience changed me as a person and as a future bilingual teacher. We will share cultural nuances we experienced and why it is a great idea for any U.S. student to study abroad.

Mentors: Carmen Caceda, Bryan Dutton

9:45 to 10 a.m.

*Refreshment Break*

10 to 10:15 a.m., HWC 204

**Amalia Morse**

*German University Help vs. United States*

The presentation will consist of my educational experiences studying abroad in Germany as well as my observations of the German university system. I will show the contrast of how University of Freiburg and Western Oregon University differ when it comes to advising and registering for classes. Though my involvement at a German university was limited to one German semester, I was there for six months, and I believe I have interesting and useful information to share regarding my experiences with the German university system.

Mentors: Bryan Dutton, Misty Weitzel

10:15 to 10:30 a.m., HWC 204

**Kaitlyn Dempsey**

*Study Abroad University Cultural Differences: Thailand*

I studied abroad at Mahidol University International College (MUIC), a top university in Thailand located just outside of Bangkok. During my two terms, not only was I able to travel, I was also able to immerse myself in the school and my classes. What I found most interesting about my study abroad experience, having attended multiple years at an American university, was being able to look at MUIC in a unique light and draw many comparisons to, and contrasts with, Western

Oregon University. One of the most significant of these differences is culture. Thai and American cultures are very different, resulting in differences in the dynamics inside the classrooms but also with administration and peers as well. The biggest of these differences is how respect is demonstrated. From your school attire to how you phrase your opinion, respect is highly regarded in Thai culture and difficult for Americans to master.

Mentors: Bryan Dutton, Misty Weitzel

**MULTIDISCIPLINARY**

MULTIDISCIPLINARY PRESENTATION SESSION

Session chair: AES Team  
Peter Courtney Health and Wellness Center (HWC) 205

9 to 9:15 a.m., HWC 205

**Karisa Merrill**

*Blindfolded for Science: An Integration of Dance as Therapy for Visually Impaired or Blind Individuals*

Sight is used by our brain as a connecting bridge between other sensory input and stimuli from the world. Since humans are visual creatures, we heavily rely on vision to interact with our environments. Because of this role, impaired vision can diminish a person's confidence in movement and can introduce a fear of falling. Previous research suggests that these limitations can be overcome through the use of Dance/Movement Therapy, a form of psychological therapy. Although it has been beneficial to the mental health of participants in the American Dance Therapy Association, the physical effects that dance can have on the human body when visually impaired are not as thoroughly examined. This project investigated the sport of dance and compared the effects that vision state and dance experience had on orientation and posture. Students with minimal dance experience were compared to students with extensive dance experience both before and after one month of blindfolded dance training. They were also compared to students with minimal dance experience who were sighted during the dance training.

Mentor: Karen Haberman

9:15 to 9:30 a.m., HWC 205

**Byron Kimball**

*Putting Together The WOU Professional and Technical Writing Advisory Board*

In order to better determine the needs of WOU students in a dynamically shifting environment, I helped to recruit members of an off-campus Professional and Technical Writing Advisory Board through my CIP internship. Connecting a number of industry professionals, including WOU alum and literary agent Holly Lorincz and Pulitzer Prize winning journalist Tom Hallman Jr., we discussed what skills students need to stay competitive as professional/technical writers in a variety of fields. Feedback from board members informed new changes to WOU writing curriculum and program developments, including the creation of a Professional/Technical Writing certificate. I will be sharing behind-the-scenes details from the board creation process as well as insights gained from research into student needs from the WOU writing curriculum.

Mentors: Lars Soderlund, Karina Lopez



9:30 to 9:45 a.m., HWC 205

**Karina Lopez**

*Connecting Students to Transformative Experiences*

As coordinator of the WOU Community Internship Program, I had the opportunity to work with WOU students and connect them with accessible academic and career-relevant paid internships. Overseeing the program gave me the opportunity to strengthen my leadership skills by equipping interns with the support needed to be successful throughout their internship experience, as well as being a resource for them to grow professionally. I have improved my communication skills and expanded my connections within WOU departments, which will help me in my future career aspirations.

Mentor: Kathryn Plummer

9:45 to 10:15 a.m., HWC 205

**Chloe Miller, Cole Aldred, Brianna Williford, Olivia Martin, Eli Schenk, Brock Taylor, Violet Trammel, Antonia Scholerman, Nick Turrentine, Jennifer Lindley, Britton Collins, Austin Stewart, Shanda Kish, Christopher Frost, Tristin Thomas**

*The Power of Voices: An A Capella Exploration*

*West of Us* is a performing a capella group composed of Western Oregon students across all disciplines. Making music using only their voices and the occasional clap or stomp, the group performs songs ranging from Disney to Kanye West. This performance will focus on bringing out the nuances of a capella music, details that allow the performers to make a powerful presentation. We invite you to hear and explore with us "The Greatest Showman Medley", "And So It Goes" by Billy Joel and the nostalgic "Bet On It" from Disney's *High School Musical 2*.

Mentor: Cindy Dicken

## MUSIC

EXCELLENCE IN ETHNOMUSICOLOGY

Session chair: Diane Baxter

Werner University Center (WUC) Ochoco room

9 to 11 a.m., WUC Ochoco room

*Excellence in Ethnomusicology*

Various music students presenting recent field work

Mentor: Diane Baxter

## NATURAL SCIENCES

NATURAL SCIENCES PRESENTATIONS

Session chairs: Jeff Snyder, Arlene Courtney

Peter Courtney Health and Wellness Center (HWC) 105

10 to 10:20 a.m., HWC 105

**Savannah Kumar**

*Bacterial Abundance and Resistance in Ground Beef Varieties*

Raw ground beef purchased at supermarkets across America has one thing in common: it harbors bacteria, some of which are drug resistant and can be detrimental to public health. To understand the impact of farming and processing practices on the quantity of bacteria and drug resistance, organic and regular beef were assessed using MacConkey media. Bacterial colonies were sorted according to lactose utilization, with positive colonies representing fecal *E. coli*. Lactose negative colonies were further characterized into one of two groups (fecal *Hafnia*-like or soil *Pseudomonas*) using a variety of metabolic tests (oxidase, sulfur, indole). Regular beef contained 14 times more fecal *E. coli* and 8 times more fecal *Hafnia*-like bacteria than organic beef. *Pseudomonas* was only isolated from organic beef.

This procedure was repeated using MacConkey plates containing commonly used agricultural antibacterial drugs to assess the prevalence and types of drug-resistant bacteria. Preliminary results show no tetracycline or kanamycin resistance in either ground beef source. Extensive penicillin, sulfamethazone, cefazolin and ampicillin resistance was retrieved from regular beef, but not organic.

Mentor: Sarah Boomer

10:20 to 11 a.m., HWC 105

**Jessica Donahue**

*Killer Cosmetics: The Hidden Terrors Lurking in Your Medicine Cabinet*

Most people associate the use of cosmetics with women, but what if you were told that cosmetics cover a broader spectrum than just makeup? Research in the field of cosmetics and how their ingredients affect the human body is necessary to maintain the well-being of the consumers who use these products daily. This presentation will cover what cosmetics are, how they are regulated and my own study on talc-containing cosmetics with potential asbestos contamination using scanning electron microscopy.

Mentor: Arlene Courtney

## SOCIOLOGY

RESEARCH AND PRAXIS IN SOCIOLOGY

Session chair: Dean Braa

Richard Woodcock Education Center (RVEC) 101

9 to 9:30 a.m., RVEC 101

**Brenden Oliver**

*The Power Elite of the Oregon State Legislature*

If the state of Oregon is subject to democratic process, why are the interests of capitalists met more often than labor? I suggest that there is a power elite that represents the interests of the capitalist class. To find an answer, I interviewed five union executives and lobbyists, and four business executives and lobbyists. From this data, I identified selected class-related ballot measures and legislative bills as the basis of comparison between the success of capitalist interests and labor interests. Oregon's current tax structure and minimum wage are used as examples of class biases. My analysis shows that business interest groups constitute the power elite in the Oregon Legislature. Even though Oregon has a Democratic Party majority that includes well-organized unions, state government is subject to capitalist bias.

Mentor: Dean Braa

9:30 to 10 a.m., RVEC 101

**Mark Rutherford**

*Video Gaming, Social Relationships and Gender*

This research explores the ability of massive multiplayer online (MMOs) video games to act as a space for social interaction and examines a possible relationship between gender identity and MMO video games. I analyzed survey data from students at Western Oregon University in the 2017-2018 year, totaling a sample of 234 surveys. In addition, in-depth interviews were conducted with 10 people who play MMO video games. I found that individuals do form relationships via social interaction in MMO video games; some relationships that developed transcended the online space to the physical world, and many were enduring in nature. I also found that gender had an effect on the likelihood of playing MMO video games—men were more active than women. The results support previous research regarding gender differences as well as evidence suggesting that video games can act as spaces for social activity. Future research may want to explore the strength and specificity of bonds between individuals within video games and the impact of gender on one's experience with social gaming.

Mentor: Peter Callero

10 to 10:30 a.m., RWEC 101

**Joel Thomas*****Perceived Barriers to Mental Health Services in Salem, Ore., Comparative to Western Oregon University Students***

This paper examines the question of mental health supports in a college campus setting and the capital city Salem. The focus is on the mechanisms of access and barriers to mental health services. The research design included interviews, surveys and an analysis of the history of resource availability. This included data collection from students, professionals from the Student Counseling Center and the Oregon Health Authority, and citizens of Salem. The research collected from the college campus reflects the results of a college student's barriers as well as supports available collected from the Student Health and Counseling Center. In Salem, the research collected was that of the barriers of an average Salem resident, with a focus on the Oregon Health Plan and its services and access. Results indicate an increase of supports in both campus and city populations but a continuing deterrent effect of stigma. This was especially reported from campus students. The small but notable differences were the financial and access barrier that Salem residents expressed were still overwhelmed by the resulting layer of stigma reports.

Mentor: Maureen Dolan

**THEATRE**

THEATRE HISTORY PRESENTATIONS

Session chair: Michael Phillips

Warner University Center (WUC) Columbia room

9 to 9:12 a.m., WUC Columbia Room

**Phoebe Thompson*****Elizabethan Theatre and Clowns***

The clown has been around in the theatre for centuries. During the Elizabethan period, William Shakespeare wrote a number of plays utilizing the clown character, specifically for the comedic actor Will Kempe. Kempe was loved by many audience members; however, over time the friendship between the playwright and the actor became strained. We have learned a lot about the clown from Kempe's performances, as well as the limits of friendship within the professional theatre.

Mentor: Michael Phillips

9:12 to 9:24 a.m., WUC Columbia Room

**John Bryant*****Richard Burbage***

Richard Burbage is one of the most famous actors in the history of English theatre. This paper discusses the legacy of the Burbage family and how Richard Burbage was always involved in the theater, from his young childhood to his adulthood as a well-known performer.

Mentor: Michael Phillips

9:24 to 9:36 a.m., WUC Columbia Room

**Gabriel Elmore*****The History of Jingù***

Beginning with the combination of different theatrical styles for the Qianlong Emperor's birthday in 1790, and ending with its near destruction due to the establishment of The People's Republic of China in 1949, the Peking Opera provides a rich insight into Chinese culture in addition to staying afloat in a fiercely competitive age.

Mentor: Michael Phillips

9:36 to 9:48 a.m., WUC Columbia Room

**Natalie Doerfler*****19th-Century Russian Women***

This paper is an analysis of the social constructs and ideals of feminism in 19th century Russia. Such ideals propelled the Russian theatre, and Russian playwrights of the decade, to begin creating new works of art that had yet to be seen.

Mentor: Michael Phillips

9:48 to 10 a.m.

***Refreshment Break***

10 to 10:12 a.m., WUC Columbia Room

**Elise Barberis*****Letting Bygones be Bygones: An Inquiry into the Effectiveness of South Africa's Truth and Reconciliation Commission from the Victim Perspective***

Following the collapse of apartheid in South Africa, the Truth and Reconciliation Commission (TRC) was instated to provide a platform for mass truth-telling and healing. This paper analyzes the TRC's success as perceived by the victims of apartheid—black South Africans—in order to better understand its effectiveness.

Mentor: Michael Phillips

10:12 to 10:24 a.m., WUC Columbia Room

**Madison Sanchez*****Climate Change and its Effect on Inuit People in Canada***

This presentation provides a look into the effects of climate change in the Arctic and the toll it's taking on aboriginal inhabitants of northern Canada.

Mentor: Michael Phillips

10:24 to 10:36 a.m., WUC Columbia Room

**Christopher Wilkerson*****Vietnamese Theatre in the 20th Century***

Throughout the course of the 20th century, the forms of Vietnamese theatre have evolved. Traditional forms were replaced by newer ones, but some common threads run through the theatre of the century. Vietnam has, for the last 100 years or so, embraced the idea of the theatre as a vehicle for overt propaganda, both for those in power and for those out of power. This paper explores the various groups that have used the theatre in this manner. In addition, it looks at the varying portrayals of women in Vietnamese theatre.

Mentor: Michael Phillips

10:36 to 10:48 a.m., WUC Columbia Room

**Alexander Schlientz*****Japanese "Kabuki" Theatre***

Kabuki is one of Japan's three historical theatre forms, using specific and stylized features in its performance. This paper briefly delves into the background and performance of the Kabuki theatre.

Mentor: Michael Phillips



*Afternoon Session***ALTERNATIVE BREAK**

WOU ALTERNATIVE BREAK PROGRAM

Peter Courtney HWC 205

Session chairs: Kathryn Plummer, Alejandra Vera-Oronia, Zoe Chan-Tuyub

1 to 1:15 p.m., HWC 205

**Alejandra Vera-Oronia, Zoe Chan-Tuyub***Students Making an Impact*

Western Oregon University's Alternative Break Program connects students with transformative, hands-on experiences. WOU students partner with volunteer and community organizations to make a tangible difference in areas of social and cultural concern throughout our local and global communities. Students gain important insights such as: the value of heightened social awareness; the importance of lifelong active citizenship; the promotion of advocacy for social change within communities. Students carry these insights with them through the rest of their lives.

Mentor: Kathryn Plummer

1:15 to 1:30 p.m., HWC 205

**Tiffany Lewis, Daisy Chavez Guzman***Bringing It All Together*

We volunteered through the WOU Alternative Break Program with the community at Atlan Center, a living and learning village in White Salmon, Wash. We helped restore trails and worked in the village's community garden. We also volunteered with the Washington Gorge Action Programs Food Bank, which receives a portion of the community garden's harvest. CultureSeed, a non-profit learning center, embraced us in its community and mission. It coordinated the six service sites for us to work with that helped communities in Klickitat and Yakima counties in Washington. We came together in service, but it was through the power of community that our experience was made possible.

Mentor: Kathryn Plummer

1:30 to 1:45 p.m., HWC 205

**Jessica Freeman, Caitlyn Nakatsukasa, Veronica Villarreal***Bigger and Better in Texas*

Texas is a unique part of the United States and a place where a group of dedicated students spent spring break. Through the Alternative Break program, students helped individuals experiencing food insecurity and those who are currently rebuilding their homes in the wake of Hurricane Harvey. We learned the importance of helping others and recognizing that natural disaster relief and recovery is a long-term effort.

Mentor: Kathryn Plummer

1:45 to 2:00 p.m., HWC 205

**Jaide Wa'a***Kop Khun Kah*

Eight WOU students, seven temples, six grade levels, five teaching days, four subjects, three flights and two weeks all made for one unforgettable winter break. *Kop khun kah*, the Thai phrase for "thank you," was all we could say while volunteering in Thailand. It's a commonly used phrase, but it held such a deep meaning in every word spoken by the Thai people whom we encountered. We say *kop khun kah* to the inspiring children of Chiang Kian and Ban Huai school, whom we were fortunate enough to teach English. Although we were "the teachers," it was the children who taught us so much about Thailand and themselves. We say *kop khun kah* to the hill tribes of Chiang Rai for allowing us to teach their children and for sharing their culture to provide us with a special outlook on the modern world. We say *kop khun kah* to the Alternative Break program for making it all possible. More than 100 children in Thailand were able to access English through our team this

winter break, while team members embarked on a journey toward self-discovery through service to others.

Mentor: Kathryn Plummer

**ANTHROPOLOGY**

ANTHROPOLOGY SYMPOSIUM

Session chairs: Robin Smith, Kate Miller

Werner University Center (WUC) Willamette Room

1 to 1:30 p.m., WUC Willamette Room

**Melanie Douville***Salem Pioneer Cemetery Chinese Shrine Project: Preserving Community Histories of the Chinese Community in Salem, Ore.*

In September 2017, a Chinese shrine was uncovered in Salem Pioneer Cemetery. Due to the historical erasure of the Chinese immigrant presence in Salem, exemplified by a city council order to burn Chinatown to the ground in 1903, the shrine is an invaluable artifact for preserving and re-exploring Chinese histories in Salem. This proposed project seeks to explore what the forgotten Chinese shrine can tell us about the historical presence, impact and experiences of Chinese immigrants in Salem. How did Salem City Council's directive to destroy Chinatown affect the Chinese community? Is there evidence to support the claim that the event was a racially motivated purge? What are the personal histories of the Chinese-Americans who lived in Salem during this time, and what memories were carried on through relatives who remained in the area? I hope to frame my research as a Community Memory Project. This would form a collection of institutional histories in addition to local memories and personal recollections of descendants and current Chinese-American residents in Salem.

Mentor: Katherine Miller

1:30 to 2 p.m., WUC Willamette Room

**Elliot Paulson***Mainstreaming Halal: A Growing Niche Market in an Oregon University Town*

*Halal* is a term that originates from the Qur'an, roughly translated it means "permitted," this is in contrast to *haram* or "forbidden." These terms most frequently refer to ritual purity of food, creating a set of dietary restrictions akin to the Jewish concept of kosher. Until recently, halal food has not been common place in most grocery stores. However, in recent years it has become increasingly available in Corvallis. For my project, I visited stores that stock halal food, the local mosque, and academic institutions, and interviewed participants in these places. The questions that I sought to answer were: Why is halal becoming more mainstream? Who is buying halal food? Why Corvallis? And how does having readily available halal food affect the lives of the individuals I am interviewing? In addition to addressing these questions, I also learned a great deal about the Muslim community in the area and the role that food plays in the daily lives of the participants.

Mentor: Katherine Miller

2 to 2:30 p.m., WUC Willamette Room

**Lilly Miranda***Oregon's Heritage Museum of Independence: An Internship and Historical Preservation Collaboration With Citizens of the Mid-Willamette Valley*

In rural Polk County, the Heritage Museum of Independence preserves and displays more than 175 years of history and maintains a connection to the local community by exhibiting area history to the public. Drawing upon participant observation and oral interviews, I investigate how museums are influenced by the surrounding population and how the institutions serve community needs through civic support and respect. The Independence museum is funded by the city and is supported by the Heritage Museum Society; this paper explores the

## AFTERNOON PRESENTATIONS AND PERFORMANCES

Heritage Museum's mission and methods of preserving the historical and cultural collections of oral history, art and artifacts, which may not always fit with the museum's overall mission statement, donated by citizens of the Mid-Willamette Valley. Interning for the Heritage Museum enhanced my appreciation for historical preservation. Collaborating with museum staff and society members, local support is rebuilt through special events such as the first birthday celebration, curation of a Native American exhibit, and a re-established oral history project.

Mentor: Katherine Miller

### ART

"DEAR KARA"

Session chair: Daniel Tankersley  
Instructional Technology Center (ITC) 211

1 to 1:30 p.m., ITC 211

**Darien Campo**

*"Dear Kara" A Short Film*

Mentor: Daniel Tankersley



### BEHAVIORAL SCIENCE

BEHAVIORAL SCIENCES SYMPOSIUM

Session chairs: Jaime Cloud, Brent King  
Werner University Center (WUC) Pacific Room

1 to 1:15 p.m., WUC Pacific Room

**Mandie Kondash, Hannah Wehr**

*Social Support of Single Older Adults*

Older adults may be at risk for loneliness and social isolation due to life course transitions and changing health contexts. This presentation highlights a qualitative study conducted by students focusing on the social support systems of widowed or single older adults through assessing social isolation, grandparenthood and parent-child relationship quality. Results demonstrated how familial relationships change over time, the importance of maintaining social support systems, and that gender plays a significant role in intergenerational ties.

Mentor: Margaret Manoogian

1:15 to 1:30 p.m., WUC Pacific Room

**Katelyn Spain**

*College Students' Responses to the Death of a Peer*

Among adolescents and young adults, the most common types of death that occur are accidents, homicides, and suicides (CDC, 2015). This study examines the experience of peer death among 64 young adults enrolled in college. Guided by the life course perspective, the author focuses on the experience of peer death and participants' grief responses. This study aims to better understand how college students respond to peer death, how the type of death may affect the bereavement process, and how the participants' relationships may have been influenced by the peer death. Understanding more about peer death and its impact on college students will help to provide better grief support services on college campuses.

Mentor: Margaret Manoogian

1:30 to 1:45 p.m., WUC Pacific Room

**Raelynn Johnston, Renata Kerwood, Hannah Wehr**

*Older Adults' Attitudes and Decisions Toward Using a College Campus and a Senior Center as a Third Place*

The purpose of the current study is to understand the attitudes and decisions related to using a third place, where people can gather informally for psychological support through a shared sense of grounding, ease, comfort, friendliness, and mutual concern (Oldenburg, 1999). Through a case study design, we used mixed

methods to collect data from senior center members to gain an understanding of how older adults use a senior center and a college campus as examples of third places. Data were analyzed utilizing focused coding of open-ended responses and descriptive statistics from the quantitative data. Findings revealed implications related to lack of awareness, communication, and perceived barriers, contributing to overall goals of supporting older adults aging in place through creating opportunities for them to feel engaged and empowered in their communities.

Mentor: Melissa Cannon

1:45 to 2 p.m., WUC Pacific Room

**Avery Smith, Caitlin Hochderffer**

*Developing Self-Report Measures of Creative Process Behaviors*

We proposed a four-process model of creative behavior: problem formulation, information gathering, ideation and evaluation. Items were generated for each of the proposed creative behaviors. Two hundred fifty-seven participants completed a 77-item Creative Behaviors Scale with items distributed across the four behaviors. Data were analyzed using a maximum likelihood factor analyses with an oblimin rotation. For problem formulation, a four-factor structure was evident: searching; finding; considering; and structuring. For information gathering, a three-factor structure was evident: relevant; irrelevant; and discrepant information. For ideation, a four-factor structure was evident: combining; insight; analogy; and connecting. For evaluation, a three-factor structure was evident: appraising; forecasting; and selecting criteria. Eight out of the fourteen identified factors demonstrated adequate internal consistency reliability. Each of the factors for each of the scales could probably be strengthened through revision (rewriting) items with lower primary loadings and possibly adding new items.

Mentor: David Foster

2 to 2:15 p.m., WUC Pacific Room

**Bethany Harding**

*Social Perceptions of Sexual Abuse by Gender*

This study was conducted to find the social differences between male and female sexual abuse victims. Data was collected through surveys of college students and various interviews. In total, 249 surveys were collected from college students. One survey asks yes or no questions about beliefs of sexual abuse while the second was used to gauge which victims are more credible through students rating various scenarios. Four interviews were collected from various people with relations to sexual abuse perceptions. Through the data collected, I was able to find that the effects of sexual abuse to a male victim is still less understood than the effects that the sexual abuse would have on a female victim.

Mentors: Dean Braa, Maureen Dolan

2:15 to 2:30 p.m., WUC Pacific Room

**Melanie Grecco**

*What's Sex Got To Do With It?*

The purpose of this study was to measure how comfortable a person may be towards a transgender person. Participants were randomly selected for either the control group or experimental group upon walking through the door of the study room. The control letter was a letter written by a transgender person and them coming out to his/her parents. The other letter was a funny/goofy letter home about a student getting bad grades and telling their parents in a funny way. The difference between the letters is a bit extreme, by exposing a participant to a heartfelt letter to their parents may yield some results. Participants then took brief questionnaire that measured the level of comfortability towards transgender people. I suspect that female participants will have more positive attitudes towards transgender people, as compared to males and that those exposed to the letter of a transgender person coming out to his parents will have more positive attitudes towards transgender people. The interaction of both male and female will show more positive attitudes after exposed than those who are not, but women's attitudes will change more severely than men's.

Mentor: Jaime Cloud

**CHEMISTRY**

## CHEMISTRY MAJOR CAPSTONE SEMINARS

Session chair: Arlene Courtney

Peter Courtney Health and Wellness Center (HWC) 105

1 to 1:45 p.m., HWC 105

**Jessica Alexander***Luminescence: Lighting the Invisible World of Crime Scenes*

At crime scenes, there is evidence that is easily seen; however, sometimes there is evidence that cannot be seen with the naked eye. Luminescence is a process utilized by forensics professionals to reveal invisible evidence by making it glow. This presentation will explain what luminescence is and how it works, how forensic scientists utilize it to find certain types of evidence, and the different methods used for the types of evidence.

Mentor: Arlene Courtney

1:45 to 2:30 p.m., HWC 105

**Theodore Jones***The Power of The Stars: How Nuclear Fusion Could Power the Future*

We hear it all the time: the world is facing an energy crisis. Our supplies of fossil fuels are running out, and our only means of replacing them are either destructive to nature or destructive to ourselves. Nuclear fission provides the bulk of our "clean" energy today, though it has severe drawbacks. But what if, instead of breaking atoms apart for energy, we could generate power the same way the Sun does; by merging them together? What if we could sustainably recreate this fusion process on Earth and power the world with our own miniature stars? This presentation will discuss the nature and benefits of nuclear fusion, some of the problems currently facing fusion power, and how those problems might be overcome through new innovations in fusion fuels.

Mentor: Arlene Courtney

2:30 to 3:15 p.m., HWC 105

**Jamie Rebman***Naloxone: The Surgeon General's Answer to the Opioid Crisis*

Each day, a startling number of people die due to opioid overdose from prescription or illicit drugs such as hydrocodone, heroin and fentanyl. In response to the alarming number of opioid overdoses, the U.S. Surgeon General has advised that the overdose-reversing drug naloxone be of more widespread availability. So far, the outlook seems positive, but do we know what the long-term effects are? Is this really a wise move? From recognizing an overdose to the mechanisms of action, this presentation will explore all things naloxone.

Mentor: Arlene Courtney

**COMMUNICATION STUDIES**

## COMMUNICATION STUDIES PRESENTATIONS

Session chairs: Dana Schowalter, Emily Plec

Werner University Center (WUC) Calapooia Room

3 to 3:15 p.m., WUC Calapooia Room

**Stephanie Villalobos***Crossed Journalism: The Rhetoric of Jorge Ramos*

The expansion of social media has allowed increased participation and engagement in the work of journalism. However, that doesn't dilute the importance of standards and quality, and although many individuals may not be journalists, they still must commit to the ethics of journalism. Jorge Ramos is a deeply driven Latino immigrant journalist who has used his adversities to educate others on the importance of standing up for truthful, factual journalism. In 2017, Ramos delivered a speech titled, "Donald Trump, I don't want to be your friend." Ramos engages the audience by employing several rhetorical techniques. Using

series of rhetorical terms, his own narrative and a persona based on his experience with Donald Trump, immigration issues and the field of journalism, Ramos reflects on his earlier journalistic aspirations. These aspirations consist of using civic engagement to provide the truth and defend the freedom of press.

Mentor: Emily Plec

3:15 to 3:30 p.m., WUC Calapooia Room

**BreAnna Rae***Angela Davis: A Voice to Remember*

Angela Davis has a rich history in the social reform of America. In this paper, I describe Davis' background as a political prisoner and how that experience influenced her activism. The speech I analyzed, titled The Prison-Industrial Complex (1997) highlights the profitability of prisons' essential slave labor and the race-specific unjust treatment of those incarcerated. I argue that her use of narratives, artistic proofs and localized issues effectively convinces the audience of the need for civic engagement to assist with the social and political reform of the prison system in the United States. This paper connects her difficult past as a black feminist Marxist in a deeply prejudiced society to her academic works as a scholar.

Mentor: Emily Plec

3:30 to 3:45 p.m., WUC Calapooia Room

**Byron Kimball***It Will All Be Over Soon: A Semiotic Analysis of TS CEO Reviews and F\*cks Employee*

This paper employs semiotic analysis, wherein the symbols and signifiers of the pornographic film *TS CEO Reviews and F\*cks Employee* are analyzed and interpreted. Consideration is given to the psychoanalytic/feminist concept of the male gaze and how the use of the male gaze within the framework of *TS CEO* indicates specific societal anxieties about transgender women, including a perception of transgender women as predators. The construct of *TS CEO* and similar films, through the symbols and tropes used throughout the film, are identified as justifying physical and sexualized violence against the transgender community. Suggestions for a more holistic view of the transgendered experience and of the bodies of transgendered women within pornographic films are forwarded in order to combat the sexual othering of transgender bodies and the negative social values expressed through pornography marketed towards cisgender males.

Mentor: Emily Plec

3:45 to 4 p.m., WUC Calapooia Room

**Aiden DeRoest***Critiquing Feminism: A Trans Man Perspective*

Lack of inclusivity of men and transgender individuals has been prevalent in mainstream feminism, which has left the needs of transgender men unaddressed. The mainstream movement has debated whether men can be feminists or only profeminist, but more detailed discussions of men's needs are largely ignored. More specifically, trans men who pass as men are ignored by feminists, despite overlapping reproductive and social needs. Trans men who pass may have some male privilege, but their identity opens them up to violence, and their privilege can be negated by outings or produce anxiety. Men's-rights groups are often hypocritical in their desired social change, but there's little space for paternal rights and other needs. Mainstream feminism largely limits gender equality to women, leaving the needs of anyone but cis woman unaddressed or out of the spotlight. I propose more mutual conversations and space to talk about issues that can destabilize hateful men's rights groups, lessen social injustice and promote equality for all genders.

Mentor: Dana Schowalter



4 to 4:15 p.m., WUC Calapooia Room

**Justin Oehler**

*So You Think You Know Gender?*

When you hear someone talking about “T,” do you know if they mean the beverage or something else? Are drag performers transgender? What about butch women? Most people know of someone who is transgender (either a celebrity or in real life), but do you know the vocabulary and identities? Here is your chance to find all the answers! The goal of this presentation is to educate listeners on transgender identities, increase vocabulary knowledge to be a better ally, or maybe even put a name to your own gender identity (Surprise! Everyone has one.) No one is perfect, so if you think you know, you might be wrong!

Mentor: Emily Plec

4:15 to 4:45 p.m., WUC Calapooia Room

**Alyssa Chiampi, Kyle Arthenayake, Sophie Gilbert, Patrick Walsh**  
*Institutional Racism and WOU*

Scholars and activists have recently highlighted how racism is embedded into academic institutions in ways that are largely invisible. Using their criteria, this panel attempts to assess and make visible our own campus community’s treatment of race. We assess institutionalized racism at WOU and provide suggestions for how to move forward toward a more inclusive campus community.

Mentor: Dana Schowalter

**COMPUTER SCIENCE**

COMPUTER SCIENCE AND INFORMATION SYSTEMS SENIOR CAPSTONE GROUP PROJECTS

Session chairs: Scot Morse, Ted Beers

Richard Woodcock Education Center (RWECC) 101

1 to 1:15 p.m., RWECC 101

**Aaron Craig, Jazmin Bemby, Luis Loyh**  
*Advanced Online Learning With Skillify*

For students of all ages and everyday people looking to learn a new skill, Skillify allows users to search for top online courses from the leading learning websites, including Udemy, PluralSight and Khan Academy. The website allows learners to view and evaluate courses from the different learning platforms based on price, rating, single skill or degree, and curate an experience that suits their needs. The website will save the user time and energy by allowing them to have the best options in one search, versus looking through each website individually. In addition, users can create an account and save their searches and be updated when new, great courses that align with their educational needs are available. Skillify allows a user to find and plan a given curriculum that suits his or her needs, whether all of the courses be from one website, or from various websites that are recommended based on their previous searches or interests that he or she selects in a user profile. Unlike websites such as OEDB.com, which has a search engine that includes several online learning platforms, Skillify will have access to a more curated experience.

Mentor: Scot Morse

1:15 to 1:30 p.m., RWECC 101

**Koll Klienstuber, William Leo Thalman, Sam Wetzel**  
*Oodle: An Alternative Learning Environment*

For students and educators who want to be able to manage, learn and teach in online classrooms, cleanliness and efficiency would be paramount vs current solutions. The Oodle system is a web-based learning management system that can provide a clean and simple user interface for students and educators to create an online classroom quickly and easily. The system gives anyone the ability to create a class hosted in the cloud in which teachers can provide quizzes, post and grade assignments, and communicate with students efficiently. Oodle will save time and effort by setting up a more simplified, efficient, and user friendly learning manage-

ment system compared to the current software such as Blackboard or Moodle. Unlike the current learning management systems, our product and its classrooms are hosted in the cloud and will give the ability to easily create and enroll in a class. In addition, it eliminates the need for an IT department or external set up and configuration. Oodle is not open to customization by end users and limits its core features to only the essentials to help give a more intuitive experience to the consumer.

Mentor: Scot Morse

1:30 to 1:45 p.m., RWECC 101

**Rahevin Potter-Clark, Aaron Earl, Melissa Calawa**  
*LandingPad: A social media aggregation site with a writer’s social media platform called Penfolio*

Our project provides a web application called LandingPad that centralizes multiple social media platforms into one place. Unlike Hootsuite and Everypost that offer a similar package, LandingPad will display all news feeds on a single page format. Users will also be able to edit how they prefer to view their newsfeed, from endless scroll feed to next-page formatting. Another feature includes a writing platform called Penfolio, that allows writers to create, share and receive feedback from friends, which differentiates it from apps like Wattpad and Medium by allowing multiple genres in one platform. Finally, users will be able to create a customizable experience by modifying options for profiles, connections and display. LandingPad will save users time to catch up on all their news feeds on the most popular social media sites and share their writing work with others.

Mentor: Scot Morse

1:45 to 2 p.m., RWECC 101

**Michael Brown, Blake Bauer, Alexander Molodyh, Hannah Madland**  
*Elimination: A Framework for Hosting and Playing Live-Action Games*

For people who want to create and play elimination-based live-action mobile games, the Elimination Framework and API is an web application (and associated mobile apps) that allows a host to make a game, set rules and invite other users to join the game. Elimination-based live action games involve players being assigned other players as targets and then proceeding to attempt to eliminate their target/targets, traditionally with mock-projectiles (like Nerf guns or balled-up socks), by whatever rules are established for the specific game, until either the last player/team is remaining. Unlike current methods for playing elimination-based live-action games, our full website will remove the subjectivity that comes from a human moderator and human players determining a successful elimination and also make adding more rules and features (like player skill modifiers, a player inventory, and methods of elimination) to games easier and more fun. The application will store user accounts, skills and stats from previous and ongoing games, as well as make decisions for furthering current games and setting up new ones.

Mentor: Scot Morse

2 to 2:15 p.m., RWECC 101

**David Mastenbrook, Kacey Howell, Michael Becker**  
*Western Deli Interactive Menu*

The team has created an interactive menu system for items available at the Western Deli. The intent is to provide a service to help users make healthy choices. This is done by providing nutrition information and the ability to sort items based on dietary preference.

Mentors: Ted Beers, Scot Morse

2:15 to 2:30 p.m., RWECC 101

**Demond Moore Paco Blasio McKenzie Ruettgers**  
*WOU Event Finder*

Mentors: Scott Morse, Ted Beers

2:30 to 2:45 p.m., RWECE 101

**Kimberly Jones, Tingting Weiwang, Nicholas Randall**

*Mobile Classroom for Elementary School*

We are developing a platform for a Mobile Classroom for Elementary School to give teachers the opportunity to have an electronic platform for their students to access. It has a customizable option for the teacher to change the content as needed.

Mentors: Scot Morse, Ted Beers

2:45 to 3 p.m.

*Refreshment Break*

3 to 3:15 p.m., RWECE 101

**Abby Horner, Jacob Hatfield, Devon Smith, Stephen Oliver**

*Meet Remi: A Conversational AI for the Web*

For students and professionals who need to quickly and effectively communicate with their virtual information, Remi is a web application that provides a conversational interface that will allow these users to communicate with a computer system using their voices. This application will display requested information to the user based on the intent of their queries. For example, if a user requests a look at their schedule, Remi will display any upcoming events as listed on the user's calendar. This software will help users quickly and effectively interact with a computer system and provide them with a simple interface that aggregates their online services and data.

Mentor: Scot Morse

3:15 to 3:30 p.m., RWECE 101

**Mark Wolf, Gaohuan Huang, Ahmed Aljuhany, Adeshina Oladiti**

*The Wolf Feed*

The Wolf Feed is a website news reader that Western Oregon University students and faculty use to research news event for projects and also it's the homepage that people want to see first. Our vision of The Wolf Feed is to help WOU students and faculty to reduce time wasted on getting information off the internet. This system will reduce time wastage by supplying updated news for a research paper or homework that any student is working on. Users can also store any research for a later use. The Wolf Feed has the most recent and breaking news. It also has the stock quotes, cryptocurrency prices and sports scores. The Wolf Feed also has links to important links for students and faculty, for example, WOU Portal and Moodle.

Mentors: Scot Morse, Ted Beers

3:30 to 3:45 p.m., RWECE 101

**Daniel Tapia, Rochelle Simpson, Nathan Stark**

*College Companion*

For prospective college students who want to be able to search for colleges based on set criteria and see if both the college and its city are right for them. The College Tour Guide is an information system that will allow the user to fill out a form of set criteria, hold a search based on that criteria and get back a list of results with the best match on top. They can then look over various details of these results, such as information about the city amenities, travel options or demographics. It will then run comparisons of the data to find the best matches. Unlike the current websites, such as Naviance Student or ACT College Search, the focus is on the social, economic and psychological needs of the student being met—not their test scores.

Mentors: Scot Morse, Becka Morgan

3:45 to 4 p.m., RWECE 101

**Alizbeth Mendoza, Lianhua Zhou, Xinnyang Li, Hashim Alsadah**

*Calorie Intake Helper*

Mentor: Scot Morse

4 to 4:15 p.m., RWECE 101

**Laura Clouse, Waleed Alqahtani, Robbert Hoke**

*WISI Degrees*

Our project, the IS Infographic website is designed to teach users more about the information systems degree here at Western. The website provides users with a starting point to learn about what the information systems degree here at WOU will provide for them; what classes are offered, and what these classes will teach. Furthermore, students are able to learn more about the field of information systems and technology, allowing them to make an informed decision when considering this degree path. Our project accomplishes its purpose (to educate students about Western's IS degree) by using interactive infographics. These graphics are designed to provide a fun, useful way for students to visualize the data. By allowing students a clear means of displaying relevant data, we are providing an accessible service for those who want to learn more about this degree. Our website also provides a means of comparing the computer science degree and the information systems degree. This allows students a means of comparing and contrasting the two degrees using our interactive space.

Mentors: Ted Beers, Scott Morse

4:15 to 4:30 p.m., RWECE 101

**Alexandria LeClerc, JT Mazingo, Travis Dennis**

*MotoHub: Online Sports Car Club Organization Tool*

MotoHub is an integration of social circles and event management for sports car clubs. MotoHub provides an interface for both car enthusiasts and car club committees to attend and manage events. Through MotoHub, club owners can plan events and host registration online and organize their club members and committees. Car enthusiasts can manage their membership to multiple clubs online, and view their upcoming and previously attended events. Participation in past events can be analyzed through a dashboard. MotoHub provides an all-encompassing tool for both sports car club enthusiasts and car enthusiasts looking to participate in events.

Mentor: Scot Morse

## HEALTH AND EXERCISE SCIENCE

HEALTH AND EXERCISE SCIENCE GROUP PRESENTATIONS

Peter Courtney Health and Wellness Center (HWC) 203

Session chairs: Tom Kelly, Jennifer Taylor-Winney

11 to 1:30 p.m., HWC 205

**Savannah Hively, Brian Miller, Debora De Leon, Veronica Lepe**

*Quality Elementary Physical Education as a Foundation for Physical Literacy*

Quality physical education involves more than running laps or throwing balls. Physical educators teach children how to improve their motor, fitness and social abilities as well as to understand why physical activity is important. Physical educators' overall aim is to help students develop "physical literacy" to effectively participate in a range of physical activities and positively affect their health throughout their lifetime. Content standards provide guidance as to what students should know and be able to do as a result of physical education and direction for lesson objectives. However, teaching involves more than checking off standards. It involves thoughtfully designed progressions of developmentally appropriate content with task variations for diverse learners, teaching cues and questions to guide learning, well-planned transitions and management of the environment to keep children on task, assessments that show student progress and more. This session will share the importance of physical activity for children and factors that must be carefully considered when planning, teaching, assessing and reflecting upon quality physical education lessons.

Mentor: Marita Cardinal

1:30 to 2 p.m., HWC 205

**Emma Pinion, Kaylie Boschma, Annalise Weissenbuehler**

*Consequences of Injury Due to Single-Sport Specialization in Adolescent Athletes*

Sports-related injuries are becoming increasingly common among young athletes. The type of injury varies in severity and location, but the result is a detrimental effect on the adolescent's well-being emotionally and physically. The emotional effects of a sports injury lead to traumatic changes in self-concept, emotional state and mental status. In addition to the potential for altered mental status, the physical implications of a severe injury can change the activity level of the adolescent permanently. Aside from sport participation in general, it has become more common for young athletes to focus on a single sport for their athletic career. Single-sport specialization encourages an athlete to train heavily and cultivate their skills in one area. This practice can ultimately have detrimental effects on the mind and body that have permanent implications.

Mentor: Amy Hammermeister-Jordan

2 to 2:30 p.m., HWC 205

**Audrey Gonzalez, Joshua Joyner, Deaven Vessell, Gael Martin-Valdez**

*Learning to Teach via Teaching for Learning: Fitness Education Curriculum Development & Delivery*

Mentor: Gay Timken

2:30 to 3 p.m., HWC 205

**Danielle LaRocco, Spencer Hart, Josh Spear**

*The Effect Video Games Have in Therapy to Treat Ailments in Children and Adolescents*

This paper aims to explain the legitimacy of video games as a viable treatment in children with physical and mental ailments. Studies conducted aimed to evaluate the effectiveness of the Xbox Kinect, Nintendo Wii, ENLAZA interface, as well as other computerized virtual reality systems in treating children with cerebral palsy, general pain, brain injury and memory issues affecting adolescents with learning disabilities. Children showed an overall interest in video game treatment rather than traditional methods of treatment. These methods have been documented as being effective in raising the motivation of children to engage in therapy. Research using unconventional, novel methods have shown benefits in aiding children suffering from these issue. However, studies in this area are still in their infancy.

Mentor: Amy Hammermeister-Jordan

**HISTORY**

HISTORY DEPARTMENT SENIOR CAPSTONE PRESENTATIONS

Session chair: Kimberly Jensen

Werner University Center (WUC) Columbia Room

1 to 1:15 p.m., WUC Columbia Room

**Carter Craig**

*'To the Dishonor of God': Religious Roots for Puritan Morality Laws During the Interregnum*

During the decade of the 1650s, England had no king or queen. Instead, an increasingly monarchical parliamentary system of government reigned. This government was controlled by Puritans, a hardline sect of Protestant Christianity. Although they were a religious minority and their laws relating to morality were unpopular, the Puritans pursued their policies with religious zeal linking seemingly innocuous activities, such as cock-fighting or a may-pole celebration, with the supposed evils of Catholicism. Legal documents such as "March 1654: An Ordinance for prohibiting Cock-matches" and "June 1657: An Act for the better observation of the Lords Day" ban activities based on associations with drinking and gambling, and then in a speech by Oliver Cromwell those activities are linked with Catholicism. This demonstrates the integral role religious thought played in Puritan laws. This project is the study of how one group with a radical vision of

society used language to link domestic and foreign policy to Godliness and sin, despite a lack of popular support or resulting political gain.

Mentors: Elizabeth Swedo, Bau Hwa Hsieh

1:15 to 1:30 p.m., WUC Columbia Room

**Jodi Harrison**

*El Camino Real: Commercial Trade Route to Santa Fe*

The Royal Road of the Interior Land served as the sole trade and supply route to the frontier regions of New Spain for the better part of three centuries. The 18th century mission colony of Santa Fe was the northern terminus of El Camino Real. Caravan trade parties that traveled the near 1,600-mile route were the only means for buying and selling goods in Santa Fe. Native laborers were the backbone of the self-sustaining colony and manufactured numerous trade exports. The combination of Native American contributions and merchant trade on El Camino Real were the reasons for Santa Fe's ultimate survival as a permanent settlement. I will be examining letters by two 18th-century governors of New Mexico that provide requests and information on supplies needed to be sent overland for mission upkeep. Additionally, colonial era textiles provide an insightful example of commodities produced by Pueblo artisans for trade and purchase of needed imports. Sources from the Spanish and the natives provide some balance in contextualizing trade on El Camino Real.

Mentors: John Rector, Elizabeth Swedo

1:30 to 1:45 p.m., WUC Columbia Room

**Andrew Dobrowski**

*The Progressive Era and the Depression and the American Mental Institution System*

The American Mental Health System in the United States was largely impacted in the early 20th century with the beginning of the Progressive Era, new approaches to rehabilitating and curing patients who were mentally ill, the rise of psychiatry and the rise of the use of mental health asylums, and the use of new treatments such as talking patients through their illnesses and using therapy methods to treat patients. Based on an internship at the Oregon State Archives, this presentation will examine the American Mental Health System in the Progressive Era through the Depression era. I have consulted patient files that look at life inside the Oregon State Hospital, how the wards in the hospital were set up, and how specific patients were treated during their stay in the Oregon State Hospital.

Mentors: Kimberly Jensen, Todd Shaffer

1:45 to 2 p.m., WUC Columbia Room

**Keegan McMurry**

*Legal Issues of the German Reunification*

From 1961 to 1989, 350 people attempting to cross the border from East Germany to West Germany were killed while making the crossing. With the opening of the Berlin Wall in November 1989 and German reunification a year later, German courts began to address whether the border guards, their officers or political leadership of the former East Germany should be tried for these deaths. If East Germany no longer existed, could West German laws be applied to these cases? This project examines this issue by examining trials that were conducted in the 1990s and the legal sources that examine this issue. Based on my research, I argue that the trials, which were hastily organized, mistakenly went after the border guards instead of those who gave the orders.

Mentors: David Doellinger, Patricia Goldsworthy-Bishop

2 to 2:15 p.m., WUC Columbia Room

**Martin Salinas**

*Michoacán to Oregon: The Migration Patterns Following the Bracero Program*

With the United States joining of WWII in 1941, many men who had previously worked in the agricultural sector left for the war. The agricultural labor demand quickly became apparent across the United States and specifically in the West



Coast. By 1942, the United States and Mexico created an intergovernmental program known as The Mexican Farm Labor Program or the Bracero Program. The Bracero Program allowed a large-scale temporary migration of Mexicans to the United States to work in the agricultural sector. This presentation examines the Bracero Program and the decades after in a southwestern state in Mexico called Michoacán and looks at the unique historical migration patterns that links Michoacán to Oregon. Letters and first-hand accounts of Michoacán migrants who lived and currently live in Oregon are an important component that will be observed in understanding the complicated migration patterns from Michoacán to Oregon. With the current issues in politics involving Mexican deportation, this presentation will give an explanation of Oregon's current demographics regarding Mexicans and migration of Michoacán to Oregon.

Mentors: John Rector, Patricia Goldsworthy-Bishop

2:15 to 2:30 p.m., WUC Columbia Room

### **Brandon Meredith**

#### *Jacek Kuron: An Activist of Solidarity's Future*

In 1980, Solidarity became the first independent trade union in communist Poland. As an opposition movement in the 1980s, Solidarity promoted the rights of Polish citizens and contributed to the end of communism in 1989. The work of Jacek Kuron laid the foundation for Solidarity to achieve their success and the introduction of democracy. Jacek Kuron started his activist career in graduate school where he released an "Open Letter to the Party" in 1967. In the letter Kuron accused party officials that they are not following a true communist agenda. Kuron's activism later led to the creation of Workers Defense Committee (1976) and eventually to Solidarity (1980). Many scholarly accounts of Solidarity mention Kuron briefly with accounts of him being an influential part of Solidarity and how he was an advisor for the group that used his experiences to direct how things needed to be done even from prison. This project focuses on the oppositional activities of Kuron, whose moderate stance guided Solidarity along a path that was not radical enough to have a desire to destroy the party-state but not subservient to the state either.

Mentors: David Doellinger, Bau Hwa Hsieh

2:30 to 2:45 p.m., WUC Columbia Room

### **Carlise Leach-Provanca**

#### *The Mental Health Records of Progressivism from the Oregon State Hospital*

My active internship experience this Spring Term 2018 was with medical patients' records from the 20th century Progressive era through to the Depression of the 1930s accessed from the Oregon State Archives. The records help to illuminate the existence of Progressive ideals which were to rehabilitate patients through institutionalization and rehabilitation and the new science of psychiatry. The sources and records show that the ideals of the Progressive reformers in Oregon fell short of the realities of the Oregon State Hospital.

Mentors: Kimberly Jensen, Todd Shaffer

2:45 to 3 p.m., WUC Columbia Room

### **Erika Dyer**

#### *Mental Illness Ideologies and the Asylum: Individual Case Files from the Oregon State Hospital*

The treatment and care of the mentally ill in the U.S. has been a topic that has been heavily criticized over the years because of the extreme abuses and lack of compassion that existed in society towards those who were mentally ill. During the Progressive Era and the Depression, steps toward progress and reform were being taken, and this included civic medicine and new science. While steps were taken forward using these new ideas and modes of treatment, there were still areas where steps backwards were taken such as in the Eugenics movement and patient abuse. My internship at the Oregon State Archives has allowed me a closer look at the individual patients records and gives an inside look at what life was really like in an asylum. These records show the popular beliefs and ideologies

that existed regarding mental illness. These patient case files show how civic medicine and psychiatry was being implemented to help care for the mentally ill and shows the areas where more reform was needed. Through my examination of these patient's records the real story of what life was like living in the Oregon State Hospital from these patient's perspective will be shown.

Mentors: Kimberly Jensen, Todd Shaffer

## **POLITICS, POLICY & ADMINISTRATION**

### MODEL UNITED NATIONS MOCK SESSION

Session chair: Mary Pettenger

Werner University Center (WUC) Willamette room

3 to 5 p.m., WUC Willamette room

**Nathan Mireles, Sapphire Dorfman, Kranti Budhadhoki, Jenny Rooper, Dani Omori, Steven Bell, TJ Smith, Rakan Almuthaffar, Maddie Dohrer, Matt Stefansky**

#### *Model United Nations Mock Session*

The WOU Model United Nations club will simulate a MUN conference. Club members will represent Member States of the United Nations and will negotiate a solution to a current world issue. Attendees will be allowed to join the simulation if desired.

Mentor: Mary Pettenger

## **NATURAL SCIENCES & MATHEMATICS**

### MATHEMATICS CAPSTONE PROJECT PRESENTATIONS

Session chairs: Cheryl Beaver, Leanne Merrill

Peter Courtney Health and Wellness Center (HWC) 204

1 to 1:20 p.m., HWC 204

### **Khorben Boyer**

#### *Fantastic Topological Surfaces and How to Classify Them*

The classification theorem of compact surfaces shows us that all non-empty, compact, connected, 2-dimensional manifolds are homeomorphic to one of three categories of manifolds. These cases consist of the sphere, the connected sum of  $g$ -holed tori or a connected sum of projective planes. We aim to rigorously prove the theorem via verification of the requisite auxiliary theorems and lemmas. This will require an analysis of a relationship that can be established between these topological surfaces and equivalent representational polygons. Then, a set of elementary transformations will be used to reduce all possible polygonal presentations of surfaces to one of the three non-equivalent cases.

Mentor: Leanne Merrill

1:20 to 1:40 p.m., HWC 204

### **Justin Spinner**

#### *A Revision to the Pythagorean Theorem of Baseball*

Using the completed previous year's baseball statistics, we will predict a team's win percentage and thereby number of wins at the end of the upcoming baseball season. To do this, we will modify the already existing Pythagorean Expectation of baseball, originally developed by mathematician Bill James, which uses runs scored and runs against raised to a preset exponent (often approximately 2). In this paper, we will show how one can predict a team's wins by slightly changing the runs scored portion of the Pythagorean Expectation model, using the previous year's offensive statistics and a team's 25-man opening day roster. We will also re-prove the Pythagorean Expectation using Miller's method to show why this probabilistic model is important to our predictions.

Mentor: Leanne Merrill

1:40 to 2 p.m., HWC 204

**Brittany Johnson***Classifying Regular Polytopes in Dimension 4 and Beyond*

It is known that there exists infinitely many regular convex polygons, and that there exists exactly five regular convex polyhedra, commonly known as Platonic solids. We seek to prove these facts and to extend our findings to higher dimension polytopes such that for any dimension  $n$ , we can state and prove how many regular convex  $n$ -polytopes there are. We will also explore the classification of non-convex polytopes, commonly known as star polytopes.

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Mentor: Leanne Merrill

2 to 2:20 p.m., HWC 204

**José Sosa-Vazquez***A Brief Exploration of Rational Points on Elliptic Curves*

Combining abstract algebra, algebraic geometry and number theory, the study of elliptic curves can yield interesting results and applications. Though the subject can become very involved, we provide an introduction to the study of elliptic curves and the group of rational points on elliptic curves. We derive and prove the structure of the group of rational points on elliptic curves, adhering to the work of Silverman and Tate, and prove that the group operation is Abelian. We also consider the work of Riemann by working out examples over finite fields. We explore the general geometric structure of elliptic curves, Weierstrass normal form and the different types of curves associated with the Weierstrass form of a curve, and finally, provide a possible proof of the conjecture given by Riemann in the article Elliptic Curves Over Local Fields.

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Mentor: Leanne Merrill

2:20 to 2:40 p.m., HWC 204

**Britton Collins***Just a Roll of the Dice: Integrating Games Into Teaching Students Probability*

As teachers move from teacher-centered learning to student-centered learning, it is important to think about what methods are best for student success. One way is to integrate games into teaching students about probability. Students are able to experience the real-world application of probability through the lens of these games. This talk discusses the benefits of using games as a fun and effective way of teaching students probability.

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Mentor: Laurie Burton

2:45 to 3 p.m.

*Refreshment Break*

3 to 3:20 p.m., HWC 204

**Andrew Henneman***Functional Models: Using Functions and Models to Help Students See Connections Between Math and Real Life*

High school students struggle to see the connections between math and real life. The focus of this project is to strengthen that connection through the use of functions and modeling. Students are tasked with making the connections between functions (linear, quadratic, exponential and sinusoidal) and the various real-life situations that they can model. These models can vary from modeling the motion of a person walking at a constant speed from one place to another, tracking the height of a ball as it is kicked in the air, or the accumulation of space debris in our outer atmosphere.

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Mentor: Laurie Burton

3:20 to 3:40 p.m., HWC 204

**Erica Stuckart***Mathematical Mindset*

This research project studies the mathematical mindsets of teachers and students. Mathematical Mindset is a study focused on the differences between growth mindset and fixed mindset in math classrooms. To determine the types of mindsets, an online survey for teachers and students was conducted. The teacher survey focuses on whether the classroom environment, mathematical perspective and valued characteristics in mathematics of the teacher are motivated by a growth or fixed mindset. The student survey examines the student's attitude towards math. Overall, the study investigates the effects of the growth mindset and fixed mindsets in the classroom and examines the correlation between the mindsets of teachers and students.

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Mentor: Cheryl Beaver

3:40 to 4 p.m., HWC 204

**Amelia Tartman***Smokey The Bear Meets Algebra: Lesson Plan Development for High School Algebra Based on Meaningful Contexts*

The purpose of this presentation is to show the process that went into creating and executing a five-day lesson plan for a high school math class. Initial ideas varied but were rooted in the desire to give students a practical application for their mathematical skills. Based on research by Boaler, Gravemeier, Doorman and others, the lesson became a collectivist approach that used student inquiry and real-world context to create a meaningful learning experience for high school students. We then reflect on a two-day partial execution of the created lesson plans in a high school algebra II classroom by looking at the successes and shortcomings of the lesson plan. Finally, suggestions are given for future application of inquiry-based mathematical learning.

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Mentor: Cheryl Beaver

4 to 4:20 p.m., HWC 204

**David Samek***Examining the Integration of Secondary Connections Into College Math Major Courses*

The purpose of this study is to examine the history of recommendations for the preparation of secondary mathematics teachers and to analyze suggestions for how these recommendations could be integrated into current math major courses. Also addressed will be which math major courses could be modified to provide the greatest impact for secondary math teacher preparation. Finally, an example will be shown of a way to integrate these practices into the standard math major courses without degradation of the math major content.

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Mentor: Matthew Ciancetta

4:20 to 4:40 p.m., HWC 204

**Patricia Eckstrom***Revealing Math in Music via Modulo*

The basics of music with respect to intonation, key, count and note length are examined to establish its connection to the mathematical modulo operation. In particular, the remainders given by the modulo operation are used to deduce the pitch value of notes. Furthermore, these modulo remainders play a role in the musical operation of inversion—a reflection of a collection of pitch values about a note  $p$ . Additionally, an example of how prime numbers can be used to create music as a series of notes will be demonstrated.

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Mentor: Matthew Ciancetta

## PHILOSOPHY AND RELIGIOUS STUDIES

### PHILOSOPHY SENIOR TUTORIAL PRESENTATIONS

Session chairs: Susan Daniel, Mark Perlman, Ryan Hickerson  
Werner University Center (WUC) Santiam Room

1 to 1:30 p.m., WUC Santiam Room

#### Jameson Lewis

##### *A Defense of Plato's Theory of an Ideal State*

In this essay, I will observe and defend the various parts of Plato's theory of the ideal state as he wrote of in the *Republic*. I will consider the plausibility of his conception of the philosopher king as a "benevolent dictator," arguing that not only is it possible for such a person to exist, but also that in Plato's state, such a form of rule would be free from corruption due to factors such as the ruler's inability to own property. I will defend Plato's theory against other philosophers' arguments for other forms of government, such as Mill's insistence on democracy as the superior form of government. I will also aim to strengthen some of the weaker aspects of Plato's argument, including his argument in favor of censorship.

Mentor: Susan Daniel

1:30 to 2 p.m., WUC Santiam Room

#### Matlyn Perry

##### *"We Were Here!" Existentialism, the Metal Scene and the Link Between Art and Identity*

This paper reviews the problems that the existentialist attitude surrounds us with—disorientation and confusion—and how through art and rebellion we can confront it. The issues of identity and the absurd are explored through traditional existentialist text, from Albert Camus, Friedrich Nietzsche and Jean-Paul Sartre, as well as a look at the recent metal music scene and how it gives us a contemporary expression of existentialism, showing that existentialism and our response to it is far from dead.

Mentor: Susan Daniel

2 to 2:30 p.m., WUC Santiam Room

#### Noelle Jacobsen

##### *Technological Positivism: The Necessity of Utility*

I believe that technological positivism is the way we should view technological research and advancements, and that John Stuart Mill's utilitarian approach is the best way to respond to technological pessimists supporting my argument. I attest Mill's utilitarian method has strong arguments against the retributions of technology causing strictly harm to humanity, technology creating a barrier between humans and the world, and technology becoming too powerful for humans to handle. I will explain how the utility calculation is necessary when creating new technology and that technology should be a causation for happiness.

Mentor: Susan Daniel

2:30 to 3 p.m., WUC Santiam Room

#### Nathan Soltz

##### *A New Existentialism: Rebellion vs. Suicide in the 21st Century*

There exists a dichotomy in existence: Rebel against the absurd or commit suicide. I will begin my paper by first defining what is meant by the absurd. This will lead me to a brief discussion of existentialism, specifically the ideas of Albert Camus and his inquiries into suicide and rebelling against the absurd. I assert that Camusian thought died with Camus and existentialism as a movement died soon after. It was typecast as being a child of pop culture and did not successfully break itself from that mold. My central thesis is that our existence precedes our essence and that we must then spend our existence rebelling against the absurd or commit suicide. I will explore also how we rebel and why we must rebel. Finally, I will address the assertion made by some philosophers that living in rebellion is creating a metaphysical prison of our own making and argue that not only is this not the case but living in rebellion is the only way to acknowledge and exercise our radical

free will and that we must live in, through and after the requisite existential crisis resulting from that free will, knowing that we have the ability to do whatever we want to do in the face of an indifferent universe.

Mentor: Susan Daniel

## REHABILITATION AND MENTAL HEALTH COUNSELING

### REHABILITATION AND MENTAL HEALTH COUNSELING (RMHC)

Session chair: Denise Thew-Hackett  
Richard Woodcock Education Center (RWE) 201

1 to 1:15 p.m., RWE 201

#### Lauren Urton

##### *Five Most Salient Things I Learned in My DeafBlind Class*

Mentor: CM Hall

1:15 to 1:30 p.m., RWE 201

#### Sean Stephen

##### *Service Learning Trip: Seabeck*

Mentor: CM Hall

1:30 to 1:45 p.m., RWE 201

#### Emily Reding

##### *Intersectionality*

Mentor: Denise Thew



## THEATRE PERFORMANCE

2 to 4 p.m., Rice Auditorium

### Students of Theatre

#### *Why Cross Chaos*

Based on the silent films of 1915-16, *Why Cross Chaos* is a comedy-thriller period romp. A journalist and his sidekick try to crack the case of a bizarre underground gang who commit murders of local officials.

Mentors: Michael Phillips, Jessica Wallenfels



*Evening Session*

**MASTERS OF SCIENCE IN EDUCATION**

MSED PROGRAMS STUDENT PRESENTATIONS

Session chair: Zig Derochowski

Werner University Center (WUC) Santiam Room

6 to 6:15 p.m.

**Emily Pahlke**

*The Nintendo Switch and Labo in Education*

The Nintendo Switch and Labo are designed as entertainment devices. However both have immense possibilities within STEAM education as children are encouraged to build and decorate their own accessories using engineering and mathematical principles to directly modify how they interact with video game play.

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Mentors: Mary Bucy, Greg Zobel

6:15 to 6:30 p.m.

**Ben Kahn, Amy Spielmaker**

*Building an Open PD Resource for Moodle Instructors*

Moodle User Guides began as a collaborative project between Amy and Ben, two graduate students taking online classes at Western Oregon University. We both study education and technology, use Moodle as students to take fully online classes, and work to provide technical support, training, and professional development to faculty using Moodle at our home institutions. While there are many excellent Moodle resources for instructors out there, we've identified a few gaps that we hope to address with this project, including the need to aggregate content into one source and to address both technical training as well as "soft" pedagogy development needed to teach online effectively. This site offers a single, searchable resource for a single audience that supports the building of both technical knowledge and pedagogical knowledge.

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Mentor: Greg Zobel

**TEACHER EDUCATION**

PANEL DISCUSSION

6 to 7:30 p.m., WUC Calapooia room

**Students of the Masters of Arts in Teaching**

*Using Author Studies to Enhance Writing Instruction*

Students in the Masters of Arts in Teaching program, who are currently in the writing focused content pedagogy class, will present author studies that they have created for use in their secondary classrooms to inspire students to write. Students will share resources from the authors as well as ways these authors have inspired their own writing instruction.

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Mentor: Melanie Landon-Hays

**Morning Multidisciplinary Poster Session**

8 to 10 a.m., Werner University Center (WUC) Summit

**Forensic Anthropology**

Chair: Misty Weitzel

**Nathaniel Medeiros, Morgan Trey, Haliagh Nagle*****How Water Affects The Rate Of Soft Tissue Decomposition***

The rate of soft tissue decomposition is greatly affected by being submerged in water. The purpose of this research is to examine how water affects the rate of soft tissue decomposition. More specifically, we will document differences between how pool water (containing chlorine), lake water and salt water affect the rate of decomposition by submerging one domestic pig rib in each water source for an equal amount of time. One pig rib will be kept out of water to serve as the control for the experiment. We will be documenting the decompositional changes for each rib every day. Previous research suggests that just being in water, as opposed to buried in soil, alters the rate of decomposition because it allows for articulating joints to move in three dimensions. We investigate this further to see if different kinds of water will either speed up the rate of decomposition or slow it down.

Mentor: Misty Weitzel

**Victoria Coe, Jalen Mitchell, Jessica Alexander*****Trauma to the Skull: How to Differentiate Bullet Type From Bullet Wound***

Forensic anthropologists must understand varying types of skeletal trauma. Bullet trauma to the skull is an example of what forensic anthropologists can encounter when creating a biological profile of an unknown decedent. The purpose of this project is to analyze the effects of different weapons and the degree of trauma subjected to the skull. Domestic pig heads were used in this experiment due to the similarities they share with humans. They were evenly placed from the individual firing the weapon. The weapons used for this experiment include a 9mm Diamondback compact pistol, a .22 Marlin long rifle (LR) and a 12-gauge Harrington and Richardson shotgun. A comparison of trauma to each of the skulls will then be recorded. It is our belief that the shotgun will produce the most damaging effect, with the 9mm being next and the .22 LR having the least effects on the skulls.

Mentor: Misty Weitzel

**Ella Young, Benjamin Phillips, Erik Hernandez Garcia*****Rates of Decomposition by Sarcophagidae and Dermestidae***

Insects have been used for many years by taxidermists and forensic anthropologists alike to clean skeletal remains. We observed two different types of insects, *Sarcophagidae* flies and *Dermestidae* beetles, to determine which was more efficient at removing soft tissue from domestic pig heads. We created two experimental bins, each with a single pig head, and separated the insects in their respective bins. A control bin with no insects was used as a baseline for decomposition. We predict that the *Sarcophagidae* maggots will grow into adult flies and rapidly consume the majority of the pig head faster than the *Dermestidae*. Also, as temperature increases, so will the number of insects present, and thus the rate of decomposition.

Mentor: Misty Weitzel

**Bailey Goodwin, Amber Knight, Elizabeth Diaz-Enriquez*****Comparison in Decomposition Rates in Freshwater and Surface Environments***

The goal of this study is to present observers with information about different forms of decomposition. We created a case where decomposition of two domestic pig heads will be observed during a 21-day period in freshwater and above ground in a wooded area in Yamhill County. One head was placed outside in a 10 gallon aquarium with water from the Willamette River. The other freshly killed pig head was placed above ground in a live animal cage to keep animals from moving the carcass. We anticipate the carcass above ground will decompose at a faster rate because insects have easier access to colonize and because the temperature of the

exposed carcass will be higher. This research can be used to understand factors about decomposition in different environments, ultimately helping estimate time since death.

Mentor: Misty Weitzel

**Levi Higgins, Kacey Howell, Ian Hunt*****Fire, Accelerants, and Their Effects on Forensic Odontology***

Forensic odontologists focus on the identification of teeth in legal investigations. Some cases may involve the identification of burn victims based on their dental records. Because teeth do not burn well, odontologists are able to identify burn victims by their teeth after their bodies have been completely eradicated. In this experiment, we will use fire and three different types of accelerants (gasoline, diesel and acetone) to determine when teeth start to breakdown to the point that identification is not possible. We will include a control, in which teeth will burn in a natural fire without accelerant. We will then perform the same experiment with three types of accelerants listed above to observe how each accelerant breaks down teeth. It is our estimation that with the accelerants, we will see the beginning stages of breakdown, but not enough to prevent victim identification.

Mentor: Misty Weitzel

**Health and Exercise Science**

Chairs: Tom Kelly and Jennifer Taylor-Winney

**Parker Marson, Noah Levine*****Lactate Clearance in Division II Cross Country Runners***

The purpose of the study was to examine potential benefits and outcomes of whole body vibration (WBV), in addition to other more common modalities (e.g., vibration roller and air compression boots), as a recovery modality for collegiate track athletes. Earlier case studies suggested that WBV can positively affect blood lactate removal. Eight WOU cross-country runners were asked to follow a lactate-inducing training session and traditional 10 minute cool down with 5 minutes of either WBV (at 40 Hz), vibrating foam rolling, air compression boot or rest. Participants were subjected to three to four finger pricks pre-workout, post-workout, post-cool down and post-modality to draw a drop of blood to be analyzed for blood-lactate concentration. Based on the result of the early trials, the most promising intervention modalities were compared to the traditional cool down in a separate trial (i.e., immediate post workout).

Mentors: William Armstrong, Emilie Vala-Haynes

**Noah Levine*****Spatial Analysis of the Mechanomyograph in the Medial Gastrocnemius***

The purpose of the present study was to examine the mechanomyographs of the medial gastrocnemius spatially using a grid of nine accelerometers during electrically invoked contractions. Fifteen moderately active volunteers with measurable H-reflexes participated. The tibial nerve was stimulated in 2V increments with 10 second rest intervals, and data where the peak-to-peak M-wave amplitude exceeded the H-reflex were analyzed. Peak-to-peak MMG data were subjected to the intensity analysis, and total intensity, the peak total intensities and time to max were determined. Maps of the dependent variables were plotted across a 9-accelerometer grid for each stimulus for each participant to be analyzed visually. The research concluded that MMG varies spatially for the medial gastrocnemius. Mapping the MMG acceleration may allow researchers to identify characteristic differences among individuals, as well as individual muscles.

Mentor: William Armstrong

**Arden Murakami, Kristin Miller*****Effects of Maximum Cane Usage on Impulse and Force Exertion While Walking***

The purpose of this study is to investigate the force exerted on one foot while walking with a cane versus walking without a cane. This can help determine

whether walking with a cane is beneficial for decreasing impact force when injured and can help provide a better understanding of this specific cane-walking technique. Researchers analyzed the gait of three male and three female participants. The AMTI force platform system in the WOU Exercise Science lab was used to collect data at a sample at 1000 Hz. Data were analyzed using tables and graphs to compare the amount of force exerted on the left foot and cane while walking with a cane versus walking without it and while exerting minimal force on the cane versus maximal force on the cane. Based on the results, cane use for minimum force alleviation does not appear to be beneficial. However, using a cane for more maximal force alleviation appears to produce less force on the foot than walking without a cane.

Mentor: Brian Caster

### **Kelsea Martin, Rachael Schmelling**

#### ***Stability of the Ankle: Does Wearing an Ankle Brace Change Ankle Stability and Balance Scores?***

The purpose of this study is to determine the effects of both perceived and measured stability and balance on the Biodex while using different bracing mechanisms. Six Western Oregon University volunteers took part in the study. All participants were female with no surgical or current injury to their tested ankle. All testing was done barefooted, in each of the three different conditions (no brace, soft brace, stiff brace), procedures were the same. Each session began with active range of motion (ROM) assessment that was collected on video. After ROM was collected, the participant moved onto the Biodex to perform athletic single leg stability testing, then participants filled out a survey to assess their perceived stability. ROM for each individual participant stayed consistent there was little/no change among the different measurements. The overall findings of this study showed that the use of an ankle brace does not have a large impact on stability or ROM for a majority of the participants. Although actual ankle stability does not change, the use of an ankle brace can increase the perceived stability during performance.

Mentor: Brian Caster

### **Dustin Nading, Joshua Dempsey, Aaron Whitaker, Parker Marson**

#### ***A Biomechanical Analysis of Artificial and Control Pace-Setting Profiles***

The purpose of this study is to examine the effect that artificial pace setting has on pace accuracy and goal pace attainment in comparison to trials when conventional pace setting is utilized or, alternatively, when no form of pace setting is available. In this study, researchers attempt to compare trials run without a means of pace setting (control), with standard human pace setting, and with the use of artificial (auditory and visual) pace setting. Researchers will then compare the results and evaluate whether the use of standard and artificial pace setting is justified when comparing acceleration profiles, speed profiles and target time accuracies. There lacks significant research into the benefits at the collegiate track level regarding the effectiveness of various pacing methods, despite the widespread use of pacing in track and field and in a variety of other sports and activities. This research will attempt to quantify the supposed benefits of various types of pace setting.

Mentor: Brian Caster

### **Travis Rhyno**

#### ***Comparing Leg Press Machines to a Traditional Squat***

The purpose of this study is to compare leg press machines to a traditional squat in relation to joint angles and range of motion, as well as how each may translate to the "real world." For this comparison, four Western Oregon University students ages 20-25 participated. In each trial, participants achieved greater range of motion at the knee while performing a squat than by using either of the two machines. One cause is the position one must sit to use a leg press; the knees meet the chest as the seating position put each of the participants in an average of 90.66 degree flexion at the hip. This resulted in the participant's knees meeting their chest causing a greatly decreased range of motion. In response to this, the participants naturally spread their knees outward, compromising proper joint alignment. The results here suggest that machine-based exercises do not offer a complete approach to fitness. It is the opinion of the author that machine-based exercises

should be limited to those who are in some way compromised. Given that the leg press removes the need to stabilize the limbs or the weight, those who suffer from an injury or another form of inability would benefit.

Mentor: Brian Caster

### **Faith McGovern, Anna Dixon, Delaney Hendrickson**

#### ***Running Parachute Analysis***

The purpose of this study was to determine if the running parachute would apply enough resistance to the subject to increase acceleration and muscle endurance. To determine this, the parachute was connected to a 10 pound medicine ball and dropped from 24 feet while being videotaped. A rope marked every half-meter was placed against the wall where the ball was dropped. The ball was dropped twice, once by itself and then with the parachute connected. The overall average velocity of the ball dropping without the parachute was 4.99 m/s, and average velocity with the parachute was 3.6 m/s. The acceleration for the both the ball by itself and with the parachute had steady inclines; the parachute slowed the acceleration down a bit more. Results indicate that the parachute applies a small amount of resistance on a runner, but not enough to show a significant difference. Future research could be done on running forms and joint angles when training with a running parachute.

Mentor: Brian Caster

### **Alfred Johnson, Colton Nelson, Nicholas Oelrich**

#### ***Effects of Off-Hand Constraint On Potential Free-Throw Accuracy***

The purpose of this study was to determine whether the shooting strap used in basketball benefits athletes by significantly improving their technique, precision and accuracy. The shooting strap is a product designed to help prevent the guide arm from interfering with the shooting arm as the shooting skill undergoes its process. The product is advertised as a tool for novice players that struggle to keep their guide arm/hand from pronating, interfering with the process of the shooting arm. Participants underwent three conditions (warm-up, strap, no strap) of 10 free-throw shots. Data collected during this study showed that there was no immediate benefit gained in precision during short-term use. Data suggests the strap made the participants' shots worse. Although the shooting strap may not be effective for short-term use in increasing precision or accuracy, more studies need to be completed to determine if it has long-term effectiveness in these areas.

Mentor: Brian Caster

### **Taylor Westover**

#### ***A Day in the Life of an ALL Survivor***

The most prevalent of all childhood cancers for which there is no known cause is Acute Lymphoblastic Leukemia (ALL). It is a cancer of blood and bone marrow that affects the white blood cells of an individual. With treatment, ALL is a treatable cancer if caught early on. Treatments include chemotherapy and/or drugs that target and destroy cancer cells. This case study looks at one young male's battle with ALL and the lasting impacts it has had on his life. Included is the biopsychosocial model along with other research regarding the lifelong impact ALL has on an individual.

Mentor: Janet Roberts

### **Leadership in Nursing**

Chairs: Angie Docherty and Patti Warkentien

### **Taylor Whitehurst**

#### ***Labor and Delivery in the United States and Thailand: A Nursing Role Comparative***

This project aimed to compare and contrast the role and responsibilities of nurses in labor and delivery in the United States and Thailand. In the U.S., nurses and midwives are separate occupations with different certifications. In Thailand, the nursing profession also includes midwifery, allowing for more exposure to women's health and delivery. The labor and delivery practice setting, and the role of



nurses was observed through clinical experience in Eugene, Portland and Bangkok, Thailand. Additional professional interviews and literature reviews were conducted for additional statistical data and supplementary information. Many differences in the practice setting were observed; these are widely attributed to social and cultural differences between the two countries. Nursing practice and responsibilities are similar in both countries with the exception of Thai nurses acting as midwives and the use of Thai traditional medicine. The roles and responsibilities for labor and delivery unit nurses are found to be similar in both countries. Practice differences observed are due to education differences and specific cultural considerations.

Mentor: Patti Warkentin

### **Xochitl Gutierrez, Natalie Rauch**

#### *Falconer-Chapman Elementary School: Creating a Drug and Alcohol Prevention Initiative*

Leadership students at OHSU School of Nursing's Monmouth Campus built upon the work of their peers in Population Health to address the identified need for a drug and alcohol prevention program at a local rural elementary school. Students discovered the school could make improvements to meet Oregon Department of Education's statute requiring public schools to deliver prevention education on drugs and alcohol (OAR 581-022-2045). Guided by the statute and community input, the authors conducted a review of the literature and national prevention efforts. They identified a skill-based intervention and an awareness-raising campaign as effective approaches for drug and alcohol prevention. The aim of this performance improvement project was to create an instructional booklet to facilitate the implementation of an evidence-based drug and alcohol initiative by school officials. The Logic Model framework was used to guide the development, implementation and evaluation of the program. The project's short-term outcome is to gain active engagement from staff and students. The initiative will be evaluated long term by the reduction of drug and alcohol use in the community.

Mentor: Julie Ward

### **Jennifer Beard, Angela McNally**

#### *Resource Navigation for Western Oregon University Students*

Although Monmouth and surrounding areas provide resources for students at Western Oregon University (WOU), many of these resources aren't fully utilized due to a lack of awareness about what is available. When surveyed about what needs weren't being met on the WOU campus, most students mentioned issues that local resources already address such as food scarcity, lack of transportation, access to dental and vision care and general monetary support. Unmet needs such as these not only affect the mental and physical well-being of students, but they also are likely to affect their academic performance and increase their chances of dropping out of school all together. The aim of this project was to make these resources more available to students by increasing awareness through the use of an online interactive resource map. The map serves as a connection between community stakeholders and students. Each point on the map details the location, its services and any special considerations made for people in difficult circumstances. The map is available through the WOU Student Affairs website to students and the general public and is editable to help keep it relevant.

Mentor: Angela Docherty

### **Taylor Whitehurst, Janine Egan, Katie Groff, Michelle Hayes, Anna Markee, Savannah Patterson, Sarah Solvedt, Makenzie White**

#### *Developing a Policy and Procedure Binder for the Polk County Resource Centers*

The Polk County Resource Centers serve more than 500 clients every quarter, connecting residents to financial, housing, social and health resources. Front desk personnel are responsible for providing references and screening clients for referral. The resource centers lack orientation and policies for front desk personnel, leading to delays in providing services for clients. The aim of this project was to streamline services for clients by designing a policy and procedural binder and delivering an orientation to all resource center staff. A literature review, use of the Plan, Do, Study, Act Framework and close collaboration with resource

center personnel led to the development of the policy and procedure binder. The policy and procedure binder was presented to the resource center staff with the encouragement to continuously review and revise the binder as necessary. Preliminary results of the binder have shown a reduction in the number of personnel needed to fulfill one client's needs, thus decreasing client wait time.

Mentor: Angela Docherty

### **Keri Joyce, Kaila Waymack**

#### *Improving Tobacco Cessation at Western Oregon University*

Western Oregon University's Student Health and Counseling Center (SHCC) expressed a need for improvements to tobacco cessation resources as identified through student-led surveys. An in-depth literature review using CINAHL database revealed successful tobacco cessation requires promotion of resources in cessation treatment. Research also indicated young adults are likely to gather their information from electronic-based resources. Using the research findings, a health promotion initiative using the Logic Model of Change was created for the SHCC tobacco cessation program. Improvements included website updates, fliers dispersed campus-wide and enhancements made to "tobacco quit kits" located in the SHCC lobby. These changes included access to interactive phone applications, fliers with quitting tips, a progress journal and information about how to get assistance at the SHCC. Sustainability will include continued marketing and updates to the website as research progresses. With continuation of this project, there will be further student awareness for resources, improved promotion of a healthier student population and compliance to the WOU tobacco-free campus policy.

Mentors: Patti Warkentin, Angela Docherty

### **Theresa Sterkel, Tim Terkildsen**

#### *Preventing Veteran Suicide in Polk County, Ore.*

The purpose of this project is to improve the knowledge, use of suicide prevention strategies, and enhance community resource access to military veterans and their families in Polk County. Collaboration with local agencies initiated a process improvement plan to enhance suicide prevention utilizing the Logic Model. This included focus on educating veterans in Polk County using QPR (question, persuade, refer) Gatekeeper Training and designing of Polk County Veteran Resource and Medical Guides. All of the veterans who underwent QPR training report an increase in knowledge of how to speak to a person with suicidal ideation and access to and knowledge of local resources through Polk County veteran-specific pamphlets. In order to continue educating veterans and their loved ones about their options and resources, it is recommended veterans and other community members undergo QPR education. For female veterans specifically, who are at a disproportionately higher risk of completing suicide, it is recommended the community establish population-specific support groups to address population-specific needs.

Mentors: Patti Warkentin, Angela Docherty

### **Amy Harding, Nicole Acosta**

#### *Putting the Pieces Together: Enhancing Student Access to Mental Health Services at OSU*

The purpose of this project was to improve student access to mental health services at Oregon State University (OSU) through effective assessment and triaging of students in crisis and efficient referral of students between Student Health Services (SHS) and Counseling and Psychological Services (CAPS). A needs assessment revealed that SHS clinicians felt uncomfortable triaging calls from students in crisis due to call infrequency and that clarification of the interdepartmental referral process would improve continuity of care. These needs were addressed through the creation of a Suicide Risk Assessment Flowsheet to be used by SHS nurses when fielding calls from students in crisis, a CAPS/SHS Student Referral Protocol Flowsheet to clarify interdepartmental referral processes, and revised referral forms that expedite processing of interdepartmental student referrals. Initial evaluation of these tools has been positive, with SHS clinicians describing increased comfort and confidence with triaging students in crisis and reporting streamlined referrals between CAPS and SHS.

Mentor: Rana Najjar

**Afternoon Multidisciplinary Poster Session**

1 to 3 p.m., Werner University Center (WUC) Summit

**Biology**

Chair: Jeff Snyder

**Chelsea Bitner*****Physiological Effects of Disrupted Circadian Cycles in Geranium oreganum***

Circadian cycles govern an organism's internal clock and regulate processes such as gene expression, stomatal opening and reproductive cycles in plants. Most organisms base circadian cycles upon patterns of sunlight and temperature changes and function most optimally upon an equinoctial day-night cycle with roughly equal periods of light and dark within a 24-hour period. Plants are especially sensitive to patterns of sunlight, and understanding the response of plants to abnormal circadian cycles can aid in agricultural development of areas where sunlight is at a premium. Treatment plants in this experiment were cycled through 24-hour blocks of daylight and nighttime conditions while control plants were exposed to an equinoctial day-night cycle. Plants grown under treatment displayed lower stomatal density, reduced photosynthetic reaction time in response to quick bursts of light, and lowered water conductance compared to control plants.

Mentor: Ava Howard

**Nicholas Wanderscheid, Maria Franco Ramos, Eva Batenhorst*****The Effects of Larval Population Density and Social Interactions on Adult Fecundity in Drosophila melanogaster***

*Drosophila melanogaster* are a model organism for studying sexual and mating behaviors. Previous research has suggested that raising flies in isolation affects development of olfactory and visual systems. Our experiment set out to see if density and social interactions as larvae had an effect on fecundity in adult flies. To test this, we raised larvae in high densities, medium densities, and in isolation, with none of the groups food-limiting. We then set up nine pairwise crosses of adults (high density female x high density male, medium density female x high density male, etc.). The mating pair was removed after five days and measured for size. The offspring were collected, noting patterns of eclosion, and measured for size. Our preliminary data suggests that females raised in a moderate density environment as larvae may be most fecund. We will continue to run these crosses for a total of 10 replicates of each pairwise cross to gather more data for analysis. This research will contribute to the understanding of the effects of population density and social interactions in fruit flies.

Mentors: Kristin Latham-Scott, Michael Baltzley

**Mekayla Malarkey*****The Effects of Limited Root Space on***

The plant root system functions in water/mineral absorption, food storage and anchoring for the plant's shoot systems. When a plant is experiencing root restriction, it becomes more stressed. In this study, I aimed to investigate the relationship between root restriction and the physiological effects on *Helianthus annuus*. I hypothesized that *H. annuus* will experience reduced physiological function. Control plants were grown in 7 liter pots, and root-restricted plants were grown in 9 cm pots. After four weeks of treatment with ample water and nutrients, a series of physiological and anatomical tests were performed. The root-restricted plants had a decrease in both total leaf area and leaf area-to-mass ratio but produced similar maximum photosynthesis rate per unit area as the control plants. The results of this study provided mixed results for my hypothesis, suggesting that the decrease in root volume negatively affects physiological and anatomical functions of the plant, but the plant is able to acclimate to the space it is planted in.

Mentor: Ava Howard

**Emily Gillett*****Sandy Peas: Can Pisum sativum Survive in Sandy Soil***

As the world population continues to grow, we continue to expand the agricultural lands. Crops need to be grown in harsher environments than ideal farmland. Knowing what stressors a species can deal with and what will definitely destroy it can help farmers get more successful harvests in imperfect conditions. This experiment aimed to test the resilience of pea plants (*Pisum sativum*) in sandy soil. I hypothesized that if plants need nutrients to grow and maintain organs, then the lack of nutrients will inhibit growth by shorter height, lower leaf count and more necrosis of leaves. During the course of six weeks, I measured growth, gas exchange and leaf anatomical traits to see if there was a significant difference between the treatment and control plants. I found that *Pisum sativum* can tolerate some sandy soil, but it does cause the plants to be smaller and flower earlier than the controls. If a farmer has a sand-soil environment, is looking to have an earlier harvest or wants smaller plants to conserve water, these pea plants will hold up to the job.

Mentor: Ava Howard

**Deaf Studies and Professional Studies**

Chair: Chien-chun Lin

**Sheridan Whitworth*****Quality of Life for DeafBlind Individuals: Comparing the Effect of Living With and Without Support Service Providers***

Two online surveys were developed using Kidscreen's 2004 survey. One survey was designed for DeafBlind individuals with service support providers (SSPs), the other for DeafBlind individuals without SSPs. The two surveys asked similar questions. The group that has a larger number of positive responses indicates which group has a higher quality of life. This research has shown that DeafBlind people with SSPs have a higher quality of life.

Mentor: Elisa Maroney

**Royce Carpenter*****Let's Bridge the Gap! Cross-Cultural Mentoring***

The objectives of this poster are to 1) report on how the lack of cross-cultural education among Deaf people and lack of cultural training in interpreter education programs and how it could have affected the low numbers of interpreters of color in the United States, and 2) provide recommendations on how to develop open and honest conversations among interpreters cross-culturally by way of mentoring to foster relationship of which all can experience growth in signing and culturally, and 3) provide findings of what educational establishments can do to improve their cultural curricula.

Mentor: Elisa Maroney

**Jennifer Kinnamon*****Church Interpreters: Who Are They and What's Their Motivation?***

Church and religious settings are an area in which many non-professional interpreters volunteer their services for Deaf congregants to access the message. It's also a unique way interpreters have gained interest into the profession of interpreting. That desire to help and provide a service sometimes precedes the knowledge and skills to provide the services of interpreting, which leads to a 20-year problem of church interpreters having a negative stigma within "professional certified interpreting circles." Religious environments provide a need and opportunity for interpreting work to be done, creating a setting in which novice interpreters can gain practice. This poster will identify who these interpreters are, their previous and current certification status, their motivation for pursuing interpreting as a profession and their experiences as they pursued professional training.

Mentor: Elisa Maroney

**Katieanne Molloy***Implications of the Unspoken Aspects of Language Across Professions*

The potential connection between language and thought holds great implications across professions, particularly for educators and interpreters. Language comprises much more than just its surface traits, and so a deeper analysis of its components, particularly those left unsaid, is crucial for culturally competent professionals. Through the analysis of existing theories of linguistic relativity and careful consideration of related research, one may unpack the cultural encoding behind language and determine just how much shared knowledge, language communities and contextual knowledge influence true understanding of a message or speech act and therefore why it may be so important for professionals to gain a strong cultural awareness of many speech communities, rather than face the possibility of negative effects resulting from a false sense of understanding.

Mentor: Vicki Darden

**Multidisciplinary**

Chair: Program for Undergraduate Research

**Rachael Sawyer***Teaching Punctuation with Literature*

As teachers and students in secondary English classes work through common texts and literature, it is important to understand how mentor texts are multi-purposeful in showing how a writer's choice in punctuation contributes to the meaning and style of the text, alongside granting literary knowledge. When punctuation is taught, it is consistent with the rules of Standard American English (SAE) but can constrict creative freedom if SAE conventions are applied according to handbook rules. This project is the start for any teacher or student to begin to unravel the power in punctuation and learning how to manipulate language to fit a specific purpose. This project and presentation is to inform teachers on how to teach students to make defensible punctuation choices in their own writings, while using a mentor text. As teachers, we need to advocate for multipurpose literature and advocate for the creative choice that writers have and teach students how to decisively make those choices.

Mentor: Cornelia Paraskevas

**Sabra Duarte***Venezuela in the News: A Systemic Functional Linguistic Analysis*

This paper uses a systemic functional linguistic approach to analyze the differences between U.S. and Venezuelan news reports on the presidential elections in Venezuela. Agency, types of themes, modality and evaluative vocabulary were analyzed to identify possible biases within the articles. While there was little to no difference between the articles for some of the features, the use of agency and evaluative vocabulary did point toward a general negative outlook on the elections and Maduro's government in American newspapers. The Venezuelan reports, on the other hand, had a more positive approach and attribute less responsibility to Maduro.

Mentor: Cornelia Paraskevas

**Madeleine Hannah***Measuring Sophistication in Newspaper Writing*

Existing research has shown that mature writing has, on average, longer sentences and more variation in sentence length than less mature writing. Mature writing also makes use of marked themes, employing a variety of structures rather than relying solely on subject themes. With this understanding, this study investigates whether local newspapers reach the same level of writing maturity as larger publications by comparing articles from the Statesman Journal and the New York Times. The findings suggest that, in general, the writing in smaller papers does not reach the same level of sophistication as writing from well-regarded national newspapers.

Mentor: Cornelia Paraskevas

**Faith Pardini***Student Writing: How High School Students Create Flow*

This project focuses on the thematic structure and flow of Advance Placement (AP) Literature and Composition essays in order to better understand how high school students write successful AP essays. The project first gives detailed background on the concepts of thematic structure and syntactic flow. These concepts are then applied to primary sources -- essays from the AP Literature and Composition Exam with varying scores from several different years of the AP test. Analysis of data reveals that students with a better understanding and control of thematic structure earn higher grades on their AP essays. The project includes a pedagogical application that presents a lesson plan to help students understand how they improve the syntactic flow in their texts by using thematic structure.

Mentor: Cornelia Paraskevas

**Jeffery Tate***Traits Based on Appearance and Socioeconomic Status*

This study is researching how skin color and socioeconomic status affects how we perceive others' behavioral traits. I predicted that a dark-skinned African-American would be perceived more negatively than a person with lighter skin and that those with a lower socioeconomic status would perceive the darker-skinned photo more positively than those with a high socioeconomic status. A picture of an African-American male was altered from dark skinned to light skinned while the facial features, clothes and expression remaining the same. Another photograph was of an unaltered African-American. One group of participants were asked to rate how likely the subject of the unaltered photograph was to contain each of the 10 personality traits, and the other group rated the altered photograph. This study's findings and implications will be discussed.

Mentor: Jamie Cloud

**Kassandra Watson***Effects of Music on Test Performance*

The purpose of this study was to analyze the previous research on the effects of harmonic vs. inharmonic music as it related to test performance. The predictions were that, 1) the more harmonic the music played during a math test, the better an individual would do on the test, and 2) due to the stereotype that females are better at multitasking than males, the degree to which women were affected by inharmonic music would be less than the degree to which men were affected. Both men and women were randomly put into one of three groups, with group one being harmonic music, group two being no music and group 3 being inharmonic music. Each group then performed the same basic math quiz while listening to the music for their group. Implications of the results and suggestions for future research will be discussed.

Mentor: Jamie Cloud



## **Politics, Policy & Administration**

Chairs: Mary Pettenger, Mark Henkels

### **Jon Chayse**

#### *Trump Administration Policies on Climate Change*

This research examines the stance taken by the Trump administration on the issue of climate change, as represented by the implementation of policies, appointing of relevant Cabinet positions and the changing of various environmental regulations. The administration's stance on climate change is evaluated in two aspects: its stated validation—or rejection—of current climate science and the specific environmental policies it has supported. The resulting effects of the policy decisions made by the Trump administration are evaluated to determine if they have been harmful or beneficial. The actions taken by the U.S. government are also considered in a global context by comparing them to those made by other nations.

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Mentors: Mary Pettenger, Mark Henkels

### **Hailey Bushek**

#### *S.O.S. Save Our Squirrels*

This project focused on the issue of squirrel safety and environmental harmony on the WOU campus. Through data research, staff interviews and field monitoring, I was able to define my thesis. Squirrels are a vital part of our campus ecosystem, and we should not harm them with unnatural food sources. I found that squirrels on campus were becoming dependent on the human population for food via our trash. In order to help solve the problem, my solution was to attempt to alter human behavior by spreading awareness. I worked with WOU's Strategic Communications and Marketing office to get word out. An interview was released detailing my project and providing informative tips on how changing our trash habits would help the squirrels and contribute to a healthier environment for all.

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Mentors: Mary Pettenger, Mark Henkels

### **Andrew Kelso**

#### *The Drone Dilemma*

Rapid advancements in small-packaged, affordable navigation systems have greatly expanded the capabilities and applications of unmanned aerial systems or drones. Drones have tremendous potential to enhance civil service capabilities, bolster military and homeland security efforts and provide an exciting and affordable platform for hobbyists. However, the vast scope and spectrum of drone technology has created an urgent need to implement rules and regulations for the protection of public safety and civil liberties. The Drone Dilemma examines the brief history of drones, current policies and moral and ethical implications of drone warfare. As this technology continues to outpace our understanding of its boundaries, we must carefully balance both the benefits and costs of this emerging platform. How will law enforcement agencies effectively use drones to enhance public safety without impinging on privacy and freedom? Finally, according to recent polls, Americans generally support the use of drones for hunter-kill missions on foreign soil; is the domestic use of weaponized drones simply inevitable?

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Mentors: Mary Pettenger, Mark Henkels

### **Baily Tarabochia**

#### *Chemical Warfare: Analysis of the Chemical Weapons Ban and its Effectiveness*

For thousands of years, mankind has been using a variation of bizarre methods to use in war. Chemical weapons have been common throughout history, including poison-dipped arrows, boiling tar, arsenic smoke/noxious fumes, etc. As wars around the world progress, so does the technology and usage of chemical weapons. Recognizing the horrific results from chemical weapons, the United Nations (UN) created guidelines addressing which weapons can be used in warfare during the 1925 Geneva Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and Bacteriological Methods of Warfare. Only including the use of chemical weapons, the final report from the UN failed to include development, production and possession of chemical weapons. It wasn't until 1997 that effective action was taken against chemical weapons as a whole. My research project dissects the 1997 Chemical Weapons Convention (CWC) and analyzes whether the meat of the ban demonstrates effectiveness. Along with the history of chemicals weapons and the use of them in current events, the CWC is compared to other UN institutions to determine the overall effectiveness of the groundbreaking convention.

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Mentors: Mary Pettenger, Mark Henkels

*Evening Multidisciplinary Poster Session*

5 to 7 p.m., Werner University Center (WUC) Pacific Room

**Behavioral Sciences**

Chairs: Jaime Cloud, Brent King

**Cody Welty, Christopher Frost***Not in MY Forest: The Interaction of Connectedness to Nature and Environmental Alteration*

The study investigated whether those high in dispositional nature connectedness differed in emotional responses to human-altered versus nature-altered natural environments. The hypothesis of the current research was that dispositional nature connectedness would interact with the alteration history of the natural environment such that those high in nature connectedness, relative to those lower in nature connectedness, would respond more negatively to human-altered versus nature-altered environments. Participants watched a photographic slideshow depicting a natural area and read a vignette that varied between participants that stated that the environment was human-altered or nature-altered. Participants then completed a series of instruments measuring emotional state. Results indicated that individuals high in nature connectedness responded more negatively to human-altered environments than nature-altered environments, while individuals with low nature connectedness responded less negatively to human-altered environments. These findings indicate that emotional responses to natural environment depend on the characteristics of the environment and an individual's dispositions.

Mentor: Ethan McMahan

**Janel Chandler***Effects of Semantic Satiation and Age on Free Recall*

Semantic satiation is a specific form of habituation that occurs after repeated exposure to a word. The current study sought to analyze the effects of semantic satiation on free recall and how age affects sensitivity to semantic satiation. I predicted that satiation of a target word would make the cognitive task of recalling a word list harder, and that 1) participants in the single-repetition group would remember more words than the participants in the multiple-repetition group, and 2) participants in the older group would recall fewer words overall than participants in the younger group, and 3) participants in the older group would show a smaller difference between the single repetition group and the multiple-repetition group than participants in the younger group, resulting from decreased sensitivity to semantic satiation effects. Implications of the obtained findings and future directions will be discussed.

Mentor: Jaime Cloud

**Jacob Pscheidt***Exposure to Stereotype Threat: Gender Differences in Math Task Performance*

Previous studies have found that exposure to negative stereotypical assumptions about groups can adversely affect the intellectual performance of individual group members. This observation forms the basis of the social psychological concept of stereotype threat. The primary focus of this study was the negative stereotype that men tend to perform better at mathematics than women. Participants in the experimental condition were exposed to this stereotype and then asked to complete a math task immediately following that exposure. The prediction for the results of this study were that an interaction would be present such that the average scores of female participants would be lowest in the experimental condition while the average scores of male participants would be highest in the experimental condition. Data collection for the study is currently in progress.

Mentor: Jaime Cloud

**Brandon Sana***Men's and Women's Perceived Importance Placed on Wealth and Physical Attractiveness in a Short-Term Versus Long-Term Relationship*

The purpose of the current study was to examine the differences between men's and women's perceived importance placed on both wealth and physical attractiveness when looking for a short-term versus long-term mate. Participants were asked to rate the importance of both financial well-being and physical attractiveness on a seven-point scale, with -3 representing an attribute of no importance, and +3 representing an attribute of absolute importance. Implications of the obtained findings and future directions will be discussed.

Mentor: Jaime Cloud

**Linda Henry***Effects of Background Music on Memory Between Men and Women*

The current study investigated the effects of background music and memory recall between men and women. One hypothesis is that music will enhance memory, and participants will exhibit a higher memory score while listening to classical music than heavy metal rock music. The second hypothesis is that men will have a higher memory score overall. To investigate this, I recruited students from WOU to participate and complete a memory test using a list of words. Background music of classical and heavy metal rock was played to create different context of memory. Implications of the obtained findings and future directions will be discussed.

Mentor: Jamie Cloud

**Emily Beals***Background Color Effects on Short-Term Memory*

The current study sought to discover whether red or green background colors had a positive effect on participants' short-term memory. It was predicted that 1) the color red would have a strong positive effect on participants' memory recall scores, and 2) that men would have higher memory scores overall. Men and women were assigned at random with a word bank with either a red background, a green background or a grey background (control). They then had two minutes to memorize as many words as they could, and after the word bank was taken away they were given the same amount of time to recall as many words as they could. Implications of the obtained findings and future directions will be discussed.

Mentor: Jaime Cloud

**Tricia Bliss***Perceptions of Student Success Potential*

The purpose of this study was to test the perceptions of traditional college students toward foster students. Most foster students believe that others expect them to fail, which is a challenging obstacle to overcome, resulting in very low rates of college completion. However, studies have found that anyone considered to be an underdog, beginning at an initial inferior position but with looming success, was estimated to have a higher potential for success. To test the applicability of underdog theory to foster care students, the control group was given four biographies of enrolled college students listed as having grown up in a stable, loving home, while the test group was given the same biographies with the students listed as having grown up in foster care. Data showed that foster students were rated higher overall. Implications and future directions will be discussed.

Mentor: Jaime Cloud

**Elizabeth Ray***The Study of College Students' Perceptions and the Success Rate of Foster Students*

The current study sought to look at college students' perceptions on the success rate of foster students and their likelihood of graduating from a university. It was predicted that students would perceive foster students as less likely to graduate from a university over their counterparts and that men would perceive the likelihood of foster youth graduating at a lower rate than women would. Men

and women were presented with a brief story and asked to rate the likelihood of the individual graduating. Individuals either received a story about a foster youth attending college or one that had an individual who was raised with their birth-parents. Implications of the obtained findings and future directions will be discussed.

Mentor: Jaime Cloud

### **Christina Ayers**

#### *The Impact of Artist Fame and Viewer Socioeconomic Status on Art Likeability*

This study was designed to examine the influence that an artist's fame as well as the viewer's socioeconomic status (SES) has on how highly rated a painting is. It is predicted that 1) high SES participants will give higher ratings, 2) that high-fame artists will receive higher ratings, and 3) that high SES participants will give the highest ratings to high-fame artists. Participants were shown an image of Marcel Duchamp's *Portrait of Chess Players* and were either told no information about the artist, were given information indicating a high-fame artist, or were given information indicating a low-fame artist, after which they were asked to rate the painting using four seven-point Likert scales. Participants' SES was calculated after data collection through a median split where participants whose SES scores fall in the upper half of the distribution will be considered high SES. There will be an included discussion of the implications of this study's findings as well as possibilities for future research in related areas.

Mentor: Jaime Cloud

### **Elisa Moore**

#### *Facilitators and Barriers to Older Adults Engaging in Physical Activities*

In order for a growing aging population to preserve independence for as long as possible, older adults need to maintain their mobility levels, largely through participating in physical activity. The importance of physical activity in older adult life is widely recognized, yet older adults are the least active group in the United States. This qualitative study focuses on the facilitators and barriers regarding physical activity through individual interviews with older men and women residing in an independent living community. Understanding more about what contributes to engagement in physical activities will help to inform how wellness programs can be structured among older adults within this type of residential community.

Mentor: Margaret Manoogian

### **Stephano Nevarez**

#### *Sex Differences on Tattoos' Influences of Perceived Attractiveness*

This study looked to re-examine the effects of tattoos on perceptions of attractiveness and how sex differences influence these effects, predicting that 1) tattoos on an individual would lower his or her measured ratings of attractiveness, 2) women would be most likely to receive lower scores on attractiveness than men, and 3) women with tattoos would receive the lowest ratings among attractiveness measurements. Participants were presented randomly one of four possible photos depicting either a man, woman, tattooed man or tattooed woman. Upon satisfactory observance of the photo participants were asked to perform a five-item survey using a semantic differential scale that paired opposite pairs of descriptors (i.e., beautiful/ugly), in which they marked the space closest to the descriptor best describing their feelings of the pictured individual. Discussion of the implications of the resulting findings and future directions will be provided.

Mentor: Jaime Cloud

### **Taylor Lane**

#### *Perceptions of a Person in Response to their Sex and Piercing Status*

The purpose of the present study was to examine the effects that piercings and target sex had on participants' perceptions of the target individual. Previous research indicates that the presence of tattoos or piercings negatively impacts the way someone is perceived, whether physically or through their personality

attributes. Participants were given a color photograph of a man or woman, who was either pierced or non-pierced and instructed to rate the target individual on their perceived characteristics, only two of which were analyzed in this experiment: intelligence and aggressiveness. The current study predicted that piercing condition would have a greater negative impact on men than women in relation to aggression ratings. It was also predicted that piercing condition would have a greater negative impact on men than women in relation to intelligence ratings.

Mentor: Jaime Cloud

### **Kaylee DeBolt**

#### *Safe, Sane & Consensual: An Examination of Sex Differences in Emotion Detection as Influenced by BDSM Negotiations*

Participants of this study read a half-page vignette of a conversation (to be imagined between them and a sexual partner) pertaining to either an adrenaline-producing activity, a sexual history overview or a bondage-discipline/dominance-submission/sadism-masochism (BDSM) negotiation. Immediately after that, participants viewed a self-progressed slide show of the seven culturally universal emotions (happiness, sadness, anger, disgust, fear, contempt and surprise) at a rate of 0.25 seconds each and judged which emotion they saw in which face. It was predicted that participants having read and imagined the BDSM negotiation would have better emotion detection scores than participants in either the sexual history or adrenaline activity discussion and that women would be best out of the BDSM participants as compared to men.

Mentor: Jaime Cloud

### **Lindsey Ormesher**

#### *Sex Differences in Response to Jealousy in a Romantic Relationship*

Evolutionary psychologists have sought to explore whether jealousy within a romantic relationship is an adaptation mechanism in response to an external threat. The purpose of the present study was to investigate the difference between men and women and their response to a perceived sexual or emotional affair in a committed romantic relationship. It was hypothesized that men and women's jealousy ratings will depend on affair type such that women will report greater distress over emotional infidelity than sexual infidelity, whereas the opposite would be true for men. Participants were asked to imagine being in a committed romantic relationship and then were randomly assigned to read a text message that indicated their partner was having either a sexual affair or an emotional affair. After reading one of the two messages, participants were asked to rate on a seven-point Likert scale how distressed they felt while reading the text message. Implications of the obtained findings and future directions will be discussed.

Mentor: Jaime Cloud

### **Taylor Boyer**

#### *On the Issue of Reproducibility in Psychology and a Model Replication Study*

The purpose of the present study is to replicate as closely as possible the study titled *Friendship as a Relationship Infiltration Tactic During Human Mate Poaching*. The purpose of the replication was to further explore the well-documented lack of reproducibility within psychology and to provide a template for how to improve this issue. The authors wanted to determine how friendship affected the success of someone trying to infiltrate a romantic relationship. They hypothesized that a person would be more likely to successfully steal the mate of another if the poacher was friends with their target mate, rather than acquaintances. When the poacher/poached were friends before the attempt, it was hypothesized that the poacher would incur fewer costs (e.g., physical retaliation from the poachee). Participants were given one of four vignettes to read, then asked to rate the poacher's likelihood of being successful and incurring future costs. The implications and future directions of the obtained findings will be discussed in terms of the issue of reproducibility.

Mentor: Jaime Cloud



**Holly Swanson***The Effects of Weather on an Individual's Mood*

Previous research has illustrated a correlation between weather and the effect it has on mood. The purpose of this study was to investigate the well-documented effects that weather has on an individual's mood. I predicted that there would be a positive correlation between participants and their moods after being exposed to a bright, sunny day at the beach and a negative correlation between participants and their moods who were exposed to a dark, rainy thunderstorm. It was also predicted that males would be less negatively affected by a dark, rainy thunderstorm than females. Participants watched a two-minute video of their assigned weather conditions. After the video clip was over, the participants completed the PANAS questionnaire to determine whether the participants had a positive effect or a negative effect. Implications of the obtained findings and future directions will be discussed.

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Mentor: Jamie Cloud

**Computer Science Individual Capstone Projects**

Chair: Scot Morse

**Koll Klienstuber***Dwight Servers*

The Dwight System is a web-based server rental system that allows anyone to work on one of many virtual machines hosted in the AWS cloud. Each server is preconfigured with different types of software to access through Remote Desktop Protocol. The Dwight System will have two primary functions: First, as a cost-savings tool that spares individuals the large upfront costs of expensive hardware. Second, it is a tool for individuals who aren't able to run certain types of software on a computer that they currently use. Unlike current server-rental systems, my product gives users the ability to pick from a wide range of services to run for a fraction of the cost it would take to buy the hardware needed to run on their own. Users are able to quickly create instances to play games, develop, create and more.

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Mentor: Scot Morse

**Michael Brown***TAG: A Mobile App for Playing Elaborate Games of Tag*

For people who want to create and play elimination-based live-action games such as Assassins or Gotcha! TAG is a mobile application that allows a host to make a game, set rules and invite other users to join the game. TAG is played by assigning each player another play as a target, until a circle is made. The player only knows their target, not who has them as a target. Then, over the course of days/weeks, the player attempts to TAG their target, whether manually by using mock-projectiles or by using the mobile app to take a picture (which will use the Elimination Framework API and photo-recognition), or get in range of their target's phone and pressing a button to TAG them. Unlike current methods for playing elimination-based live-action games, this app will remove the subjectivity that comes from a human moderator and human players determining a successful elimination and also make adding more rules and features (like player skill modifiers, a player inventory and methods of elimination) to games easier and more fun.

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Mentor: Scot Morse

**Alexander Molodyh***Phone Call Management Tasker*

For people who want to manage a schedule for their phone calls, the TaskMe app allows users to set up tasks that will manage phone calls such as denying incoming calls at set times, certain people calling, certain events happening or other conditions such as the state of the phone. Unlike current apps that manage tasks such as Automate and Tasker, they are overly complex for the general user. The

way that these apps work is by setting up tasks based on programming like logical conditions that are complicated to understand for the general user. TaskMe would simplify these tasks by setting up the most common things for the user by default based on what type of task it is. The TaskMe app will create tasks and store them in a database locally; the user will have the option to backup these task in the cloud in case they lose their device or accidentally uninstall the app.

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Mentor: Scot Morse

**Hannah Madland***Paranoia*

For people who want to play elimination-based live-action games, the Paranoia App is a mobile application that uses the Elimination Framework to host, join and play in elimination-based games as well as updated their profile and view stats. Using image recognition, players will snap pictures of their targets that will be sent to the Elimination Framework for verification and new target assignment. Unlike current methods of elimination-based live-action games, Paranoia will remove the subjectivity that results from a human moderator and human players determining a successful elimination, as well as the need to carry around projectiles or physically tag your target.

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Mentor: Scot Morse

**Sam Wetzel***Hiking Oregon*

This app is for people who want to know great northwest Oregon hiking destinations and their proximity. Our hiking application is an application that makes it easy to see not only how close a hiking opportunity is, but what type of hike it is based of difficulty and description. This application gives anyone with an Android device the ability to quickly and easily find Willamette Valley hikes to try either solo or with friends. The Play Store currently does not fill this very well; that is where this application takes over. Northwest Oregon hiking will have an intuitive and simple design to make it a better experience for the end user.

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Mentor: Scot Morse

**Leo Thalman***Bandit Dash: An iOS Platformer Game*

This app is for players who want a mobile 2D platformer with the randomness of roguelike games. Bandit Dash is an iOS-based platformer game that randomly creates the levels as the player progresses through them so that no two runs are alike. Score in Bandit Dash is based on how far the player gets and what he or she has collected in the run. Unlike current mobile platformers and endless runners, Bandit Dash combines the two, offering players a game with more control over their character for a more interactive experience that can be as short or long as the player wants.

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Mentor: Scot Morse

**Aaron Earl***OpenBoard, a Command Line-Based Scrum Board*

OpenBoard is a free, command line-based server application that provides a simple scrum board interface. OpenBoard is intended for people working in server administration or DevOps that typically run headless machines. OpenBoard also has future functionality that will allow for a graphical interface similar to Jira. OpenBoard creates a terminal printout representing a scrum board with epics, stories and features. It will also have a worklog to chart the number of hours spent on a task to provide future metrics for sprint planning and sprint retrospective. OpenBoard differs from current scrum board offerings by being free, being open source and having the ability to run on headless systems.

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Mentor: Scot Morse

**Travis Dennis*****Script Kitty***

Script Kitty is an application to manage and control all the security scripts users would run to keep their system secure and up to standard. Scripts such as IP switching and VPN handling can all be managed with a friendly interface that will allow a user to edit, update and toggle service at any moment. Script Kitty is for the advanced user who would like to have a graphical interface for all scripts in one easy-to-use application. Unlike Windows host script service, a user can have anonymous, autonomous control over his or her features and scripts without logging in.

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Mentor: Scot Morse

**Jacob Hatfield*****Instant Photo Tagger***

For online marketers who need their photos to have a specific description tag, the "Instant Photo Tagger" is a photo-analyzing product that analyzes photos for description tags. Unlike posting a photo online without knowing what the description tags are, my product will analyze your photo and display the description tags while you are on site so you can ensure your photo has the description tag you desire.

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Mentor: Scot Morse

**Rochelle Simpson*****Game Master's Assistant***

The Game Master's Assistant is an application to help Game Masters (also known as Storytellers or Dungeon Masters) to focus on players and their stories instead of mathematics and computation. It will not be focused on translating game play into an online experience but rather removing time-consuming mathematics and rolls from Game Masters' concerns, so they can focus on telling their story and engaging their players at the table. This application will be delivered on iOS platforms.

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Mentors: Scot Morse, Becka Morgan

**William Leingang*****Timeline***

For writers who have characters with detailed and complex backstories, Timeline is a mobile phone application that can store information on characters in an easy-to-use structure. The app allows you to track characters throughout their entire lives. It is also extensible, allowing you to add new features as you see fit. Along with characteristics, this application can also track groups that the character belongs to and their inventory. Unlike other character-making applications, this app allows for far greater detail in background creation.

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Mentor: Scot Morse

**Daniel Tapia*****Alpha Ramble***

Alpha Ramble is a mobile application for users who need guidance to figure out what words they can make with the letters they have. It takes the letters out of your hands and returns to you words that can help you win cash such as in *Wheel of Fortune* or help you beat your friends in the board game Scrabble. Users will be able to add some restrictions like "Give me only words that have the letter 'a' in the second placement of the word." Unlike other applications, Alpha Ramble will be able to provide you with points for Scrabble and be able to scramble a word for you. This mobile application will be able to run on all platforms.

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Mentor: Scot Morse

**Nathan Stark*****Bay's Networks With R***

This app helps users analyze two large sets of data that on their own may say little about potential probable outcomes. Analysts who would like to simulate a model of the probable outcome of events given the data. The methodology of Bayesian Networks will be the focus of the modeling that will lay the foundations of demonstrating the ideas of our simulations. This model will have a focus on minimally intersecting data sets, and our simulation will clearly explain the outputs of the data.

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Mentor: Scot Morse

**Stephen Oliver*****Listen: Mobile Social Media for Music***

For music lovers who do not have Facebook, the Listen app is a social media platform to share what you are listening to, your playlists and favorite songs, artists and/or genres. Unlike the current system utilizing Facebook accounts, users will have the option to remain anonymous. Also, unlike the current system, your Spotify account credentials will not rely on your Listen account; this means users can freely delete their Listen account and retain the same Spotify account.

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Mentor: Scot Morse

**Blake Bauer*****Calcutron: A Calculator for Programmers***

For programmers who need a calculator designed for them, Calcutron is a calculator designed for computer scientists and software engineers. Unlike current calculator apps, Calcutron will provide the ability to do arithmetic in a variety of bases such as hexadecimal and binary. It will allow for bit-wise and logic operations, matrix calculations, list or array calculations, and table outputs.

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Mentor: Scot Morse

**Abby Horner*****Daisy: An Intuitive Garden Tracking Assistant***

For avid gardeners who want to track of their garden's information and give their plants the best care possible, Daisy is an Android application that allows users to store and access information about their garden as well as get up-to-date weather and rainfall reports, all to be able to better care for their garden. For example, the user would be able to save customizable information about all their plants in Daisy for easy and quick reference and attach user-created tags to each plant so that they may sort their garden in a way that makes sense to them. They will also get up-to-date and simple weather reports, including expected rainfall. Daisy will even inform them which plants need to be watered and which should be fine for the day. Unlike other apps that may act as a garden journal, Daisy will work with users to ensure they not only can keep track of their garden and its info, but also help give the plants the best care possible.

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Mentor: Scot Morse

**Alexandria LeClerc*****Star Tutor: Constellation Flashcard Android Application***

For amateur astronomers who want to practice their constellation identification, the Star Tutor app is an Android application written in Kotlin that provides users different ways to practice their constellation identification. The app presents the users with constellations rendered from real Star Catalog data, drawn dynamically and allowing multiple different modes to aid users. Unlike other applications, Star Tutor encourages users to build their own skills so that they can independently recognize constellations rather than relying on an application to annotate the night sky for them.

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Mentor: Scot Morse

**Jazmin Bemby*****PolitiKnow***

For citizens of the United States who wish to stay informed about the actions and views of Congress, PolitiKnow is an iOS mobile app that allows users to find their senators and representatives based on zip code. After a user has found his or her representatives and senators, the user can see the selected officials' Twitter feed, re-election time, recent bills contributed to, and a feed of recent articles relating to the official from thousands of different news sources. PolitiKnow saves citizens time by consolidating all the information about select members of congress one would wish to see, and even includes news articles that a senator or representative would not typically publicize. Unlike apps like Countable, PolitiKnow has an easy-to-use interface and design that will make it easy for users to get all the information they would need on who is representing them.

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Mentor: Scot Morse

**Aaron Craig*****Reclaim Your Time With Time Finder!***

For everyone who has ever felt as if they don't have enough time in the day, the Time Finder Android app will help them to find where their time is going and reclaim the things they really care about. Time Finder will be a semi-automatic tracking app to figure out what you do during your day and where you can find time to work on your personal projects, go running or do what you want to do. Once or twice an hour, a quick notification will appear on your Android phone asking what you've been doing, and you can input the reply without leaving whatever you're doing. Then, over the course of a day, the app will graphically display how you used your day. Unlike other time-tracking apps, this one is easily configurable when it needs input and doesn't require you to open the app to input what you've been doing during the day.

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Mentor: Morse Scot

**Luis Loyh*****ChordMaster: An Android App for Musicians***

This app is for guitar, bass guitar and keyboard players who need to store, edit and transpose chords on documents with song lyrics. ChordMaster is an Android platform app that enables musicians to type (or copy and paste) song lyrics into the application (with or without chords annotated), add/edit chords and/or lyrics and transpose chord sequences as needed for live music performances. Unlike other mobile phone applications that do not allow transposing chords, this application will enable musicians to fully manipulate chord sequences on any song document they create and upload.

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Mentor: Scot Morse

**Devon Smith*****RetroRadio***

For retro radio lovers who want a connected radio, RetroRadio is a software platform that enables you to retrofit existing radios using their pre-existing knobs, switches, and dials to tune internet radio services. Unlike the current open source radio projects, RetroRadio is targeted specifically toward hackers and makers who want to create internet-connected radios from vintage radio system rather than create systems with touch screens. The goal of this project is to be as configurable as possible and enable the retrofitting of a wide array of antique and vintage radios with modern internet connectivity.

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Mentor: Scot Morse

**Melissa Calawa*****Historia: A Fantasy and Sci-Fi Timeline Creator***

Historia is a mobile app for recording the history of worlds that don't use 's calendar system.

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Mentor: Scot Morse

**Rahevin Potter-Clark*****ToughStuffing***

ToughStuffing is a mobile game app that allows users to go on an adventure as a teddy bear. This game incorporates three different ways to play, through three different playable bears. There will also be an option to gain experience to level up your bear to progress through different playable levels. ToughStuffing will also tell a story bit by bit through each level played. ToughStuffing differs from other games by providing the users multiple ways to play and level up their characters to their liking.

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Mentor: Scot Morse

**Multidisciplinary**

Chair: Program for Undergraduate Research (PURE)

**Liangli Chen*****Maximize the Benefits of Moodle for Online Instruction***

Moodle as an open source software was started in 1999 by a graduate school in an Australian university. Moodle learning is not limited by time and place, thus allowing students enough flexibility to learn and getting teacher's individualized feedback. Some students, who feel reluctant to communicate with their teachers in class, may want to open up and communicate through Moodle. Use of Moodle can maximize the use of resources on the internet, help students learn and expand knowledge and complete tasks online. Moodle is a free web application, so it can cut down the expense. Despite numerous advantages, educators need to be aware of possible problems linked with Moodle use. For example, students may feel pressured when a deadline is coming up. Also, due to online communication, students may not get timely responses from teachers. In addition, Moodle's interface is rather complicated; after logging in, students may need to spend extra effort to find a course they need. To address these issues, designers can consider simplifying Moodle interface to make it easier to use, adding more hints to inform students.

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Mentor: Xiaopeng Gong

**Tristan Damron*****Pupil: Unity VR Package for Image Quality Optimizations***

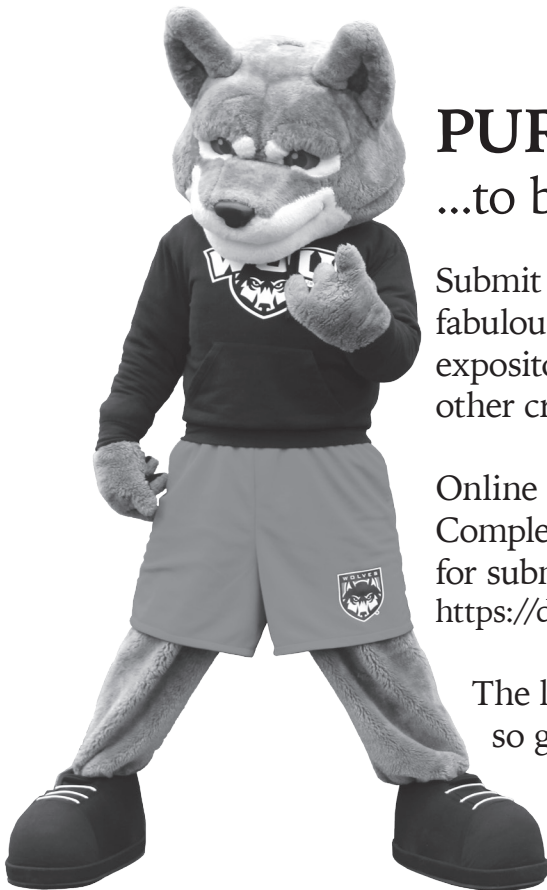
The emergence of virtual-reality head mounted displays (HMDs) have the potential to fundamentally change the way humans interact with computer interfaces. As exciting as this new technology is, significant pitfalls exist in its functionality. In this presentation, we examine the potentials of the Pupil software package for Unity. Developed with the goal of providing virtual-reality developers with low-impact image quality optimizations and accessibility features, Pupil is extensible and comes fully stocked with variable interpupillary distance settings and high-contrast outline shaders. The features therein are backed by third-party peer-reviewed research and have been tested for their usefulness with CPU and memory profiling, as well as focus group surveys to determine the effect from the user's perspective. The software package was designed and tested for both low-end virtual-reality hardware (Google cardboard) up to the newest virtual-reality technology (HTC Vive.)

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Mentor: Timothy Hutchings



# pure insights



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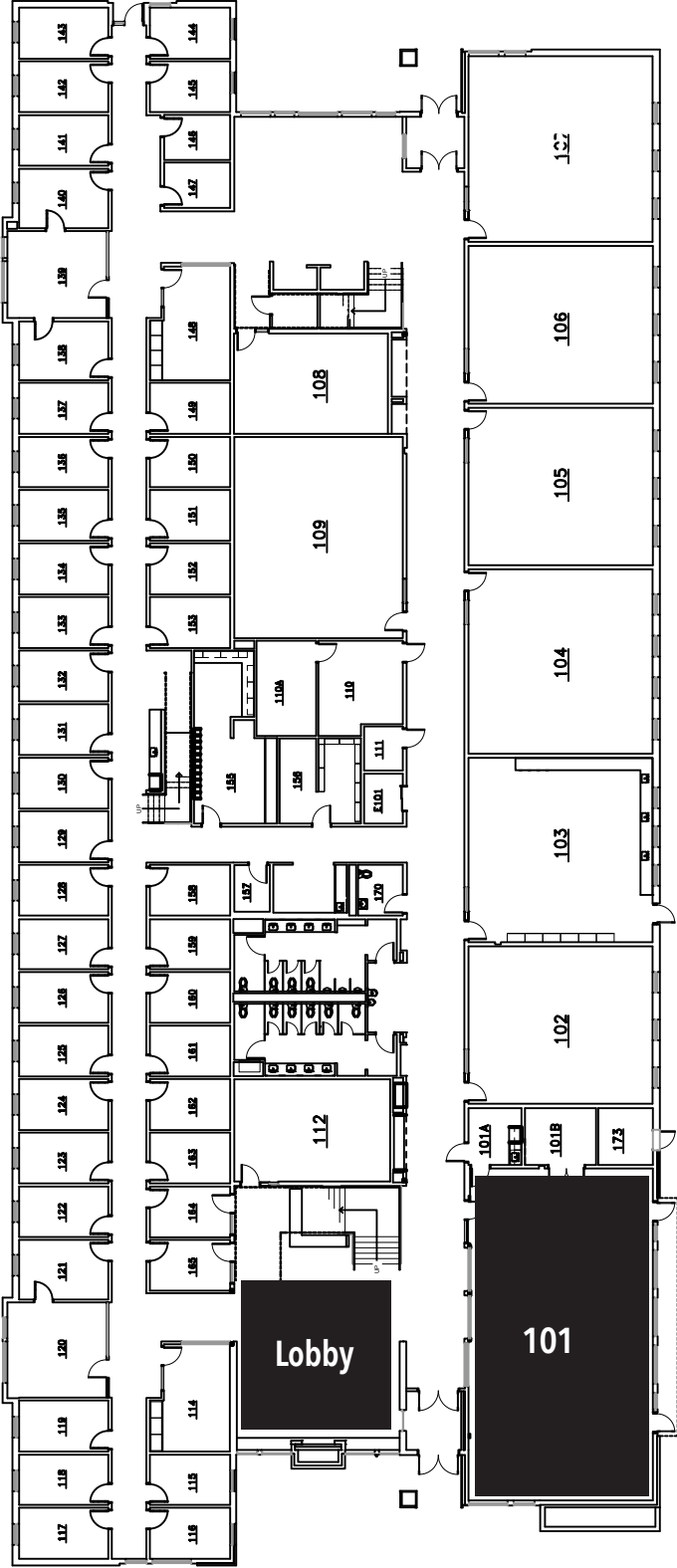
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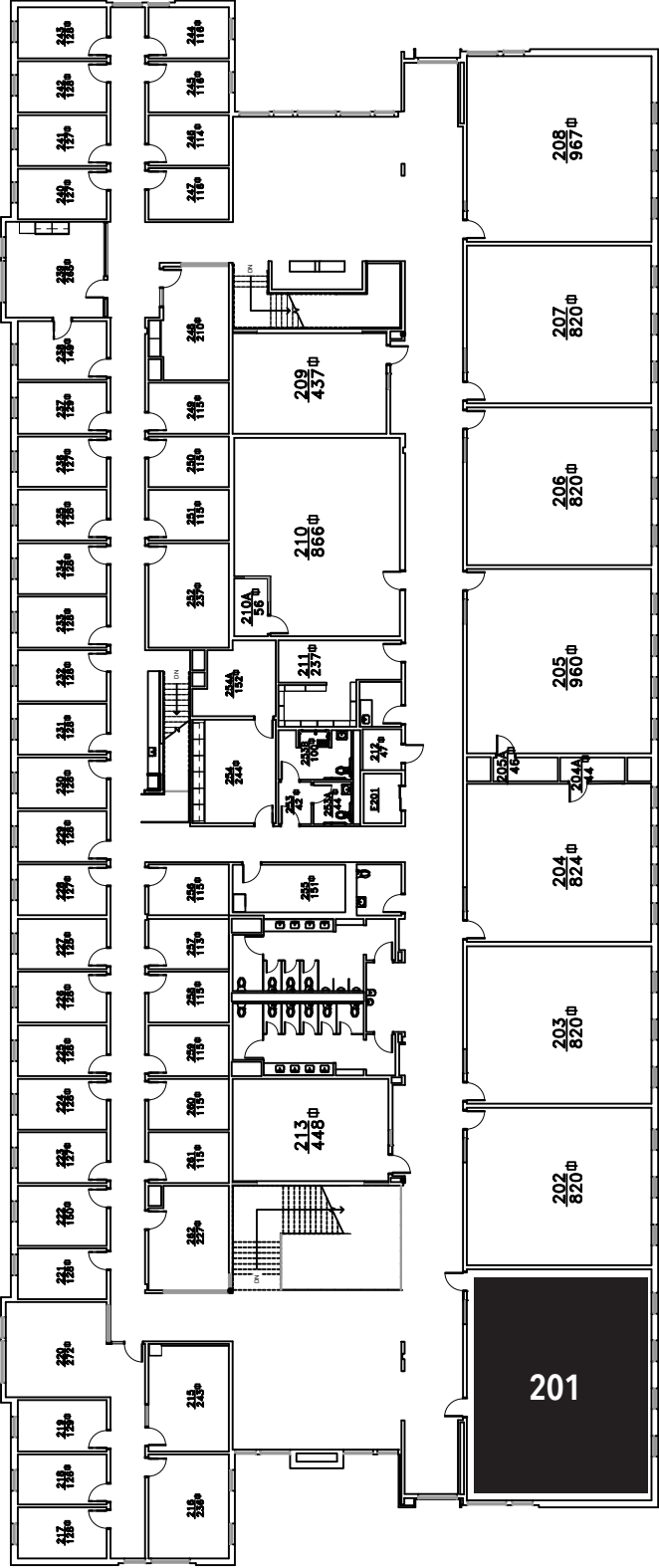
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# Richard Woodcock Education Center



FIRST FLOOR



SECOND FLOOR



# WERNER UNIVERSITY CENTER

## SECOND FLOOR

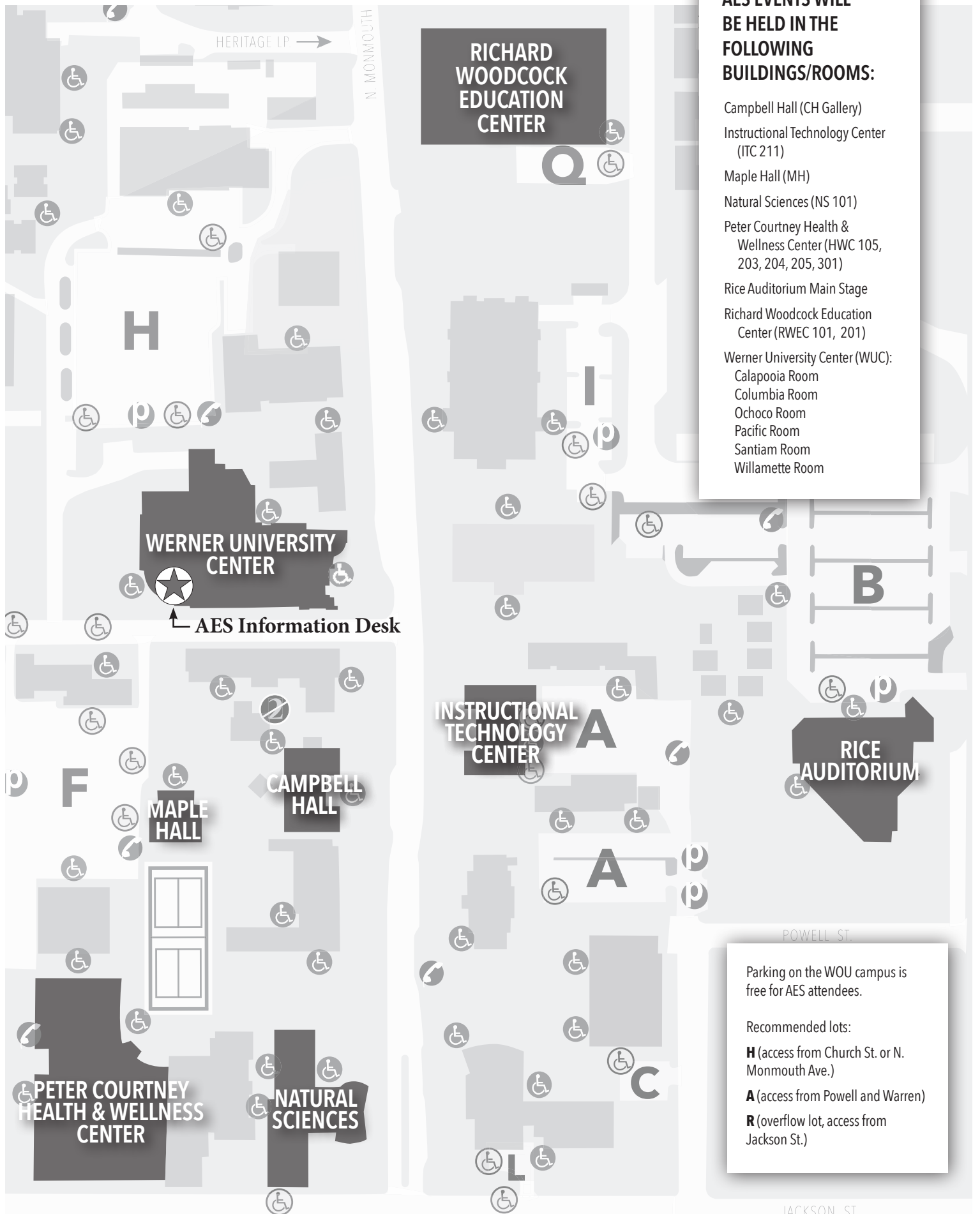


## FIRST FLOOR



AES Information Desk

# INSET OF CAMPUS MAP



## AES EVENTS WILL BE HELD IN THE FOLLOWING BUILDINGS/ROOMS:

- Campbell Hall (CH Gallery)
- Instructional Technology Center (ITC 211)
- Maple Hall (MH)
- Natural Sciences (NS 101)
- Peter Courtney Health & Wellness Center (HWC 105, 203, 204, 205, 301)
- Rice Auditorium Main Stage
- Richard Woodcock Education Center (RWEC 101, 201)
- Werner University Center (WUC):
  - Calapooia Room
  - Columbia Room
  - Ochoco Room
  - Pacific Room
  - Santiam Room
  - Willamette Room

Parking on the WOU campus is free for AES attendees.

### Recommended lots:

- H** (access from Church St. or N. Monmouth Ave.)
- A** (access from Powell and Warren)
- R** (overflow lot, access from Jackson St.)

		Summit/Pacific	Pacific	Willamette	Santiam	Ochoco	Columbia	Calapooia	RWEC 101	RWEC 201					
8 a.m.		SUMMIT Forensic-Anthropology Health & Exercise Science Nursing Multidisciplinary	Earth Science	English											
9 a.m.							Music: Ethnomusicology	Theatre History	Business	Art & Design	Sociology				
BREAK 9:45 - 10 a.m.															
10 a.m.															
11 a.m.															
Noon			Presidential Plenary												
1 p.m.	*	SUMMIT Biology Deaf Studies & Prof. Studies Politics Policy & Administration Multidisciplinary	Behavioral Science	Anthropology	Philosophy	Maurice Awards	History	Communication Studies	Computer Science	Rehabilitation Counseling MHC					
2 p.m.															
BREAK 2:45 - 3 p.m.															
3 p.m.															
4 p.m.				Model UN											
5 p.m.	Snacks & Beverages	PACIFIC ROOM													
6 p.m.		Computer Science Behavioral Science Multidisciplinary			MSEd										
7 p.m.				Natural Sciences & Math Awards				MAT Panel							

Key:

- Poster Sessions
- Presentation Sessions
- Special Events
- Keynote

\* Campus Trees Walking Tour with Dr. Dutton



HWC 105	HWC 205	HWC 204	HWC 203	HWC 301	Maple Hall	Rice Aud.	ITC 211	NS 101	Camp. Hall	
								Honors Science		8 a.m.
	Multidisciplinary	Study Abroad			Dance Performance					9 a.m.
N. Science Chemistry Biology				Health & Exercise Science						10 a.m.
										11 a.m.
										Noon
Chemistry	Alternative Break	Mathematics	Health & Exercise Science				VCD Film		Art Gallery Reception	1 p.m.
										2 p.m.
						Theatre Performance			3 p.m.	
				HEX Awards					4 p.m.	
									5 p.m.	
										6 p.m.
									7 p.m.	

Free coffee/tea breaks provided in the Werner University Center at 9:45 a.m. and 2:45 p.m.  
 Free beverages/snacks provided during Pacific Room 5 p.m. poster session  
 and during the 11:30 a.m. hour in the Presidential Plenary.

