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Western Oregon University’s Academic Excellence Showcase encourages students to demonstrate their research and scholarship, and allows the campus community to experience the varied scholarly and creative interests of our undergraduate students.

The abstracts of student presentations included in this publication are a representative sample of the achievements of our student body. These presentations are from a range of disciplines throughout the College of Liberal Arts and Sciences and the College of Education, but they all celebrate the pursuit of learning and knowledge.

I want to thank the students who have chosen to share their work with us, and the faculty for nurturing and guiding the pursuits of our students. Western Oregon University commends your dedication and we are proud of all you do.

Today’s Academic Excellence Showcase provides a snapshot of the engagements of academic discovery that take place everyday at WOU. And this snapshot reveals an academic community very rich in diversity of scholarship. We are a community where 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 to commit to a process in which questions are asked and researched, and artistic works are created and performed. Whether the scholarship is conducted on the stage, in the laboratory, in the library or in the field - there is a shared experience of intellectual and personal growth.

It is a pleasure to acknowledge the efforts of our students presenting their work today and we appreciate the support of their faculty. We strongly encourage those students participating today as observers to become involved and to take advantage of the faculty’s eagerness to mentor you in your own engagement of discovery here at WOU.

The Program for Undergraduate Research Experiences 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 many 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 Day. The Honor Society of Phi Kappa Phi, which had organized an Academic Excellence event for a number of years, partnered with PURE to sponsor the annual Academic Excellence Showcase. With our combined resources and planning committee, we developed a campus-wide event that facilitates and enhances undergraduate research experiences.

Again this year, the campus community has responded enthusiastically to the call for participation, as evidenced by this impressive Proceedings volume. The Faculty Senate has encouraged faculty to reassign class time so students may attend the Showcase. A total of 78 faculty members from across campus have volunteered their time and energy to serve as session chairs, faculty sponsors, and mentors. As a result of their efforts, over 360 students are scheduled to present at this year’s Showcase. This exciting event celebrates some of the most remarkable academic accomplishments made by WOU students. We are very proud of their success and honored to be a part of the 2008 Academic Excellence Showcase. We hope you will join us in attending as many sessions as possible and congratulating students on their outstanding scholarship.

Founded in 1897 and headquartered in Baton Rouge, La., Phi Kappa Phi is the nation’s oldest, largest and most selective all-discipline honor society. Phi Kappa Phi inducts annually more than 30,000 students, faculty, professional staff and alumni. The Society has chapters at nearly 300 select colleges and universities in North America and the Philippines. Membership is by invitation only to the top 10 percent of seniors and graduate students and 7.5 percent of juniors. Faculty, professional staff and alumni who have achieved scholarly distinction also qualify.

Western Oregon University’s chapter was founded in 1979 and held the first initiation on May 9, 1980. For nearly 30 years, Phi Kappa Phi - with the support of its members, as well as faculty and staff across campus - has sponsored Academic Excellence on campus, celebrating our students’ outstanding research and creative endeavors. Our chapter is pleased and honored to continue this important tradition of recognizing and celebrating student excellence.
The Academic Excellence Showcase Planning Committee gratefully acknowledges the generous support of this program provided by President John Minahan, the Provost’s Office, and the Western Oregon University Foundation. Thanks are extended to Dean Stephen Scheck (College of Liberal Arts and Sciences) and Dean Hilda Rosselli (College of Education), whose support during the planning process has been unwavering. A special thank you is given to Stewart Gilbert from University Computing Services for web design support; and Lisa Catto and Denise Visuaño from Public Relations for their hard work, talent and dedication. We are especially indebted to the session chairs and faculty sponsors, listed below, who are critical to the success of this event.

Session Chairs and Faculty Sponsors

Alexander, Joel
Allen, Warren
Artman, Margaret
Baxter, Diane
Beaver, Cheryl
Behmard, Hamid
Bergeron, Tom
Bersani, Hank
Bliss, Ann
Boomer, Sarah
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Braza, Jerry
Bucy, Mary
Callero, Peter
Cardinal, Marita
Carter, Brynn
Caster, Brian
Courtney, Arlene
Cress, Linda
Dauer, Sue
Dello Stritto, Mary-Ellen
Doellinger, David
Dolan, Maureen
Dutton, Bryan
Ellingson, Don
Foster, David
Fung, Maria
Geier, Max
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Girod, Mark
Griffin, Susan
Harchanko, Joseph
Harding, Carol
Helpie, Kevin
Henderson, Jessica
Hsueh, Yvonne
Hughes, Henry
Jensen, Kimberly
Jones, Deborah
Kelly, Tom
Keulks, Gavin
LeMaster, Michael
Lowe, Benedict
Maroney, Elisa
Mayhead, Molly
McFadden, Susan
Myers, Chloe
Oberst, Sharon
Paraskevas, Cornelia
Perlman, Mark
Pettenger, Mary
Ple, Emily
Price, Michele
Raborn, Jodie
Rand, Tom
Rector, John
Rice, Gwenda
Roscoe, Lauren
Saxowsky, Denvy
Scarlat, Mary
Shrestha, Uma
Smiles, Tracy
Smith, Doug
Smith, Robin
Stonecipher, Linda
Strapp, Chehalis
Taylor, Steve
Templeton, Jeffrey
Thomas, Darryl
Thomas, Daryl
Thompson, Kathy
Van Steeter, Mark
Wade, Philip
Walczyk, Kevin
Ward, Mike
Winningham, Rob
Wojcikiewicz, Steve
Yehnert, Curtis

The 2008 Academic Excellence Showcase Planning Committee

Lisa Catto
Jeanne Deane
Bryan Dutton
Elisa Maroney

Jeffrey Templeton, Chair
Denise Visuaño
Rob Winningham

Finally, from her Planning Committee colleagues, we extend a special and heartfelt thank you to Ms. Jeanne Deane for her untiring energy, patience and support.
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**PRESENTATION SCHEDULE GUIDE**
Presentations

1:00 - 1:30 p.m., HL 107
Jesus Zarate  
*Faculty Sponsor*: Doug Smith  
*Title*: Sitting with a SMILE  
*Abstract*: My research demonstrates that the continuous need for positive social environment is necessary for the treatment success of renal failure patients. This research proposes that the distinctive networks of each patient has an effect on the social atmosphere of the clinic itself and finally on the holistic health of the patients. The benefit of this paper is to address the importance of a positive social networking and to make this knowledge available.

1:30 - 2:00 p.m., HL 107
Amy Franzen  
*Faculty Sponsor*: Doug Smith  
*Title*: Colonias and Crayons: An Anthropological Study of Children’s Futures in Ladrillera, a colonia in a U.S.-Mexico Border Town  
*Abstract*: An anthropological study of families and their children in the colonia of Ladrillera, located in the U.S.-Mexico border town of Agua Prieta, Sonora, based on field research conducted during the summer of 2007 while taking part in WOU’s first ever U.S.-Mexico border field school. This paper utilizes the theories of underdevelopment and dependency to help us understand the experiences of children and families and examines the cultural, economic, and systemic causes of their current plight in the poorer and underdeveloped neighborhoods of the city.

2:00 - 2:30 p.m., HL 107
Danielle M. Kuehnel  
*Faculty Sponsors*: Robin Smith and Doug Smith  
*Title*: Far from Home: The Field Experience  
*Abstract*: This short film draws from footage taken on the US-Mexico Border at Agua Prieta, during the first applied anthropology field school, during the summer of 2007. It displays the often challenging field experience for the participating students (who had never done field work), and for the field director (who had not previously managed and advised students while in the field), while also introducing the harsh realities of life on the border for the people who survive it every day.

2:30 - 3:00 p.m., HL 107
Joy Charron  
*Faculty Sponsor*: Robin Smith  
*Title*: The Working Child: Industrialization and Child Labor at the Thomas Kay Woolen Mill  
*Abstract*: At the Thomas Kay Woolen Mill, in Salem, Oregon, I will discover the role child labor had in the era of industrialization through archival research and study of historical objects. Based on this information I will design, construct and mount a temporary exhibit to be displayed at the Mission Mill Museum housed at the Thomas Kay Woolen Mill.

3:00 - 3:30 p.m., HL 107
Lisa Catto  
*Faculty Sponsor*: Robin Smith  
*Title*: Rural Romans in Southern Italy: Excavating the Roman Imperial Site of Vagnari in Gravina in Puglia  
*Abstract*: This project seeks to examine the life of rural Romans in southern Italy during the Roman Empire. Research will be conducted through a bioarchaeological field school taking place this July, which will excavate a Roman cemetery at an estate site called Vagnari, dating to the second and third centuries A.D. The human remains and grave goods excavated will be analyzed and the data interpreted to reconstruct the lives of this past population.

3:30 - 4:00 p.m., HL 107
Bradley Hull  
*Faculty Sponsor*: Doug Smith  
*Title*: From Braceros to Small Business Owners: The Transformation of Rural Oregon by Mexican Immigrants  
*Abstract*: This project will investigate how Mexican community members in Oregon’s rural Klamath County transformed from Bracero worker to business savant in this largely unstudied area of rural Oregon. My research will examine historical evidence revealing how the Braceros program began and why Mexican immigrants continued their pattern of migration into the Klamath Lake area. Ethnographic perspectives gained by Mexican heritage informants, native Oregonian informants, and community members. I will investigate the social, cultural, and economic influences these rural Oregon savants have employed to revitalize and change the cultural landscape of two rural communities.

4:00 - 4:30 p.m., HL 107
Mat Davila  
*Faculty Sponsor*: Robin Smith  
*Title*: Uncovering New Philadelphia: Communicating the Relevance of History through Archaeology  
*Abstract*: This project will investigate methods of community involvement and interest resulting from archaeological research in the historic site of New Philadelphia, Ill. Research will be conducted through participation in the New Philadelphia Archaeological Research Project and through an investigation of documentary evidence. Observation will take place over the course of this ten week program. Observed will be the methods in which the significance of the findings at this site is conveyed to the local and nonacademic communities.
ART

Session Chair: Jodie Raborn
Session Title: Professional Concerns Portfolio Presentations
Location: Campbell Hall (CH)

Presentations

8:30 - 8:45 a.m., CH 101
Mark Youngsma
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Painting and Printmaking

8:45 - 9:00 a.m., CH 101
John Aikens
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Graphic Design and Sculpture

9:00 - 9:15 a.m., CH 101
Kate Bappe
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Graphic Design and Printmaking

9:15 - 9:30 a.m., CH 101
Kara Brooks
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Graphic Design and Printmaking

9:30 - 9:45 a.m., CH 101
Katie Etzel
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Painting and Printmaking

10:00 - 10:15 a.m., CH 101
Esther Fasana
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Graphic Design and Printmaking

10:15 - 10:30 a.m., CH 101
Laura Heitz
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Painting and Printmaking

10:30 - 10:45 a.m., CH 101
Nichoel Holmes
Faculty Sponsor: Jodie Raborn

10:45 - 11:00 a.m., CH 101
Jason Kroessin
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Painting and Printmaking

11:00 - 11:15 a.m., CH 101
Lisa Pike
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Painting and Printmaking

11:15 - 11:30 a.m., CH 101
Robert Allen
Faculty Sponsor: Jodie Raborn
Title: Art Portfolio Presentation: Presenting Artwork in Graphic Design

BIOLOGY

Session Chair: Michael LeMaster
Session Title: Biology Symposium
Location: Natural Sciences (NS)

Presentations

2:00 - 2:30 p.m., NS 103
Emily Uhrig
Faculty Sponsor: Michael LeMaster
Title: Temporal Variation in the Female Sexual Attractiveness Pheromone of the Red-sided Garter Snake, Thamnophis sirtalis parietalis

Abstract: Female garter snakes lose their attractiveness to males shortly after emerging from winter hibernation. Here I present a study designed to determine whether temporal changes in the quantity and/or quality of the female sexual attractiveness pheromone are responsible for the observed loss of attractiveness. Behavioral experiments demonstrated that females are significantly less attractive to males within two weeks of emergence. Chemical analyses showed a significant qualitative difference in the structure of the pheromone between newly-emerged females and females two weeks post-emergence. These results support the hypothesis that changes in the female sexual attractiveness pheromone are responsible for diminishing post-emergence female attractivity in garter snakes.
**BIOLOGY**

Session Chair: Bryan Dutton
Session Title: Biology Research Posters
Location: Werner University Center (WC)

**Posters**

9:00 - 11:00 am, WC Pacific Room
K. L. Noll¹, N. E. Hanson², B. E. Dutton¹, M. N. Parenteau³, S. M. Boomer⁴;

Faculty Sponsor: Sarah Boomer

Title: Geochemistry and Ecology of Red Mat Systems (GERMS) - A Long-Term Monitoring Project at Red Layer Microbial Observatory Sites in Yellowstone National Park

Abstract: We are interested in understanding hot spring communities in Yellowstone, which contain distinct layers of Red Chloroflexi bacteria most related to Roseiflexus. Our previous work has demonstrated Red Chloroflexi are genetically diverse, showing site-specific genetic variation - which suggests that site-specific variables may drive selection. Since 2004, teams of undergraduates and teachers involved in our GERMS Program have assessed three red layer sites (Fairy, Hillside, Imperial) in terms of water chemistry and red layer content. My recent population studies using 16S rRNA gene analysis (general bacterial and Chloroflexi-targeted) suggest that many temperature and water chemistry changes correlate with population shifts.

9:00 - 11:00 am, WC Pacific Room

Emily Uhrig
Faculty Sponsor: Michael LeMaster

Title: Bigger is Better: Size-dependent Pheromone Production in the Red-sided Garter Snake, Thamnophis sirtalis parietalis

Abstract: Male red-sided garter snakes prefer to court females with larger fat stores remaining following winter hibernation. Here we present a study that examined whether the necessary variation exists in the sexual attractiveness pheromone, a female-specific pheromone, to account for the observed male preference. Behavioral trials confirmed that males significantly prefer to court females with higher body condition indices. Chemical analyses of the pheromone showed that significant qualitative differences exist in the pheromone profiles between light-bodied and heavy-bodied females. These results support the hypothesis that male garter snakes utilize variation in the female sexual attractiveness pheromone to differentiate between females of varying body condition.

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**CHEMISTRY**

Session Chair: Arlene Courtney
Session Title: Chemistry Capstone Seminars
Location: Natural Sciences (NS)

**Presentations**

9:00-9:40 a.m., NS 101

Alvin Gatimu
Faculty Sponsor: Arlene Courtney

Title: Nano Armor: Inorganic Fullerene-Like Materials

Abstract: As the world gets smaller figuratively, materials research is doing so physically. Nano-scale research on inorganic Fullerene-like materials (IFs) has become very popular. Their tribological (lubricating) abilities continue to be explored while their potential to provide unrivalled ballistics and shock-wave protection has generated further enthusiasm. To investigate this possible future use as armor, the synthesis, structure and resulting properties of IFs will be discussed.

9:45-10:25 a.m., NS 101

Laurel Hubbard
Faculty Sponsor: Arlene Courtney

Title: Lipstick, Ketchup or Blood?

Abstract: Leucocrystal violet (LCV) is an agent used for detecting blood at crime scenes. The objective of this research project was to determine the specificity and sensitivity of this blood enhancement reagent. Three different formulations of the reagent were tested to see if any were more sensitive or specific than the others. To test specificity, several materials were tested with each different formulation of LCV. To test sensitivity, several dilutions of blood were tested with each formulation of LCV. The LCV was found to be very specific and could detect blood at a dilution of 1:50,000

10:30-11:10 a.m., NS 101

Shanley Young
Faculty Sponsor: Arlene Courtney

Title: Sniffing Out Drugs; The Forensic Analysis of Drug Evidence

Abstract: What happens to potential drug evidence after it is collected? This presentation will examine the drug testing procedure performed by today’s forensic chemists. The focal point will be the presumptive and confirmatory testing of illicit drugs. A concise explanation of chain of custody practices, controlled substance laws and courtroom testimony will be presented.

11:15- 11:55 a.m., NS 101

Jenna Moser
Faculty Sponsor: Arlene Courtney

Title: Distinguishing Glass Fragments Using the Annealing Process

Abstract: Glass fragments are often analyzed in forensic casework. The unknown fragments are compared to
I Like the Way You Smell; A Chemical Analysis of Pheromone Variation, and its Potential Role in Reproductive Isolation

**Abstract**

Pheromones are chemical cues that affect the behavior and/or physiology of conspecific animals. Structural variation in pheromones associated with reproduction is one mechanism by which closely related animal species can remain reproductively isolated. Utilizing chemical analyses, I compared the female sexual attractiveness pheromone of three species of garter snakes, the red-sided, the red-spotted, and the Northwestern garter snake. The red-sided and red-spotted are subspecies to one another whereas the Northwestern is a completely different snake.

The red-sided, the red-spotted, and the Northwestern garter attractions pheromone of three species of garter snakes, Utilizing chemical analyses, I compared the female sexual animal species can remain reproductively isolated. Reproduction is one mechanism by which closely related structural variation in pheromones associated with behavior and/or physiology of conspecific animals. 

**Faculty Sponsor:** Michael LeMaster
**Location:** Humanities and Social Sciences (HS)

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**Presentations**

1:00 - 1:20 p.m., HS 237

**Tiffany Rockwell**
**Faculty Sponsor:** Molly Mayhead

**Title:** The Platinum Perfect Bride: Romantic Consumerism in Bridal Magazines

**Abstract:** This paper explores the modern bride ideology of romantic consumerism as the equation of perfection, luxury and romantic love. This focuses on uncovering the modern bride ideology in bridal magazines. Ideological criticism of the advertisements and articles in three bridal magazines serves to reveal the dominant ideology. It shows what ideologies are marginalized, such as different races, sexual orientations, and income level. To set context, this paper also explores the history and explanation of how the modern bride ideology became the dominant ideology.

1:20 - 1:40 p.m., HS 237

**Kaleen Flukinger**
**Faculty Sponsor:** Molly Mayhead

**Title:** The Conviction of Scott Lee Peterson: How the Media Influenced Defense Attorney Mark Geragos’ Opening Statement

**Abstract:** The trial of Scott Peterson for the murder of his wife and unborn son received extensive pre-trial media coverage. Mark Geragos provided the defense for Mr. Peterson. This paper focuses on the effects of the extensive pre-trial media coverage on Mark Geragos’ opening statement and seeks to discover how it reflects the influence of the pre-trial media coverage and asserts the innocence of Mr. Peterson. Answering this question attempts to validate the legitimacy and fairness of our legal system and determine whether it is possible to successfully balance the First Amendment with the Sixth Amendment in a high-profile crime case.

1:40 - 2:00 p.m., HS 237

**Greg Dirks**
**Faculty Sponsor:** Emily Plec

**Title:** A Murder Justified: A Framing Analysis of the Kendra James Shooting

**Abstract:** The police shooting of Kendra James took place on May 5, 2003 in Portland, Ore. This analysis outlines the events that led up to the shooting, as well as the Oregonian’s
framing of those events. The initial Oregonian articles frame the events in terms of officer inexperience and racial discrimination. Later articles’ headlines provide additional framing as the event unfolded, again emphasizing racial discrimination and highlighting Portland police misconduct. The study concludes with a discussion of the implications of this framing of the Kendra James shooting, as well as other areas for future research and study.

2:00 - 2:20 p.m., HS 237

Tashia Pettyjohn
Faculty Sponsor: Emily Plec

Title: Analyzing Vonnegut: A Bitter Pill of Advice for Educated America

Abstract: Kurt Vonnegut, American author and speaker, addressed the 1970 graduating class of Bennington College with a variety of concerns. Vonnegut’s unique use of satire and agitation rhetoric in his call for social change directed students’ attention to recent key events as well as offered words of advice from their own leaders, religious and otherwise. Using vivid language, Vonnegut demonstrates principal characteristics of a rhetoric of agitation and creates a sense of ethos that appeals to his young, politically active audience. The message of his speech echoes through time and regains importance today as we face similar concerns and circumstances.

Jody Piquet
Faculty Sponsor: Molly Mayhead

Title: Perfect Imperfection: The True Face of Beauty

Jesse Alexander
Faculty Sponsor: Molly Mayhead

Title: Wrongful Convictions and False Justice: John Grisham’s The Innocent Man

Barbie McGehee:
Abstract: This presentation is a research paper on Helen Tamiris, a modern dancer and choreographer from the 20th century. This presentation will include a power point presentation with pictures of Helen Tamiris.

Heather-Laura Howell:
Abstract: Tamiris was one of the first choreographers to use jazz and spiritual music to explore social themes via dance. She is probably best known for her suite of dances called Negro Spirituals which was created between 1928 and 1941 and for How Long Brethren? (1937), a dance for the Federal Dance Project of the WPA that explored the problems facing African-Americans and won Dance Magazine’s first award for group choreography. Tamiris also made works based on American themes working in concert dance and musical theatre, including Annie Get Your Gun (1946), Touch and Go (1949), Flahooly (1951), Carnival in Flanders (1953), Fanny (1954), and Plain and Fancy (1955).

9:55 - 10:05 a.m., Maple Hall

Chelsy Hammond-Williams
(Performance)

Faculty Sponsor: Deborah Jones

Title: Chasing Tranquility

Abstract: Chasing Tranquility is dynamic quartet that explores playful yet calming movements that move in and out of various groupings. With a pleasantly confident attitude, the dancers move in, out and around each other using both sharp and continuous movements and gestures. Inspired by the music of Steve Reich, Chasing Tranquility is a satisfyingly serene dance piece that captures the true essence of the music.

10:05 - 10:20 a.m., Maple Hall

Andrew Parodi
(Presentation)

Faculty Sponsor: Susan McFadden

Title: Martha Graham’s Theory of Dance

Abstract: Martha Graham’s upbringing was the antithesis of the forerunners of modern dance, Isadora Duncan and Ruth St. Denis. Martha Graham’s dancing career is not traced to the influence of the mother, but to the influence of the father. Martha Graham ascribes to her father the position of teacher of her first ever dance lesson. Martha Graham’s father was an early version of a psychiatrist, and he diagnosed people based on their manner and movement. When she could no longer dance, Martha Graham wanted to die. I believe that this is because dance for her was her connection to her father.
relationship between Cunningham and his partner John Cage will also be explored. Also discussed will be the process by which Cunningham became a successful choreographer and how his career continues to flourish. Examination of his individual choreographic works will show the elements and characteristics of his unique style of movement.

10:35 - 10:45 a.m., Maple Hall
Jessica Evans
(Performance)
Faculty Sponsor: Deborah Jones
Title: Strewn
Abstract: A modern dance piece about how in the whirlwind of being, women are raw and sexual, broken and strong, vulnerable and confident.

10:45 - 11:00 a.m., Maple Hall
Elizabeth Scott
(Presentation)
Faculty Sponsor: Sharon Oberst
Title: Susan Stroman on Broadway
Abstract: In this presentation, Susan Stroman's work as a choreographer, and director and how her work has brought dance back to the Broadway musical will be examined. Susan Stroman is best known for her direction and choreography of the Broadway musical The Producers, winner of a record-making 12 Tony Awards including Best Direction and Best Choreography.

11:00 - 11:15 a.m., Maple Hall
Emily Sword
(Presentation)
Faculty Sponsor: Darryl Thomas
Title: Dance Team Choreographic Exploration
Abstract: A presentation of a Hip Hop piece and a Jazz piece choreographed for competition for the Silverton High Dance team. A short oral presentation about the process behind each exploration, as well as a few thoughts on the whole experience of being in a leadership role for the first time will also be discussed.

11:15 - 11:30 a.m., Maple Hall
Dance Repertory Group: Allie Boyden, Johnna Case, Rebecca Chadd, Brittany Humphrey, Megan Little, Sophia Maletz and Ashley Rice
(Performance)
Faculty Adviser and Sponsor: Darryl Thomas
Title: Guest Artist, Margo Van Ummersen's Rye (1994)
Abstract: Each fall term, the dance program invites a guest artist to set or create a dance work on the dance students at WOU. The guest artist holds an audition and selects outstanding dancers to participate in this process. Rye (1994), set to the music of Philip Glass, is the piece that choreographer, Margo Van Ummersen set on the WOU dancers this year.
forms of renewable energy and benefit from these sources, such as providing local jobs. So get ready to learn about how you can plug into the sun and cozy into the ground in a cost effective and environmentally friendly way.

10:30 - 11:00 a.m., NS 103
Betsy McDonald and Stephanie Shields
Faculty Sponsors: Philip Wade and Arlene Courtney

Abstract: In the age of technology, life is run by some of the oldest products on earth, fossil fuels. These fuels the economy and debates equally, causing misconceptions about what these energy resources truly are and their subsequent environmental impacts. The most common types are coal, oil shales, tar sands, oil, natural gas, and hydrates. Through an examination of the formation, history, technology, and process of these forms of fossil fuels, we will provide an overview of each type. This knowledge will enable a more balanced perspective and pave the way for the future of fossil fuels in the modern world.

11:00 - 11:30 a.m., NS 103
Jaclyn Thompson
Faculty Sponsors: Philip Wade and Arlene Courtney

Abstract: Our planet has a major energy crisis, and it is imperative to find a solution soon. We are not tapping into resources that could potentially solve our world’s energy problem. Biomasses, such as ethanol and hemp, are sources at our fingertips that we need to begin to take full advantage of. If the right steps are taken, we will be able to produce cleaner fuel, textiles, fabrics, papers, and much more from renewable resources that are abundant on Earth’s surface. This presentation focuses on how we can begin to take those steps.

9:00 - 11:00 a.m., WC Pacific Room
Matt Doyle
Faculty Sponsor: Jeffrey Templeton

Title: Archeological Significance of Explosive Eruption of Mt. Vesuvius

Abstract: Mt. Vesuvius is a volcano that erupted on August 24 A.D. 79 blanketing the towns and thousands of residents of Pompeii, Stabiae, and Herculanum. Pompeii was buried 10' deep, while Herculanum was buried under 75' of ash. The ash preserved and protected Pompeii, which at the time of the eruption was a beautiful city, against the elements until future archaeologists unearthed this snapshot of time. Mt. Vesuvius, a roughly 4300-feet high, deadly volcano, is located near the Bay of Naples, in the region of Campania, in Italy. The tectonic setting of Mt. Vesuvius is a convergent plate boundary where the African Plate is subducted beneath the Eurasian Plate. This explosive volcanic eruption is the first to be described in detail. Most significantly, the eruption generated pyroclastic flows that moved down the sides of the mountain at over 100 mph killing all who were left within the city. At temperatures of 1,000°F, it burned flesh and carbonized bone. A plinian eruption is the most violent type, causing significant death and destruction. Plinian eruptions are characterized by explosive fragmentation of viscous, gas-rich magma, huge pyroclastic surges and flows, and releases...
of large amounts of volcanic gases. They also produce large eruption columns, up to seven to 12 miles high that level off and spread up to 200 to 300 miles, causing fallout of tephra.

9:00 - 11:00 a.m., WC Pacific Room

**Alicia Thompson**  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Mt. Pelee: Killer of the Caribbean

**Abstract:** In 1902, Mt. Pelee erupted and killed 26,000 to 36,000 people in Saint-Pierre on the island of Martinique. Mt. Pelee is located along a subduction zone between the Caribbean and South American Plates. Since colonization of the island, four eruptions have occurred: one in 1792, another in 1851, the catastrophic eruption of 1902, and a reawakening in 1929. This stratovolcano is capable of erupting deadly gases, tephra fall, lava flows, mudflows, pyroclastic flows and surges, landslides, and creating tsunamis. In 1902, Mt. Pelee produced deadly pyroclastic flows and surges that rolled through the town of Saint-Pierre covering the nearly 30,000 residences and killing most of them. There were a few lucky survivors, like Luudger Sylbaris, who was being held in the town’s underground jail. In 1929, Mt. Pelee again produced a pyroclastic flow. The eruptions in 1902 and 1929 dramatically illustrated two previously undocumented hazards for volcanologists to address, pyroclastic flows and surges.

9:00 - 11:00 a.m., WC Pacific Room

**Ben Shivers**  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Soufrière Hills, A Volcano in the Spotlight

**Abstract:** The recent eruptive activity at the Soufrière Hills Volcano has caught the attention of everyone in the geologic community and thrust it into the spotlight. Located on the island of Montserrat, in the West Indies, Soufrière Hills is a stratovolcano lying on a subduction zone where the South American Plate descends beneath the Caribbean Plate. Soufrière Hills is a complex area of andesitic domes that periodically build up and then collapse. Each dome collapse usually results in pyroclastic flows, ash venting, and/or explosive eruptions. The Soufrière Hills Volcano first erupted July 18th, 1995 and is still active today. The most destructive eruption occurred on June 25th, 1997 and led to a pyroclastic flow that killed 19 people. The pyroclastic nature of the volcano has rendered its slopes nearly uninhabitable and made it one of the most intriguing and closely monitored examples in the field of volcanology.

9:00 - 11:00 a.m., WC Pacific Room

**Joseph Krom**  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** The 1982 Eruption of El Chichon

**Abstract:** El Chichon Volcano is located in Chiapas, Mexico within the Transcurrent Fault Province, an area affected by two major strike-slip faults. Based on radiocarbon ages gathered by scientists, it is believed that El Chichon has erupted at least 11 times within the last 8,000 years. El Chichon has a trachyandesite tuff cone with an associated lava dome complex. El Chichon most likely erupts because of the fluid movement, faulting, and fracturing that occurs beneath it. Past eruptions have produced pumice, ignimbrites, and pyroclastic flows. El Chichon produces rare but explosive ignimbrite-forming eruptions of M=6 and greater. Ignimbrites are composed of ash and pumice that weld together in various ways. The 1982 eruption of El Chichon has allowed volcanologists to have a greater understanding of how and why powerful ignimbrite eruptions occur.

9:00 - 11:00 a.m., WC Pacific Room

**Matthew Buche**  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Overview of the Nevado del Ruiz and the lahars of the November 13, 1985 eruption

**Abstract:** The Colombian volcano, Nevado del Ruiz (5,400 m), lies 170 km east of the oceanic trench, where the Nazca Plate is subducting beneath the South American Plate. The Quaternary eruptive material transitions from andesitic and dacitic lava flows to more explosive pyroclastic products during the Holocene and historic activity. Historic eruptions occurred in 1604, 1845, and 1985. During the November 13, 1985 eruption, rapid melting of snow and ice from the summit’s ice cap triggered a total of 60 million m3 of lahar debris. The lahars were highly destructive to villages located at channel openings adjacent to the volcano. Approximately 23,000 people perished at Armero located 50 km east of the summit. Tragically, lahars were predicted prior to the catastrophe. This eruption illustrates the importance of organized and cooperative efforts to reduce the risks of volcanic eruptions.

9:00 - 11:00 a.m., WC Pacific Room

**Allison McGonagle**  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Tambora: A Year Without Summer

**Abstract:** Tambora is located on the Sunda Arc in Indonesia where the Indo-Australian plate is subducting beneath the Eurasian plate. The 1815 eruption of Tambora was the largest explosive eruption in recorded history, but only a few eruptions from this volcano have been documented. The 1815 eruption produced abundant tephra and pyroclastic flows. The cloud of ash from the eruption is blamed for causing famine and most of the deaths that occurred. The 1815 eruption of Tambora caused Earth’s overall temperature to decrease by as much as 3°C, particularly in the Northern Hemisphere. This drop in temperature led to 1816 being known as the year without a summer.

9:00 - 11:00 a.m., WC Pacific Room

**Levi Hogan**  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Krakatau Eruption of 1883

**Abstract:** In 1883, one of the most devastating natural catastrophes occurred on the apparently dormant Indonesian island of Krakatau. Located near the subduction zone...
between the Indo-Australian and Eurasian Plates, Krakatau erupted in a series of four major explosions on August 26 and 27, 1883. The third explosion was so far reaching that it was heard over 4,000 km away. The release of ash and aerosols during the blast impacted global weather and ocean temperatures for a number of years. The tsunamis resulting from the series of eruptions proved deadly for the inhabitants of neighboring islands, killing over 36,000 people. Scientifically, the eruption of Krakatau was especially significant because it was one of the first major volcanic eruptions to be communicated and documented globally using instruments of modern science. Analysis of the eruptive history of Krakatau and the deadly destruction it caused provides insight into understanding and preparing for future eruptions.

9:00 - 11:00 a.m., WC Pacific Room

Sarah Johnson
Faculty Sponsor: Jeffrey Templeton

Title: The Eruption of Mt. Pinatubo and Effects on Global Climate

Abstract: Mt. Pinatubo is a stratovolcano located on the island of Luzon in the Philippines. It is part of a chain of volcanoes that formed from the subduction of the Philippine Plate under the Eurasian Plate. Its eruptive history is subdivided into two periods, Ancestral Pinatubo, which was relatively inactive, and modern Pinatubo, which began after about a 10,000-year dormant period. Mount Pinatubo has had a series of violent eruptions since it formed 35,000 years ago. The last major eruption, in 1991, was the second most violent eruption of the 20th century. This eruption generated an ash column 7 km high and sent 17 to 20 megatons of SO₂ into the atmosphere. The fine tephra and aerosols affected global temperatures for several years after the eruption giving scientists an opportunity to directly observe the sensitivity of global climate to temperature fluctuations and to test the accuracy of climate models in predicting future consequences of global warming.

9:00 - 11:00 a.m., WC Pacific Room

Chris Meyer
Faculty Sponsor: Jeffrey Templeton

Title: Kilauea: Insights into Mafic Magmatic Processes

Abstract: Kilauea Volcano, located on the big island of Hawaii, has been active for about 1,000 years as a result of a hotspot beneath the Pacific Plate. The volcano has been actively erupting over this time period. Recent activity is mainly from the Pu‘u ‘O’o vent located on the east rift zone. The magma is basalt in composition and erupts effusively with occasional fountains. Lava flows produce pahoehoe and a‘a lava with pillow lava at the shoreline and underwater. The mafic magma compositions at Kilauea are result of the vent moving over the side of the main chamber. Kilauea is an ideal natural research laboratory for expanding the science of volcanology. Studying Kilauea provides a better understanding into the magmatic processes that control the formation of our planet.
Donnie Kasper  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** The 1980 Eruption of Mount St. Helens, Washington

**Abstract:** Mount St. Helens is a stratovolcano located in southwestern Washington about 96 miles south of Seattle. As part of the Cascade Range, it is a direct result of the Cascadia Subduction Zone. The volcano has erupted frequently over the last 200 years, with 9 different major eruptions. During the May 18, 1980 eruption, the volcano produced lahars, lateral blasts, pyroclastic flows, and debris avalanches. St. Helens erupts very explosively, and rocks found from the eruption include dacite, andesite, pumice, basalt, and tephra. During the May 18 eruption, the north flank failed, triggering a 2.3 cubic kilometer avalanche. This in turn led to a northwardly directed lateral blast that destroyed an area of 600 square kilometers. As for recent activity, there has been dome growth since October 2004. But just recently, growth ceased as of January 2008. Mount St. Helens is still active and should to be treated with full precautions.

Tanja Aas  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Mount Rainier: Potential Hazards to the Seattle-Tacoma Area

**Abstract:** Mount Rainier is a stratovolcano located in the state of Washington southeast of the Seattle-Tacoma area. Rainier is the highest mountain in the Cascade Range, which stretches from northern California to southern British Columbia, Canada. This mountain range is linked to the Cascadia Subduction Zone off the Pacific coast. Though Mount Rainier has not been active since 1894, its “sister” to the south, Mount St. Helens had a violent eruption in 1980. Scientists believe that Mount Rainier will erupt again and cause harm to the 150,000 people living in Seattle and Tacoma. Historic eruptions on Mount Rainier have produced large mudflows stemming from the 26 glaciers near the top that have reached the Puget Sound lowlands.

Kristin Mooney  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Mount Hood: Should Portland Be Concerned?

**Abstract:** There are a number of potential hazards that could result if Mount Hood were to erupt, including lava flows, pyroclastic flows, lahars, debris avalanches, and tephra fall. The proximity of surrounding populated areas increases the risk associated with the volcano. Although the risk to the Portland area due to actual tephra fallout is low, the area could experience hazards indirectly related to the cloud as it passes. The greatest risks posed are lahars and debris avalanches that could reach the Portland area as early as an hour after an eruption. Emergency plans, so far, only include getting to high ground (30m above the river) as fast as possible. To reduce the risk to human life, more planning, including the making of a route maps, is underway.

Brenna Susee  
*Faculty Sponsor: Jeffrey Templeton*

**Title:** Mt. Shasta and the History of Its Debris Flows

**Abstract:** Mt. Shasta is located in northern California near the southern end of the Cascade Range. It is a stratovolcano with an eruptive history that is similar to that of Mt. St. Helens with an occurrence rate of one eruption every 800 years. The topography around the mountain has volcanic rocks, glacial rock debris, and fluvial deposits. The eruption mode of Mt. Shasta includes pyroclastic flows, andesite lavas, lahars, and debris flows. It is usually a highly viscous eruption. The hummocky topography surrounding the volcano was a mystery to geologists until after the 1980 Mt. St. Helens eruption. The hummocks are inferred to have formed from sector collapse and a large-scale debris avalanche from the ancestral Mt. Shasta. If it did erupt again it would cause a serious threat to the livelihood of many homes and surface waters in the region.

Jennifer East, Caity Vermillion and Meghan VanCamp  
*Faculty Sponsor: Don Ellingson*

**Title:** Melting Planet

**Abstract:** Recent studies have shown that due to global warming, ice caps and glaciers around the world are receding at an alarming rate. Projections made only a few years ago show current glacial area wouldn’t occur until much farther in the future. Due to this rapid meltdown, a ripple effect is spanning outward affecting animal habitats, sea levels, and ocean currents.

Emily Hardy and Shawn Coreson  
*Faculty Sponsor: Don Ellingson*

**Title:** Current Trends in Oceanic Temperatures and the Implications on Marine Ecosystems

**Abstract:** Since the dawn of time, earth temperatures have fluctuated, resulting in net increases and decreases in the average global temperature. Currently measurements indicate we are in the midst of a rising trend in the average global temperature. Because of water’s chemistry, the ocean is more resistant to temperature change than the gaseous atmosphere. However, studies of ocean heat content indicate ocean temperatures are generally increasing. This is potentially harmful to many marine ecosystems. There are optimal temperatures for each ecosystem. This presentation will look at the ocean warming trends and demonstrate how small changes in ocean temperature can have detrimental effects on local population diversity and productivity.
1. Temperature has raised 1.33 ± 0.32 F in the past 100 years, expected cause of the climate change. The concentration of anthropogenic greenhouse gases is the external (human-driven) and internal process. The global energy balance is being affected by both rate. The global energy balance is being affected by both external (human-driven) and internal process. A growing concentration of anthropogenic greenhouse gases is the expected cause of the climate change. The earth’s surface temperature has raised 1.33 ± 0.32 F in the past 100 years ending in 2005. Climate model predictions expect the temperature to continue to rise to 2.0 to 11.5°F in the 21st century unless major external processes alter their courses.

2. The earth’s climate is warming at an alarming rate. The global energy balance is being affected by both external (human-driven) and internal process. A growing concentration of anthropogenic greenhouse gases is the expected cause of the climate change. The earth’s surface temperature has raised 1.33 ± 0.32 F in the past 100 years ending in 2005. Climate model predictions expect the temperature to continue to rise to 2.0 to 11.5°F in the 21st century unless major external processes alter their courses.

3. Temperatures are increasing rapidly due to greenhouse gas (GHG) emissions causing drastic changes in the 21st century, some places showing more obvious changes than others. Changes of GHG and aerosols along with solar radiation and more land cover leads to a hotter earth and glacier melting along with higher sea levels. From 1970 until recently, there has been a 70 percent increase in carbon dioxide, methane, and nitrous oxide. These increases came after the industrial revolution. North America has had diminished snow cover along with melting ice in Arctic regions. 11 of the 12 warmest years ever recorded came in the last 12 years. These changes have caused earlier spring arrival and increase in frost free season.

4. Prior to the Industrial Era, changes in the Earth’s radiation balance were the primary cause of climate change. Further, several factors caused these changes in the Earth’s radiation balance to occur. Therefore, to determine the direct cause of climate change, one must establish the specific factors that caused the Earth’s radiation balance.
to change in the first place. Scientists now believe that the regular variations in the Earth’s orbit around the Sun, known as Milankovich cycles, are a specific factor that caused the cycling of the Ice Ages to occur. In addition to the Milankovich cycles, many other factors are being identified by scientists as possible causes to other important climate changes that occurred in the pre-Industrial Era.

2:00 - 4:00 p.m., WC Pacific Room
Michelle Hammond and John Wiseman
Faculty Sponsor: Don Ellingson
Title: Getting High
Abstract: The oceans cover approximately 70 percent of earth’s surface. Imagine that number increasing and the percent of land decreasing. Unfortunately, imagining it is not necessary whereas it is occurring now. Thermal expansion has already caused the oceans to raise four to eight inches and an increase in greenhouse gases has caused more ice cap melting. The current rise of sea level is observed at about 1.8mm a year. Although that may seem somewhat small, over 14 years that’s about one inch. Sea level rising has a major impact on our society because it could affect many humans as well as animals and their habitats.

2:00 - 4:00 p.m., WC Pacific Room
Erin Van Atta
Faculty Sponsor: Don Ellingson
Title: Can Individual Extreme Events be Explained by Global Warming?
Abstract: Individual extreme events cannot be taken as proof that the climate is changing. However, climate extremes are expected due to increasing greenhouse gases in the atmosphere. A single event, such as a drought or hurricane, cannot be pinpointed to being caused solely by global warming, because they are caused by a combination of factors. The only thing we know so far about global warming and extreme events is that human activities are increasing our risk for them to happen. Climate models vary, but most will validate this increasing threat of extreme weather events.

2:00 - 4:00 p.m., WC Pacific Room
Tyler Ciscell and Miyoko Fujii
Faculty Sponsor: Don Ellingson
Title: Future Consequences of Global Warming
Abstract: We will be exploring the possible consequences of global warming in the near future. We will look at rising political tensions between nations, loss of habitat and life (for both humans and animals), and major climate changes. We will also look into melting of ice and snow caps, rising ocean levels, and many other consequences.

2:00 - 4:00 p.m., WC Pacific Room
Brad Adams
Faculty Sponsor: Don Ellingson
Title: Abrupt Global Climate Change
Abstract: The West Antarctic shelf and Greenland ice pack melting or the Atlantic gulf stream stopping are not likely to happen in the 21st century based on the current data. This does not mean that they can’t happen. The increasing greenhouse gases have raised the chances of abrupt global climate changes. Abrupt climate changes have also been triggered in the past by natural events.

2:00 - 4:00 p.m., WC Pacific Room
Sarah Meyer
Faculty Sponsor: Don Ellingson
Title: Everyone Needs to Help
Abstract: As a philosophy major I thought about using solipsism to argue that the material world doesn’t exist, and so global warming is irrelevant. Or that fatalism to argue that everything is predetermined, so there is no way to prevent global warming and there is no way to change whatever will happen. But my instructor recommended I use utilitarianism or cynicism to argue that everyone needs to reduce the amount of pollution they generate.

2:00 - 4:00 p.m., WC Pacific Room
Kody Kirkpatrick
Faculty Sponsor: Don Ellingson
Title: Global Warming… as Bad as it is Made Out to be
Abstract: The earth is constantly changing and evolving in way science has yet to fully explain. Humans have only been around for a short period of time compared to the earth. Right now many scientists bring a lot of attention to the fact that the earth is warming up, that humans are mostly to blame, and that CO2 is direct cause. Right now many scientists bring a lot of attention to the fact that the earth is warming up, that humans are mostly to blame, and that CO2 is direct cause. We should remember that the earth has naturally been going through its own warming and cooling cycle for a very long time, and that each change in the past half million years corresponds with an increase or decrease in CO2.

2:00 - 4:00 p.m., WC Pacific Room
Michael Murphy, Von Blanchard, and Aaron Dove
Faculty Sponsor: Don Ellingson
Title: Global Warming on Venus
Abstract: Venus is a strange place. Global warming has run wild and space explorers are finding unusual things and coming up with head-spinning hypothesis. Could there be life on Venus? Some say yes! There might be tiny bacteria in the clouds 30 miles above the surface of Venus. The Climate 30 miles up is much cooler than on the surface, a mere 158oF compared to 900oF on the surface. The atmosphere that high is very similar to the atmosphere on the earth. The European Space Agency sent a probe to Venus in 2005 named Venus Express. It’s an investigation of the planet’s atmosphere and we could have samples of the Atmosphere by as early as 2010.
Clockwise rotation of fault blocks has resulted from a long history of oblique convergence and accretionary tectonics.

The Willamette Valley is situated between the Oregon Coast Range to the west, the Oregonian Peninsula to the southwest, the Cascade Range to the east, and the Cascade Range to the northeast. Over 70 percent of the state’s population lives in the watershed and it represents one of the most dynamic urban-mosaic landscapes in the United States. Expanding population and economic growth requires development of sustainable management practices balanced by maintenance of essential watershed functions. This compilation of work provides a sampling of the critical natural resource issues associated with the Willamette Valley. Topics include: geologic framework, regional climate history, geomorphic hazards, disturbance and riparian vegetation, geomorphic response to forest practice, river restoration, and water resource evaluation.

**Tectonic Framework of the Willamette Valley, Oregon**

**Faculty Sponsor:** Steve Taylor

**Title:** Tectonic Framework of the Willamette Valley, Oregon

**Abstract:** The Cascade Volcanic Arc is the result of millions of years of tectonic activity along the Cascadia Subduction Zone. The Cascadia Subduction Zone is an oceanic-continental convergent plate margin where the Juan de Fuca plate is being obliquely subducted beneath North America. Subduction and related andesitic volcanism are roughly subdivided into five major episodes, beginning about 35 Ma and continuing to the present. The evolution of the Cascade Volcanic Arc has shaped the varied physiography of the present-day Pacific Northwest. The Willamette Valley is situated between the Cascade Range to the east and the Coast Range to the west. The lowland is broadly interpreted as a forearc basin associated with arc volcanism and accretionary uplift. Bedrock of the Willamette Valley consists of oceanic basalts largely overlain by terrestrial and marine sediments, related to episodic deltaic deposition. Volcanic rocks are interpersed throughout the basin and the entire valley is overlain by Quaternary surficial deposits. Angular unconformities are common in the Willamette Valley owing to regional tilting and localized faulting throughout the basin. Clockwise rotation of fault blocks has resulted from a long history of oblique convergence and accretionary tectonics.

**Aquifer System of the Willamette Basin, Western Oregon**

**Faculty Sponsor:** Steve Taylor

**Title:** Aquifer System of the Willamette Basin, Western Oregon

**Abstract:** This paper focuses on the physiographic framework of the Willamette lowland aquifer system and its natural vegetation. The Willamette Lowland is a 5,680 sq. mi. area positioned between the Oregon Coast Range to the west, and the Cascade Range to the east. The Willamette aquifer system is separated into the five hydrogeologic units, these include: (1) the basement confining unit, (2) the Columbia River basin aquifer, (3) the Willamette confining unit, (4) the Willamette aquifer, and (5) the Willamette silts unit. These units have variable porosity and permeability, and establish the groundwater resource base for a large percentage of Oregonians. Large Pleistocene glacial-outburst floods, coupled with volcanic activity, have covered the Willamette Valley with unconsolidated surficial deposits as thick as 250 feet. Fertile soils at the surface have given birth to approximately 11,764,000 hectares of forested area in Oregon and Washington, and the agricultural zones we see today.
crops, while the central and northern portions support various types of crops including grains, field crops, tree fruits and nuts, small fruits and berries and vegetables. The primary threat to rural degradation of water and soil quality is via the widespread application of herbicides and insecticides. These pesticides find their way through the channel network, ultimately discharging into the lower Columbia. This paper provides an overview of the environmental setting of the Willamette Basin and an expose on the threat of pesticide use to regional water quality.

2:00 - 4:00 p.m., WC Pacific Room

Laura Stallard
Faculty Sponsor: Steve Taylor

Title: Present-Day Climate and Vegetation of the Willamette Valley

Abstract: This paper examines the present-day climate and vegetation patterns in the Willamette Valley, and forms part of a larger theme session entitled “Earth Science in Context: Land use and Watershed Function in the Willamette Basin”. The Willamette Valley climate zone encompasses a 200-km-long lowland that lies between the Coast and Cascade ranges. This region is characterized by generally cool, wet winters and warm, dry summers. The Mediterranean climate pattern results in a unique assemblage of vegetation, including the dominance of coniferous forests. The focus of this poster is on elevation-controlled changes in vegetation throughout parts of the Willamette Valley, as a function of local climate variation.

2:00 - 4:00 p.m., WC Pacific Room

Bobby Kelso
Faculty Sponsor: Steve Taylor

Title: Quaternary Climate and Vegetation History of Western Oregon

Abstract: This paper presents a summary of paleoclimate and vegetation studies in western Oregon during the late Quaternary. The Willamette Valley climate is dominated by mild winters with massive accumulation of precipitation. In the summer months rains begin to disappear and we are dominated by warm, dry high pressure systems. In the Cascades and Coast Range we see a similar pattern, but there is a slight variation. The winter variation brings snowfall to higher elevations and short lived, intense thunderstorms in the summer. The vegetation, in association with the law of uniformitarianism, helps us unravel the past climate. Different plant assemblages occurred in the Willamette Valley and surrounding mountain ranges during the past 100,000 years. Since plants are extremely sensitive to even minimal climate changes, we can determine relatively precise climate variations over time, based on the sedimentary record.

2:00 - 4:00 p.m., WC Pacific Room

Brittnie Andrew
Faculty Sponsor: Steve Taylor

Title: Groundwater Hydrology of the Willamette Basin, Oregon

Abstract: 70 percent of the population in Oregon lives above the seven major aquifer systems in the Willamette Valley. The seven primary hydrostratigraphic units include the High Cascade, Upper Sedimentary, Willamette Silt, Middle Sedimentary, Lower Sedimentary, Columbia River Basalt, and the Basement Confining. Precipitation recharges these units at an average rate of 22 in/yr between the high and lowland areas. The period of greatest rainfall occurs from November to April and allows for more water to infiltrate than is withdrawn from the regional aquifer systems. Summer months with evaporation and irrigation account for the most water use. Regional groundwater levels fluctuate by about 65 ft each year and are projected to decline with time as population in the valley increases and recharge varies with changing climate dynamics.

2:00 - 4:00 p.m., WC Pacific Room

Heather Hintz
Faculty Sponsor: Steve Taylor

Title: Land-Use History and Hydrologic Alteration in the Upper Willamette Basin

Abstract: The upper Willamette basin from Eugene to Albany was settled by Euro-Americans in the 1840’s. Since then, the Willamette River had been a vital part of the economy and way of life. The river was historically the fastest and safest way to transport goods and people. Over time, this river section has been altered from multiple channels to a simplified and often single channel system (Benner and Sedell 1997). Settlers simplified channels by constructing ‘cut-off dams’, draining wetlands, and diverting secondary channels. With a simpler channel, the river travels at a higher velocity, inducing bank erosion and channel bed degradation. Additional alteration of channel hydraulics resulted in greater floodplain recurrence intervals in the mid-valley, and provided a measure of flood control. Even though similar processes may occur naturally, they span a greater time frame compared to the effects of human alteration. River restoration in the upper basin is currently underway. Local dam removal and wetland enhancements are helping to bring the river back into harmony.

2:00 - 4:00 p.m., WC Pacific Room

Kristin Mooney
Faculty Sponsor: Steve Taylor

Title: Earth Kills! - Geomorphic Hazards in the Willamette Basin, Western Oregon

Abstract: Every year, lives are lost, and many people lose a great deal of money in property damage due to naturally-occurring surface processes. Decreasing the risk posed by these hazards costs money, but can save lives. Geomorphic hazards in the Willamette Basin include flooding, debris flows, landslides, and stream bank erosion. Risk increases with population growth and expansion into hazard-prone areas; for example floodplains, hillslopes, riparian areas, or any combination of these. Increased mitigation and risk reduction is increasingly more important to the safety and welfare of Oregonians. Strategies for reducing these hazards often fail, mainly due to lack of scientific information and unawareness by policy makers. Many times local governments, which are not well informed, are put in charge of handling the hazard. Such strategies often do not take into account the actual risk
posed by the hazard, the underlying geomorphic processes, or the appropriate mitigation technique. We live in Oregon and it is important for us to be aware of the geologic hazards that we may encounter. It is also important for us to have knowledge on how these hazards can be properly mitigated, so that we can make informed decisions. This paper provides examples of case studies related to geomorphic hazards in the Willamette Basin.

2:00 - 4:00 p.m., WC Pacific Room

**Matt Buche**

*Faculty Sponsor: Steve Taylor*

**Title: Landslide Processes in the Oregon Coast Range: Willamette Valley’s Western Margin**

*Abstract: The Oregon Coast Range (OCR) forms the western highlands of the Willamette River basin. Rates and mechanisms of mass wasting are influenced by lithology, bedrock structure, climate, and tectonics. OCR mass wasting processes are complex because of a compounded geologic history and dynamic climo-tectonic setting. Significant landslide terrains are associated with the Eocene deltaic fan deposits of the Tyee formation, which experienced uplift during the late Miocene. South-to-north facies progradation of deltaic-submarine ramp deposits is responsible for the two dominant slide types of the area: deep-seated landslides (>0.1 km2) and shallow, rapidly moving debris flows. Research on deep-seated landslides suggests that their impacts on hillslope and river morphology are underestimated. Debris flows have been extensively researched because of their sensitivity to climatic drivers. The inclement weather of the February and November, 1996, storms caused numerous debris flows and spawned political debates concerning forest harvesting practices and their effects on slope stability. Continued research on mass wasting processes is critical for developing environmental policies that conserve natural resources, salmonid populations, and human life.*

2:00 - 4:00 p.m., WC Pacific Room

**Donnie Kasper**

*Faculty Sponsor: Steve Taylor*

**Title: Landslide and Debris Flow Occurrence in Headwaters of the Willamette Basin**

*Abstract: There are many mass movement processes that affect the terrain we live in. This is extremely evident here in the Willamette Basin. We are surrounded by mountain ranges; to the east are the Cascades, and the west, the Coast Range. Steep mountain slopes combined with intense precipitation patterns render this region particularly prone to landslides and debris flow. These processes are in some cases deadly, and result in millions of dollars in property damage annually. Mass movement processes in upland subbasins of the Willamette include creep, earthflow, landslide, slump, and debris flow. These processes have different magnitudes and frequencies, depending on terrain factors and landuse history. Climate, snowpack, road cuts, vegetation, timber harvesting, hillslope gradient, geology and soils are all factors controlling the occurrence of these mass movement processes. Understanding of these processes is critical for the development of regional watershed management and hazards mitigation plans.*

2:00 - 4:00 p.m., WC Pacific Room

**Emily Hardy**

*Faculty Sponsor: Steve Taylor*

**Title: Biogeomorphic Considerations in the Willamette Valley: Ecological Response Geomorphic Disturbance Regime**

*Abstract: The Willamette Valley, nestled between the Coastal and Cascade mountain ranges, is home to more than just the college students of Western Oregon University. Different geomorphic conditions within the valley are ideal habitats for diverse plant communities. Quercus (oak) woodlands, Pseudotsuga (Douglas Fir)-dominated forests, and grassland ecosystems blanket the landscape, yielding a variety of native flora. This species-rich region is susceptible to environmental disturbance, both man-induced and natural. Fires, landslides, debris flows, and floods are some of the ecosystem-altering events that occur with relative frequency in both the headwaters and valley bottoms. An understanding of regional geomorphic processes yields insight into the patterns of vegetative succession. In particular, case studies of environmental gradients are considered with a focus on plant associations, disturbance patterns, and the processes by which systems recover over time.*

2:00 - 4:00 p.m., WC Pacific Room

**Shawn Coreson**

*Faculty Sponsor: Steve Taylor*

**Title: Vegetative Response to Landscape Disturbance: Is There a Correlation Between Debris-flow Type Disturbances and Invasive Species in the Oregon Coast Range?**

*Abstract: The Willamette Basin of western Oregon is associated with a wide variety of geomorphic and anthropogenic disturbances in riparian zones. These processes include timber harvest, cultivation, flooding, and mass wasting (landslides and debris flows). Riparian areas are particularly vulnerable to habitat disturbance. Because debris-flows transfer large amounts of soil, rock and organic material, extensive scour and deposit zones are formed. These disturbed stream channels and riparian areas are well suited for vegetative colonization from both native and invasive species. Investigation of invasive plants suggests that while plant communities vary in their susceptibility, invasion may be dependent on the type of soil disturbances, or at least increase the likelihood that an invasive plant might occupy an area. The migration and distribution of both native and invasive plant species have important ecological implications for river restoration and regional land management strategies.*

2:00 - 4:00 p.m., WC Pacific Room

**Kevin Friscia**

*Faculty Sponsor: Steve Taylor*

**Title: Geomorphology and Ecosystems: Riparian Plant Associations in Mountainous Landscapes of Western Oregon**
Faculty Sponsor: Steve Taylor
Title: Geomorphic Response to Forest Practice in the Willamette Basin
Abstract: Willamette Basin forests are suffering from a diminishing energy supply and a loss of ecosystem services. Forest practices are associated with increased soil erosion and landslides. With disturbed soils, watershed productivity has historically experienced declining trends. In order to maintain optimum levels of forest production, balanced by minimized geomorphic effects, alterations in forest practice is a necessity. This paper examines the relationship between timber harvesting methods and erosion processes in upland basins of the Western Cascades. The effects of road construction and clearcutting are examined.

Faculty Sponsor: Steve Taylor
Title: The Influence of Timber Harvest on Sediment Transport in Headwaters of the Willamette Basin
Abstract: Uplands of the Willamette Basin are home to a very productive temperate forest and associated timber industry. With this valuable economic resource comes the concern that logging activities may increase hillslope sediment erosion and consequently impact water quality, channel stability, and riparian ecosystems. In the 1950s, a series of watershed experiments were initiated at the H.J. Andrews Experimental Forest. This 30 year examination of hydrologic, geomorphic, and biological effects of timber harvest provided substantive data on sediment transfer in three separate forested watersheds. A separate study explored the 50-year record of sediment accumulated behind the reservoir at Dorena Lake elsewhere in the Western Cascades. Both studies, the focus of this presentation, provide insight into the effects of timber harvest on the discharge rates of water and sediment in headwater basins of the Willamette. Results indicate that logging does impact sediment transfer. However, the connection between the two is more complex than a simple associative relationship. Many other variables must be taken into account to fully understand the dynamic relationship between logging and water quality.

Faculty Sponsor: Steve Taylor
Title: Landuse and River Restoration in the Willamette Basin: Linkage Between River Management, Geomorphic Process, and Salmonid Recovery
Abstract: The Willamette Valley is set in a dynamic landscape characterized by mountainous river systems, recreational water ways, a world renowned sport fishery, and prosperous agriculture. If these natural resources are not carefully restored and managed, they may be lost forever. River restoration projects are commonly used where waterways have been damaged by human impact. Current studies are focused on determining the natural variability of river systems and restoring natural processes to pre-settlement conditions. In order to reach this goal of natural river restoration, several criteria must be met: (1) understanding of river complexities and geomorphic process, (2) development of theoretical similarities between river systems,(3) formulation of new criteria and standards for monitoring techniques, (4) practical application of scientific modeling, and (5) development of effective models tempered by economic and social realities. With these methodologies, current river systems may be restored and future damage may be entirely avoided. This paper examines the river restoration process, with examples of work in the Willamette Basin.
Session Chairs: Tom Rand, Cornelia Paraskevas and Uma Shrestha
Session Title: English Department Academic Excellence Showcase
Location: Werner University Center (WC)

Presentations of Awards, Short Student Presentations/Readings, and Poster Presentations

9:00 - 9:15 a.m., WC Columbia Room
General Welcome and Presentation of Certificates for Outstanding Students in English, the Leta Edwards Writing Scholarship, and 2007-2008 Writing Associates

9:15 - 9:30 a.m., WC Columbia Room
Katie Tvrdy
Faculty Sponsor: Carol Harding
Title: Articulation in W.G. Sebald’s Austerlitz: The Reevaluation of the Holocaust Discourse
Abstract: Through an examination of how the vague characterization of Austerlitz functions within the novel, and also, how the use of the narrator as a barrier between the reader and the main character in combination with the construction of the novel as a framed narrative accomplish the central purpose of the work, this essay will substantiate how Austerlitz effectively diverges from the discourse of previous Holocaust literature, and in doing so, succeeds in questioning the genre.

9:30 - 9:37 a.m., WC Columbia Room
Evan Christopher
Faculty Sponsor: Henry Hughes
Abstract: I plan on reading four original poems in the following order: Ode to a part-time poet, Camelot, a poem about sex, and les petit mort. Poems are constructed with careful attention to content and form and some may be considered explicit to certain readers.

9:37 - 9:44 a.m., WC Columbia Room
Padraig Maloney
Faculty Sponsor: Henry Hughes
Title: Select Original Poetry
Abstract: Various selected original poetry on various subjects…. About five poems.

9:44 - 9:51 a.m., WC Columbia Room
Jessica Evans
Faculty Sponsor: Henry Hughes
Title: Select Original Poetry

9:51 - 9:58 a.m., WC Columbia Room
Tyler Bentley
Faculty Sponsor: Henry Hughes
Title: Creative Non-fiction

9:58 - 10:05 a.m., WC Columbia Room
Andrea Taskinen
Faculty Sponsor: Henry Hughes
Title: Select Original Creative Non-fiction
Abstract: The essay, “Giver of Eyes,” recounts the experience of my time volunteering at a South Indian orphanage and English school.

10:05 - 10:13 a.m., WC Columbia Room
Daniel Bruner
Faculty Sponsor: Gavin Keulks
Title: “Where All the Ladders Start:” The Conduits of Art in the Poetry of W.B. Yeats
Abstract: By closely examining three crucial poems spread over the course of W.B. Yeats’ work, this essay attempts to answer a latent question from the author’s poetry: what type of “tragic war” - a description offered in Yeats’ Ego Dominus Tuus - begets art? With Ego Dominus Tuus, Words, and The Circus Animals’ Dissertation, Yeats moves through the many types of turmoils that become the conduits of Art - metaphysical, political, romantic, and heart-encapsulated. With his words, Yeats provides no simple definition of this underlying, art-creating dissonance, but embraces the “struggle of the fly in marmalade,” which births many transcendent things.

10:13 - 10:21 a.m., WC Columbia Room
Talia Hess
Faculty Sponsor: Carol Harding
Title: Intertextuality in Steinbeck and Sinise’s Of Mice and Men
Abstract: Traditional ideas of inspiration “portray the successor not as a passive recipient of the predecessor’s ideas or techniques, but rather as an active agent who reshapes the precursor’s material” (Landwehr 5). Acting as this active agent, Sinise made effective changes to Steinbeck’s novel, Of Mice and Men, for his 1992 film adaptation. These changes appear in the form of elaboration or contextual fabrication to create a film more accessible to the modern audience who may not have background in Depression-era California. With this in mind, we can analyze Sinise’s 1992 cinematic artistic interpretation of Steinbeck’s classic Of Mice and Men.
Allison Houck  
Facility Sponsor: Curtis Yehnert  
Title: Victim or Victimizer?  
*Abstract:* This paper explores the position of Daisy Buchanan’s character in *The Great Gatsby*. In his article *Herstory and Daisy Buchanan* critic Leland S. Person depicts her as a helpless victim of the struggle between the male characters of the novel, but a closer look at her personality and actions indicate she is by no means a passive bystander in the progression of the story. Daisy’s choices prove that her motivation in life is materialistic and driven by a desire for security, and she should not be considered a victim.

Kayla Johnson  
Facility Sponsor: Carol Harding  
Title: The Taming of the Mermaid: An Intertextual Analysis of Culture in Andersen’s Little Mermaid and Disney’s Film Adaptation  
*Abstract:* Each version of the Little Mermaid reveals ideas about its cultural constructions which correspond with its own time and place: 1989 United States and 1837 Denmark. Both Disney and Andersen project their individual ideas about government, religion, economy, and sacrifice through the two versions of The Little Mermaid. Andersen is able to tame the ancient, wild, and dangerous sea maiden and make her appropriate for children and 1837 Denmark while Disney is able to mold Andersen’s Little Mermaid into the 1989 United States Ariel that is relatable to its specific audience.

Rob Harriman  
Facility Sponsor: Margaret Artman  
Title: The Summer I Learned to Read  
*Abstract:* I will be reading a short essay about the summer following my high school graduation when, as a sullen and unmotivated teenager, I moved to Texas to live with my father and his wife, Dee. Dee was an awful and unlikable character who, paradoxically, introduced me to the works of some of the twentieth century’s greatest writers, and sparked in me a lifelong passion for reading. And Texas is a terrible place.

Christina Cain  
Facility Sponsor: Cornelia Paraskevas  
Title: Teaching Writing for Dummies  
*Abstract:* Writing teachers must answer two important questions: how will I approach writing and what will students understand from my approach? *Teaching Writing for Dummies* addresses these questions through discussion and advice on assigning topics, creating a writing curriculum, guiding prewriting, encouraging revision, generating peer response, and responding and evaluating to student writing.
Arctic ecosystems and triggers problems for native cultures of the region. Accelerates climate change, causes difficulties in marine ecosystems and problems for people dealing with mental illness. Research has shown that there are significant correlations with relative humidity and average temperature as they pertain to psychiatric hospital admission and affective disorders. In short, much of the research has shown strong relationships between average temperature and a disorder known as Seasonal Affective Disorder. The formulation of this disorder evolved from much of the research regarding climatic processes and their relationship to persistent mental illness.

Abstract: It has long been shown that climate change, specifically gradual increases in global temperatures, influences vegetation, atmospheric composition, and many aspects of human life; however, until recently, there has been limited research on the effects of global climate change on people dealing with mental illness. Research has shown that there are statistically significant correlations with relative humidity and average temperature as they pertain to psychiatric hospital admission and affective disorders. In short, much of the research has shown strong relationships between average temperature and a disorder known as Seasonal Affective Disorder. The formulation of this disorder evolved from much of the research regarding climatic processes and their relationship to persistent mental illness.

Abstract: Snowpack in the Pacific Northwest is predicted to decrease significantly within the next 40 years. The precipitation will be more likely to fall as rain rather than snow in the winter months. This work addresses the causes of these warmer winters and the detrimental effects on ski areas in the region.

Abstract: The effects of global warming on sea ice significantly impacts climate change. Sea ice has the greatest albedo, or ability to reflect the sun’s radiation of anything on the planet. Therefore, shrinking of sea ice in the Arctic causes drastic changes in regards to climate change. By focusing on sea ice, this study addresses how declining albedo, accelerates climate change, causes difficulties in marine ecosystems and triggers problems for native cultures of the Arctic.

Abstract: Through emissions of greenhouse gases we are heating our planet, in doing so our oceans are heating and rising at an alarming rate. This affects the human population and also the vast marine life of the oceans. Making home to a vast amount of these life forms, the Great Barrier Reef thrives in waters between 18 degrees Celsius and 30 degrees Celsius, and if the ocean heats up by two degrees Celsius, 97 percentage of the reef would be bleached making it inhabitable for these animals. This is just one of the problems
faced by the reef if the planet continues to heat. This work explains the process of coral bleaching, projections for the future, and what can be done to protect the Great Barrier Reef.

11:30 a.m. - 1:30 p.m., WC Pacific Room
Charley Waller
Faculty Sponsor: Mark Van Steeter
Title: Northern Patagonia Climate Variation
Abstract: The distribution of tree species in northern Patagonia have significantly changed in recent times. Multiple factors such as land use, fire suppression and climate change are likely causes. Changes in tree distribution and growth cycles correlate with regional changes in climate. This work explores current and future scenarios for the northern Patagonia forest.

11:30 a.m. - 1:30 p.m., WC Pacific Room
Trever Redding
Faculty Sponsor: Mark Van Steeter
Title: Changes in Disease Distribution as Climates Warm
Abstract: The range of many diseases is controlled by climate. The distribution of diseases is changing due to the current rise in global temperature. Worldwide changes in disease distribution are explored as well as what diseases Oregonians are likely to encounter in the future.

11:30 a.m. - 1:30 p.m., WC Pacific Room
Darla Hiebenthal
Faculty Sponsor: Mark Van Steeter
Title: The Effects of Sea Level Rise in a Warming World
Abstract: Global warming is causing a rise in sea level. The rise is due to increased inputs of water from melting ice as well as thermal expansion of the oceans as they warm. Instability of melting ice sheets in Antarctica pose a potentially catastrophic rise in sea level if vast areas of ice dislodge into the ocean. Since a large percentage of the human population live in coastal areas, current and future sea level rise pose a significant threat.

3:30 - 4:30 p.m., WC Oregon Room
Cynthia Villwock
Faculty Sponsor: Mary Bucy
Title: C.S.I. Chemeketa Style: Development of a High School Science Camp

3:30 - 4:30 p.m., WC Oregon Room
Celina A. Mesa, Lorrel Palmer and Shannon Talbott
Faculty Sponsor: Jessica Henderson
Title: Join Us ... Protect the Ones You Love

3:30 - 4:30 p.m., WC Oregon Room
Shannon Talbott
Faculty Sponsor: Jessica Henderson
Title: Assets and Risks Associated with Early Sexual Debut among Adolescent African American Males in Mobile, Alabama

3:30 - 4:30 p.m., WC Oregon Room
Weiwei Zhang
Faculty Sponsor: Mary Bucy
Title: The Use of Electronic Dictionaries Among ESL Learners

Musicians Performing during the Reception:
Pianists: Carolyn Matthews & Karley Herrick
Vocals: Sherry Alves
Vibes: Adam Bates
Saxaphone: Dieter Rice

HEALTH, PHYSICAL EDUCATION AND EXERCISE SCIENCE
Session Chairs: Brian Caster and Daryl Thomas
Session Title: Health, Physical Education and Exercise Science Symposium
Location: Werner University Center (WC)

Presentations, Panel Discussion, and Performance
9:00 - 9:15 a.m., WC Santiam Room
Bridget Johnson
(Presentation)
Faculty Sponsor: Jessica Henderson
Title: Framing Asthma: A Content Analysis in U.S. Newspapers
Abstract: Asthma is a public health concern. Over 22 million Americans have asthma. The U.S. spent over $14 billion in health care for asthma. Although the general public gains most of its health information from mass media, little is known about how asthma is portrayed in U.S. newspapers. The present study involved a review and content analysis of asthma articles from seven major U.S. newspapers. A few of the areas the content analysis will examine include: management strategies, fear messages, and challenge and stigma cues. Implications for adequately addressing asthma in the media are discussed.

9:15 - 9:30 a.m., WC Santiam Room
Christina Modolo
(Presentation)
Faculty Sponsor: Brian Caster
Title: Teaching Strategies for Children's Physical Education

Abstract: In order to teach today's children how to safely and effectively become thriving, healthy adults, we must incorporate varied teaching strategies into our Physical Education classes. Focusing on their innate sense for playful movement, we can work towards the goal of having every child see physical activity in a positive light. In this session, students from the course, PE 434: Elementary Physical Education Teaching Practicum share highlights from their teaching experiences, including lesson planning, teaching methods, and systematic observation and evaluation techniques.

11:00 - 11:30 a.m., WC Santiam Room
Keely Beach, Kendra Bebout, Abigail Nilsen, Ellen Yliniemi and Tara Halligan
(Presentation)
Faculty Sponsor: Jerry Braza
Title: Global Health: Spotlight on Disabled Vietnamese Orphans

Abstract: This presentation will focus on the personal and environmental health of Vietnam. During Spring Break, 10 students and two faculty/staff advisers traveled to Hanoi, Vietnam as part of an Alternative Break Program through the WOU Service Learning office. In partnership with the Forgotten People Foundation, students brought supplies to an orphanage where abandoned and disabled children and adults live. Vietnam suffers from poor sanitation and pollution, affecting the communities' well-being. At an orphanage in Bac Ninh Province, the Catholic sisters who had full responsibility for the children/adults lacked adequate healthcare training and specific knowledge of the disabilities they were treating.

9:30 - 9:45 a.m., WC Santiam Room
Shannon Talbott
(Presentation)
Faculty Sponsor: Jessica Henderson
Title: Is a Flip Turn Faster than a Touch and Go at the Wall in Swimming?

Abstract: A comparison of the freestyle flip turn was done with the touch and go at the wall in a velocity/acceleration analysis. The results showed the touch and go at the wall being faster, however the flip turn is assumed to be the more efficient way of changing direction at the wall. Why, if according to biomechanics the flip turn is faster, did the touch and go at the wall provide faster stats? This biomechanical analysis presentation will provide some answers to this question and give some information about the flip turn and how it was done improperly in this analysis.

9:15 - 9:30 a.m., WC Santiam Room
Alexa Haller, Aileen Babcock and Katelyn Brizendine
(Presentation)
Faculty Sponsor: Marita Cardinal
Title: Assets and Risks Associated with Early Sexual Debut among Adolescent African American Males in Mobile, Alabama

Abstract: Adolescent risk behaviors are often attributed to a lack of developmental assets. The associations among certain behaviors, assets and early sexual debut (before the age of 13) were examined in survey data of over 1,000 African American males aged 13-18 living in Mobile, Alabama. Results have implications for the Developmental Asset Model as a framework for promoting sexual and overall adolescent health.

10:00 - 10:15 a.m., WC Santiam Room
Erick Banks, Kira Batcheller, Avery Cotton, Joslyn Esser, Andrea Franks, Samantha Goodwin, Jessica Guth, Christopher Hamilton, Autumn Hughes, Christopher Keller, Barbara McGhee, Cara Miller, Robert Patterson, Courtney Stowell, Matthew Torassa and Jonny Troyer
(Presentation)
Faculty Sponsor: Marita Cardinal
Title: Scholarship Through Social Dance

Abstract: Social dancing serves many functions -- as a form of creative and artistic expression, a form of socio-cultural and historical understanding, a way of fostering communication and social connection among people, and a lifetime physical activity to enhance one’s health and well-being. In this session, students from the social dance course will present examples of Boyer’s Domains of Scholarship (discovery, integration, application, and teaching) through performance of their choreographies in a variety of ballroom, Latin, and rhythm social dance forms; sharing of their stories and experiences in service-learning and community outreach; and presentation of their teaching expertise (with audience participation).

1:00 - 1:45 p.m., WC Santiam Room
Keely Beach, Kendra Bebout, Abigail Nilsen, Ellen Yliniemi and Tara Halligan
(Presentation)
Faculty Sponsor: Jerry Braza
Title: Global Health: Spotlight on Disabled Vietnamese Orphans

Abstract: This presentation will focus on the personal and environmental health of Vietnam. During Spring Break, 10 students and two faculty/staff advisers traveled to Hanoi, Vietnam as part of an Alternative Break Program through the WOU Service Learning office. In partnership with the Forgotten People Foundation, students brought supplies to an orphanage where abandoned and disabled children and adults live. Vietnam suffers from poor sanitation and pollution, affecting the communities' well-being. At an orphanage in Bac Ninh Province, the Catholic sisters who had full responsibility for the children/adults lacked adequate healthcare training and specific knowledge of the disabilities they were treating.

1:00 - 1:45 p.m., WC Santiam Room
Erick Banks, Kira Batcheller, Avery Cotton, Joslyn Esser, Andrea Franks, Samantha Goodwin, Jessica Guth, Christopher Hamilton, Autumn Hughes, Christopher Keller, Barbara McGhee, Cara Miller, Robert Patterson, Courtney Stowell, Matthew Torassa and Jonny Troyer
(Presentation)
Faculty Sponsor: Marita Cardinal
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Abstract: Social dancing serves many functions -- as a form of creative and artistic expression, a form of socio-cultural and historical understanding, a way of fostering communication and social connection among people, and a lifetime physical activity to enhance one’s health and well-being. In this session, students from the social dance course will present examples of Boyer’s Domains of Scholarship (discovery, integration, application, and teaching) through performance of their choreographies in a variety of ballroom, Latin, and rhythm social dance forms; sharing of their stories and experiences in service-learning and community outreach; and presentation of their teaching expertise (with audience participation).
Abstract: This presentation will detail the development of a resource manual for health professionals dealing with the general health and well being of predominantly Alaskan Native peoples. Physicians Assistants are commonly found in under served areas in Alaska, and are often faced with the challenges of being the primary care provider, as well as the challenge of influencing their patients’ lifestyles and choices regarding nutrition and physical activity. In the context of the course PE 488 Exercise Motivation and Adherence, the Transtheoretical Model of behavior change was implemented in the development of the manual and its application to the targeted population.

2:15 - 2:30 p.m., WC Santiam Room
Amelia Carmine, Katie Dennis, Kelsey Newman and Bethany Sherer
(Presentation)
Faculty Sponsor: Jerry Braza
Title: Project Help ‘Em Out
Abstract: Homelessness is a growing and devastating problem across the United States. Without a concerted effort to help the homeless population, the problem will continue to grow and burden more American families and individuals. Project Help ‘Em Out’s aim was to collect essential supplies for Simonka Place, a women and children shelter in Keizer, Oregon to help improve the health and overall well-being of those who come to the shelter for assistance. Members of Project Help ‘Em Out achieved far greater success than imagined and were able to donate more than 15 boxes of supplies to Simonka Place.

2:30 - 2:45 p.m., WC Santiam Room
Brenden Kirchner
(Presentation)
Faculty Sponsor: Tom Kelly
Title: Evaluation of Marketing Claims of a Select Sports Nutrition Supplement
Abstract: The purpose of this presentation is to analyze the claims made by those marketing the supplement Gamma-Ow/CLA. Such establishments claim the product is a safe, legal alternative to anabolic steroids, declaring the product significantly increases levels of testosterone, human growth hormone, catecholamine, muscle mass and overall strength, and decreases cortisol levels and fat mass. Can these statements be trusted? The supplement’s claims were analyzed via studies examining the compound’s interaction with the body’s metabolic pathways and the reactions/results they illicit. Based on the research examined, the claimed ergogenic effects of Gamma-Ow/CLA, excluding catecholamine and cortisol levels, were not supported.

2:45 - 3:15 p.m., WC Santiam Room
Julie Heard, Melissa Gibler, McKenzie Dusschee and Jessica Montas
(Presentation)
Faculty Sponsor: Jerry Braza
Title: United Communities Against Meth
Abstract: United Communities Against Meth (UCAM) is a conglomerated effort to mitigate meth abuse in the communities of Monmouth, Independence, and Dallas, Oregon. In collaboration with the Independence, Ore., YMCA, UCAM is working towards coordinating education and prevention programs for youth and towards providing access to information and resources in treatment centers. Objectives for this presentation include:
- Creating awareness about meth and its effects on the communities of Monmouth and Independence.
- Describing UCAM’s goal of making sure our community knows there is help.
- Disseminating information about UCAM’s upcoming events.

3:15 - 3:45 p.m., WC Santiam Room
Kimberly McDonald and Celina Mesa
(Panel Discussion)
Faculty Sponsor: Warren Allen
Title: Biotechnical Engineering Concerns for the Individual and Society
Abstract: In light of new and innovative advances in Biotechnical engineering and manipulation issues such as cloning of foods and of the eventual human being, along related with genetic manipulation considerations that the Human Genome Project have provided are looming on the horizon to challenge us in issues of Privacy and Discrimination that we are ill prepared for. Many of these issues will be presented and offered for an open discussion.

HEALTH, PHYSICAL EDUCATION AND EXERCISE SCIENCE

Session Chairs: Brian Caster and Daryl Thomas
Session Title: Health, Physical Education and Exercise Science Posters
Location: Werner University Center (WC)

Posters

11:30 a.m. - 1:30 p.m., WC Pacific Room
Emily Arnell and Tyler Mitchell
Faculty Sponsor: Brian Caster
Title: Biomechanical Analysis of the Tennis Serve
Abstract: The tennis serve is the most important shot in a tennis player’s offensive game but the hardest shot to master. In this analysis of tennis biomechanics the following information will be presented to gain a deeper understanding of the serve: History of tennis, tennis racquet head sizes (different types of tennis racquets and their pros and cons), phases of the tennis serve, biomechanical principles related to the tennis serve, and analysis results, including graphs and charts representing phase timing analysis of the tennis serve and an acceleration and velocity analysis of a serve and volley.
Laura Gilbert, Keri Knight and Amber Sams  
**Faculty Sponsor:** Jessica Henderson  
**Title:** Build Up Their Immunity for a Strong Community  
**Abstract:** Educational materials about immunizations were developed utilizing social marketing research principles. The goal of this campaign was to increase awareness of “herd immunity.” The target audience was vaccine-hesitant parents of young children in Jackson County, Oregon. The theoretical basis for the campaign was the Social Norms Theory and the concept of herd immunity. Formative evaluation was conducted through interviews with 22 parents and a health educator to assess promotional appeal, understanding of the immunization message and elements to increase compliance with immunization recommendations.

Stephani Catt, Stacy Crites, Kari Erickson and Ashley McElroy  
**Faculty Sponsor:** Jessica Henderson  
**Title:** Give Your Child the Power to Fight Off Disease!  
**Abstract:** Educational materials about immunizations were developed utilizing social marketing research principles. One goal of this campaign was to increase parents’ awareness of the importance of vaccines without scaring them. The target audience was parents of infants and young children. The theoretical basis for the campaign was the Health Belief Model. Formative evaluation was conducted through interviews with parents who had children who utilized the YMCA facilities to assess promotional appeal, understanding of the immunization message and elements to increase compliance with immunization recommendations.

Bonnie Heitz, Melissa Morris and Della Kobbe  
**Faculty Sponsor:** Jessica Henderson  
**Title:** Do Your Part … Protect the Vulnerable  
**Abstract:** Educational materials about immunizations were developed utilizing social marketing research principles. One goal of this campaign was to increase awareness that their actions affect their own family as well as the community. The target audience was parents who live in Jackson County who have “borderline” intentions about vaccinating their children. The theoretical basis for the campaign was the Social Norms Theory. Formative evaluation was conducted through interviews with 12 parents and a health professional to assess promotional appeal, understanding of the immunization message and elements to increase compliance with immunization recommendations.

Wade Murray, Bethany Sherer, Laura Wilson and Renee Wells  
**Faculty Sponsor:** Jessica Henderson  
**Title:** Protecting One … Takes Everyone  
**Abstract:** Educational materials about immunizations were developed utilizing social marketing research principles. The goal of this campaign was to change current perceptions regarding childhood immunizations. The target audience was vaccine-hesitant parents of young children in Jackson County, Oregon. The theoretical basis for the campaign was the Social Norms Theory. Formative evaluation was conducted through interviews with parents, future parents and a health communication specialist to assess promotional appeal, understanding of the immunization message and elements to increase compliance with immunization recommendations.

**HISTORY**

**Session Chair:** Kimberly Jensen  
**Session Title:** Women in Oregon History: From Suffrage to Medicine  
**Location:** Hamersly Library (HL)

**Presentations**

8:30 - 8:45 a.m., HL 107  
**Jeanne Deane**  
**Faculty Sponsor:** Kimberly Jensen  
**Title:** The Oregon Woman Suffrage Campaign of 1912

8:45 - 9:00 a.m., HL 107  
**Kelsey Hutchinson**  
**Faculty Sponsor:** Kimberly Jensen  
**Title:** The Oregon Woman Suffrage Campaign of 1912

9:00 - 9:15 a.m., HL 107  
**Kristin Johnson**  
**Faculty Sponsor:** Kimberly Jensen  
**Title:** The Oregon Woman Suffrage Campaign of 1912

9:15 - 9:30 a.m., HL 107  
**Amy Earl**  
**Faculty Sponsor:** Kimberly Jensen  
**Title:** The Oregon Woman Suffrage Campaign of 1912
Kelsey Hutchinson, Kristin Johnson, Kelly McGuire, Val Groshong, Craig Perkins, Steve Stone, Caitlin Summers, Lauren Macaluso, Carole Mainwaring, Jennifer Patterson, Scott Brown, Gina Kirby and Stephani Catt  
Faculty Sponsor: Kimberly Jensen  
*Title:* Women Physicians in Oregon Medicine

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### HISTORY

**Session Chair:** David Doellinger  
**Session Title:** History Senior Seminar Presentations  
**Location:** Hamersly Library (HL)

#### Presentations

5:00 - 5:15 p.m., HL 107
**Faculty Presenter:** David Doellinger  
**Title:** Welcome and Introduction

5:15 - 5:30 p.m., HL 107
**Ashley Barnes**  
*Faculty Sponsor:* Benedict Lowe  
**Title:** Paintings in Roman Pompeii: Correlations between Paintings and Room Use  
*Abstract:* The paintings found in Pompeii are some of the best preserved in all of the ancient world, and therefore are great to look at to gain an understanding of fashions and trends in Roman artwork. This paper will focus not only on the subject of the paintings, but look deeper to see if a correlation can be made between paintings and room use. By looking and paintings found in Pompeii, and learning what rooms were used for, connections between the two can definitely be seen, as will be shown in this paper.

5:30 - 5:45 p.m., HL 107
**Jessica Bertling**  
*Faculty Sponsor:* Kimberly Jensen  
**Title:** The Woman Suffrage Movement in Oregon  
*Abstract:* Woman suffragists successfully enfranchised women in the western United States as early as the 1890's. The woman suffrage campaign did not accomplish universal female suffrage until the ratification of the 19th Amendment in 1920. Using the woman suffrage campaign in Oregon as a case study, this paper will examine how the political and social atmospheres of the frontier west provided suffragists an environment for early success.

5:45 - 6:00 p.m., HL 107
**Matthew Bond**  
*Faculty Sponsor:* David Doellinger  
**Title:** Ivan the Terrible: Centralization in Sixteenth Century Muscovy  
*Abstract:* Russian Tsar Ivan IV attempted to centralize power and strengthen the state while limiting the influence of the boyar and princely classes through his ruthless policies. Ivan pursued this goal from 1565-1572 with the creation of the Oprichnina, a territory which he had sole control of and was policed by armed squads known as Oprichniki. Through an examination of his correspondence with Alexander Kurbsky (a former friend and Muscovite prince), Kurbsky’s biography of Ivan, and first hand accounts of Oprichniki, this paper will examine Ivan’s efforts to strengthen the state from factions within the nobility.

6:00 - 6:15 p.m., HL 107
**Rebecca Carlson**  
*Faculty Sponsor:* Max Geier  
**Title:** Don Juan de Oñate’s Prosecution for ‘Crimes and Excesses’ in the Provinces of New Mexico, 1614  
*Abstract:* In 1614, Juan de Oñate was convicted of a variety of “crimes and excesses” that occurred during his governorship of New Mexico. Although he was guilty of no worse crimes or excesses than previous conquistadores, Oñate was held to a higher standard than previous explorers because of Spain’s Ordinance of 1573, which declared that pacification should be carried out charitably and without force. However, the idealistic goals in the Ordinance contradicted with the system of exploration that was already in place, in which explorer’s had to fund the mission themselves. This required the explorer to balance the twin goals of recouping expenditures and “charitably” spreading Christianity.

6:15 - 6:30 p.m., HL 107
**Sarah Coelho**  
*Faculty Sponsor:* Benedict Lowe  
**Title:** Theodoric the Great versus Boethius: The Conflict of 524 A.D.  
*Abstract:* During the reign of Theodoric the Great, a Roman senator by the name of Boethius fell out of favor with the king and was imprisoned and executed. Theodoric, though a Goth himself hoped that during his time as king, relations between the Goths and the Romans would be good, and that the two nations would share the same desires. However in the latter part of his reign the king became more and more paranoid of the Roman senators, which culminated when he arrested and executed his friend Boethius, a Roman senator, in 524 A.D.

6:45 - 7:00 p.m., HL 107
**Joshua Duder**  
*Faculty Sponsor:* John Rector  
**Title:** Roanoke: England’s Failed First Colony and the Spanish Plausibility

7:00 - 7:15 p.m., HL 107
**Kelly Gordon**  
*Faculty Sponsor:* David Doellinger  
**Title:** The Peace of Westphalia and the Origins of Westphalian Sovereignty  
*Abstract:* While the Peace of Westphalia that ended the Thirty
Years’ War has traditionally been regarded as the beginning of the modern nation-state. Westphalian sovereignty actually had its beginnings in earlier policies. The Peace of Westphalia was not so much a groundbreaking document as much as it was a confirmation of a system that was rapidly becoming the status quo. By examining the Peace of Westphalia and comparing it to official foreign policies and doctrines that existed prior to the Thirty Years’ War, it will become apparent that the Peace of Westphalia was only a small point on the path to the international system that became its namesake.

7:15 - 7:30 p.m., HL 107

Mark Lowry
Faculty Sponsor: Benedict Lowe
Title: Boniface VIII and Philip IV: Conflict Between Church and State, 1296-1303

Abstract: The issue between Boniface VIII and Philip IV, King of France was an issue between church and state. It will look at how the problem between the two men started, the important documents that may have continued the issue, and the consequences of this fight. During Boniface VIII papacy, 1294-1303, he used the conflict with Philip, King of France, to expand the power of the Church, and protect the Church from secular rulers’ influence.

7:30 - 7:45 p.m., HL 107

Luke Martin
Faculty Sponsor: Benedict Lowe
Title: Boniface VIII

Abstract: In the middle ages the conflict between secular and spiritual rulers often caused problems leading to conflict. Pope Boniface VIII marks the end of this problem creating a pivotal point in history. The rise of learned men and strong secular rulers caused the loss of political power during the papacy of Boniface VIII. Pope from 1294 until 1303 Boniface issued three major papal bulls, Clericis laicos, Auscula fili, and the Unam sanctum. I will compare his stance to previous papal positions to address constancy and show that Boniface VIII was not a radical pope but a victim of circumstance.

7:45 - 8:00 p.m., HL 107

Mindy Nichols
Faculty Sponsor: Benedict Lowe
Title: Did Ancient Romans Love their Children? Infanticide in Ancient Rome

Abstract: Ancient Roman law codes suggest that parents practiced infanticide throughout the Empire’s history. An analysis of Roman funerary tombs, however, indicates that parents loved their children. This paper examines a variety of complex reasons infanticide was practiced in ancient Rome, ranging from a desire to protect the family’s financial interests to the hope that a wealthier family would find the child and provide it with a secure future. Infanticide appears to have been a method to limit family size in Ancient Rome.
Presentations

8:30 - 8:45 a.m., WC Willamette Room

Courtney Stowell  
**Faculty Sponsor:** Hamid Behmard  
**Title:** Circles and Ellipses in Taxicab and Chinese Checkerboard Geometries  
**Abstract:** In this presentation we will define distance between points in both Taxicab and Chinese Checkerboard geometries. We will describe what circles and ellipses are in both of these geometries, and how these objects differ from their Euclidean counterparts. In particular, we will look at the analogue of \( \pi \) in both cases.

8:45 - 9:00 a.m., WC Willamette Room

Rosco Huebner  
**Faculty Sponsor:** Hamid Behmard  
**Title:** The Dam Proof, What the Hex?  
**Abstract:** For those of you who love board games this presentation will definitely keep you entertained. The Game of Hex has been around for over fifty years and has proved to be a very entertaining for all ages and abilities. Come learn about the game of Hex and its application to game theory.

9:00 - 9:15 a.m., WC Willamette Room

Jason Bruggeman  
**Faculty Sponsor:** Hamid Behmard  
**Title:** A Party Worth Losing Your Hat  
**Abstract:** Suppose that \( n \) guests come to a party and throw \( q \) categories of clothing into a pile on the floor. After the party, everybody leaves discombobulated and randomly picks up one of each categories of clothing from the pile. What is the chance no one gets his or her own clothing back? The problem is based on an old combinatorial problem known as “The Old Hat Problem”.

9:15 - 9:30 a.m., WC Willamette Room

Andrew Pickett  
**Faculty Sponsor:** Hamid Behmard  
**Title:** Perfect Order Subsets in Group Theory  
**Abstract:** The order of an element \( g \) in a group, is the smallest positive integer \( n \) such that \( gn = 1 \) is the identity of the group. An order subset is the set of all the elements in a group that have the same order. When the cardinality of every order subset divides the order of a group, we say this special group has perfect order subsets. A minimal POS group can be thought of as a “smallest” group with perfect order subsets. Through exploitation of some special numbers, we are able to generate a finite list of these minimal POS groups.

9:30 - 9:45 a.m., WC Willamette Room

Darrel Palke  
**Faculty Sponsor:** Hamid Behmard  
**Title:** Breaking Cryptology with Quantum Computing  
**Abstract:** Quantum Compu… wait, are you still there? If so, come see how this theoretical idea could be the end to modern cryptology as we know it! Though Quantum Computing is still in its infancy, a day will come where all our data isn’t safe! Be prepared and come to this talk.

10:00 - 10:15 a.m., WC Willamette Room

Kristal Temple  
**Faculty Sponsor:** Maria Fung  
**Title:** Singular Points on Planar Curves  
**Abstract:** In this presentation we show examples of singular points on planar curves, and will describe both algebraic and geometric techniques for determining such singularities.

10:15 - 10:30 a.m., WC Willamette Room

Amanda Charlton  
**Faculty Sponsor:** Hamid Behmard  
**Title:** Steganography  
**Abstract:** Cryptography, the practice of hiding information, is what many first think of when spoken to about secret codes. However, there are other options for secret codes. I chose to study Steganography; the practice of hiding information in such a way that no one outside of the system can tell that there is in fact a secret message. A famous example of a Steganography system is Simmons Prisoner Problem. My presentation will explain some of the mathematics involved in creating Simmons specific system, designation of a secret channel, and the transmission of a secret message.

10:30 - 10:45 a.m., WC Willamette Room

Elizabeth Burke  
**Faculty Sponsor:** Hamid Behmard  
**Title:** Solving Nim and Subtraction Sets  
**Abstract:** Nim, sometimes called a “takeaway game”, is a completely solvable game. The fate of the two players is already defined in which is known as a nimber sequence. The nimber sequence records winning moves for every position of a heap which eventually becomes periodic. With the use of subtraction sets we are able to not only find these winning and losing positions, but also find a formula that computes
the nimber sequence for any two element subtraction set and some three element subtraction sets.

10:45 - 11:00 a.m., WC Willamette Room

Kim Correll
*Faculty Sponsor:* Hamid Behmard

*Title:* Middle-alpha Cantor Sets

*Abstract:* Middle-alpha Cantor sets are formed on the real line between 0 and 1. Two of these sets intersect in a unique way at the golden ratio. This intersection only contains 0. The presentation explains why a small intersection is a remarkable result.

11:00 - 11:15 a.m., WC Willamette Room

Rosco Huebner, Chris Mock and Andrew Nerz
*Faculty Sponsor:* Mike Ward

*Title:* The Rubik’s Cube

*Abstract:* Come learn about one of the world’s most challenging puzzles, the Rubik’s Cube. From cubies to the superflip, we will discuss how to display your cube in a mathematical form, while also teaching you basic moves on your cube.

11:15 - 11:30 a.m., WC Willamette Room

Meghann Barger
*Faculty Sponsor:* Hamid Behmard

*Title:* The Probability of Relatively Prime Polynomials

*Abstract:* We will be exploring polynomials where the coefficients come from finite fields, and their probability of being relatively prime. First we will explore \( \mathbb{Z}_2[x] \) where all coefficients come from the set \{0,1\} and all arithmetic is done modulo two. Then we will explore polynomials from \( \mathbb{Z}_5[x] \) where the coefficients come from \{0, 1, 2, 3, 4\} and the arithmetic is done modulo five.

### MATHEMATICS

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**Posters**

11:30 a.m. - 1:30 p.m., WC Pacific Room

Masaki Ikeda and Wesley Parker
*Faculty Sponsor:* Mike Ward

*Title:* Ludwig Sylow & His 3 Theorems

*Abstract:* The integers, rationals and real numbers under addition are infinite groups, while finite groups have a countable number of elements. For those interested in history, we have the biography of a Norwegian high school teacher, Ludwig Sylow, who changed the field of mathematics. For those interested in art, we have a hand-drawn portrait by Christie Laird. For the mathematically inclined, we have three theorems, published in 1872, that changed finite group theory.

11:30 a.m. - 1:30 p.m., WC Pacific Room

Elizabeth Burke and Kim Correll
*Faculty Sponsor:* Mike Ward

*Title:* Simple Finite Groups

*Abstract:* A group whose only normal subgroups are the identity and the group itself are called simple groups. The largest (finite group) of these is called the “Monster,” having an order of approximately \( 8 \times 10^{53} \). Simple groups are classified into what is known as the classification of finite simple groups, which was formed over time by many great mathematicians from Galois to Gorenstein.

11:30 a.m. - 1:30 p.m., WC Pacific Room

Rosco Huebner, Chris Mock and Andrew Nerz
*Faculty Sponsor:* Mike Ward

*Title:* The Rubik’s Cube

*Abstract:* Observe a Presentation board explaining the inner workings of one of the world’s greatest puzzles. Learn to solve by using a system of movements on your cube based on the cubes starting position. Learn how the cube itself is displayed in a mathematical form.

11:30 a.m. - 1:30 p.m., WC Pacific Room

Amanda Charlton, Jenne Elston and Cassie-Ann Jacinto
*Faculty Sponsor:* Mike Ward

*Title:* Algebraic Coding Theory

*Abstract:* When your CD scratches why does it still play? We examined topics such as error detecting, error correcting, and decoding messages.

11:30 a.m. - 1:30 p.m., WC Pacific Room

Andrew Pickett
*Faculty Sponsor:* Mike Ward

*Title:* Gauss - the Greatest Mathematician of All Time

*Abstract:* Gauss is responsible for solely founding multiple fields in mathematics. Before he was out of school (college) he had thoroughly developed hyperbolic geometry, independent of Lobachevsky and Bolyai. His paper on “the celestial movements of heavenly bodies” created the study of orbits in space and remains a cornerstone of astronomy to this day. Gauss is also responsible for the first successful proof of the Fundamental Theorem of Algebra, which consolidated Number Theory as a discipline.

11:30 a.m. - 1:30 p.m., WC Pacific Room

Emily Cunningham
*Faculty Sponsor:* Cheryl Beaver

*Title:* Math Art from Clock Arithmetic

*Abstract:* Imagine that instead of a twelve hour clock, we had a six hour clock. Then, just like 1 hour after 12 o’clock it is 1
o’clock, on our six hour clock 1 hour after 6 o’clock it would be 1 o’clock. Writing this as an addition problem we’d have 6+1=1. Similarly 3 hours after 5 o’clock on our six hour clock it would be 2 o’clock, or 5+3=2. This poster shows how the unusual arithmetic rules that arise from a six hour clock can lead to some beautiful math art designs and symmetries.

MATHEMATICS
Session Chair: Michael Ward
Session Title: Pi Mu Epsilon Induction Ceremony
Location: Werner University Center (WC)

2:00 - 2:15 p.m., WC Willamette Room
Presenter: Wesley Parker
President, Oregon Delta Chapter, Pi Mu Epsilon
Title: Pi Mu Epsilon Induction Ceremony

2:15 - 3:45 p.m., WC Willamette Room
Invited Speaker: Maria Fung
Professor, Department of Mathematics, Western Oregon University
Title: Hamilton’s Quaternions--A Brief Introduction
Abstract: In this talk we will discuss how Sir William Rowan Hamilton discovered the quaternions in his persistent attempts to calculate with “triplets.” We will focus on the rich algebraic structure of the quaternions, from a real vector space to an associative non-commutative algebra. Finally we will exhibit an isomorphism from the quaternions of length one, which form a hypersphere in R4, to the special unitary group of matrices, SU(2).

MODEL UNITED NATIONS
Session Chair: Mary Pettenger
Session Title: Model United Nations Mock Session
Location: Humanities and Social Sciences (HS)

10:00 -11:00 a.m., HS 112
Max Beach, Bre Chambers, Lance Cummins, Ryan Hale, Brandon Harris, Ligali Harruna, Melissa Lee, Chris Marsaglia, Jeff Sawyer, Ekaete Udosenata and Nikole Allen
Faculty Sponsor: Mary Pettenger
Title: Model United Nations Mock Conference
Description: The Model United Nations Club will hold a one-hour mock session/conference, discussing a current event with each student representing a different country. Observers will learn what Model United Nations Club members do at conferences.

MUSIC
Session Chair: Joseph Harchanko
Session Title: Student Recital
Location: Smith Music Hall (SM)

Performances

11:00 a.m. - 1:00 p.m.*, SM 121
Zack Taylor
Faculty Sponsor: Joseph Harchanko
Title: Shostakovich Cello Sonata

11:00 a.m. - 1:00 p.m.*, SM 121
Keeley Kennedy
Faculty Sponsor: Yvonne Hsueh
Title: “Flight of the Bumble Bee” - N. Rimsky-Korsakov

11:00 a.m. - 1:00 p.m.*, SM 121
Ashley Berry
Faculty Sponsor: Yvonne Hsueh
Title: Violin performance

11:00 a.m. - 1:00 p.m.*, SM 121
Karen Amonson
Faculty Sponsor: Tom Bergeron
Title: Flute Sonata - Paul Hindemith

11:00 a.m. - 1:00 p.m.*, SM 121
Jessica Henson
Faculty Sponsor: Tom Bergeron
Title: All of Me - Simons & Marks

11:00 a.m. - 1:00 p.m.*, SM 121
Dieter Rice
Faculty Sponsor: Tom Bergeron
Title: Lilith Mvt I - William Bolcom

11:00 a.m. - 1:00 p.m.*, SM 121
Brian Jones, Adam Bates and John Shaw
Faculty Sponsor: Tom Bergeron
Title: Joy of Spring - Clifford Brown

11:00 a.m. - 1:00 p.m.*, SM 121
Katey Bridge, Adam Bates and John Shaw
Faculty Sponsor: Tom Bergeron
Title: Peel Me A Grape - Dave Frishberg
11:00 a.m. - 1:00 p.m.* SM 121
Erica Hall and Karley Herrick
Faculty Sponsor: Tom Bergeron
Title: Danny Boy (trad.)

11:00 a.m. - 1:00 p.m.*, SM 121
Angelina Boesch
Faculty Sponsor: Kevin Walczyk
Title: Horn Concerto No.4 - W.A. Mozart

11:00 a.m. - 1:00 p.m.*, SM 121
Carolyn Matthews
Faculty Sponsor: Diane Baxter
Title: Piano performance

11:00 a.m. - 1:00 p.m.*, SM 121
Karen Jepsen
Faculty Sponsor: Diane Baxter
Title: Piano performance

11:00 a.m. - 1:00 p.m.*, SM 121
Chie Nakagawa
Faculty Sponsor: Diane Baxter
Title: Piano performance

11:00 a.m. - 1:00 p.m.*, SM 121
Karley Herrick
Faculty Sponsor: Diane Baxter
Title: Piano performance

11:00 a.m. - 1:00 p.m.*, SM 121
Susie Strickler
Faculty Sponsor: Diane Baxter
Title: Piano performance

11:00 a.m. - 1:00 p.m.*, SM 121
Bethany Glasscock
Faculty Sponsor: Diane Baxter
Title: Piano performance

11:00 a.m. - 1:00 p.m.*, SM 121
Sam Benedict
Faculty Sponsor: Kevin Helppie
Title: Madamina il Catalogo e questo - W.A. Mozart

11:00 a.m. - 1:00 p.m.*, SM 121
Catherine Marinelli
Faculty Sponsor: Kevin Helppie
Title: Deh Vieni non Tardar - W.A. Mozart

11:00 a.m. - 1:00 p.m.*, SM 121
Dylan Jones
Faculty Sponsor: Kevin Helppie
Title: Ich Grolle Nicht - R. Schumann

11:00 a.m. - 1:00 p.m.*, SM 121
Sherry Alves
Faculty Sponsor: Kevin Helppie
Title: Weird Nightmare - Billy Strayhorn

* Exact times to be announced

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**MUSIC**

Session Chair: Joseph Harchanko
Session Title: Musicology Showcase
Location: Smith Music Hall (SM)

**Presentation**

1:00 - 1:30 p.m., SM 123
Amy Boudreau
Faculty Sponsor: Kevin Walczyk
Title: Tchaikovsky’s Symphony No.6

Abstract: It is said that life imitates art but at times, art embodies life and all of the excitement and tragedy that comes along with it. This is the case with P.I. Tchaikovsky’s Sixth Symphony, his final piece before his death. The Symphony No. 6 “Pathetique” is a snapshot, a brief glimpse into Tchaikovsky’s world of passion, love, disappointment, and loss. During this lecture, his life will be explored and experienced through his music.
### MUSIC

**Session Chair:** Joseph Harchanko  
**Session Title:** New Music by Student Composers  
**Location:** Smith Music Hall (SM)

**Performances**

2:00 - 3:00 p.m., SM 121  
*Student Composers and Times To Be Announced*

### MUSIC

**Session Chair:** Joseph Harchanko  
**Session Title:** Technology Showcase  
**Location:** Smith Music Hall (SM)

**Presentations/Performances**

3:00 - 4:00 p.m., SM 123  
**Scott Kingston**  
*Faculty Sponsor:* Joseph Harchanko  
*Title:* Asymmetrical Speaker Design and Implementation

3:00 - 4:00 p.m., SM 123  
**Ronan Baker**  
*Faculty Sponsor:* Joseph Harchanko  
*Title:* 5.1 Surround mix

3:00 - 4:00 p.m., SM 123  
**Jon Preston**  
*Faculty Sponsor:* Joseph Harchanko  
*Title:* 5.1 Surround mix

3:00 - 4:00 p.m., SM 123  
**Jeremy Seick**  
*Faculty Sponsor:* Joseph Harchanko

3:00 - 4:00 p.m., SM 123  
**Stephen Pierce**  
*Faculty Sponsor:* Joseph Harchanko  
*Title:* 5.1 Surround mix

3:00 - 4:00 p.m., SM 123  
**Patrick Cahill**  
*Faculty Sponsor:* Joseph Harchanko  
*Title:* 5.1 Surround mix

### PHILOSOPHY

**Session Chair:** Mark Perlman  
**Session Title:** Philosophy Symposium  
**Location:** Humanities and Social Sciences (HS)

**Presentations**

1:00 - 1:25 p.m., HS 336  
**Shane Hosea**  
*Faculty Sponsor:* Mark Perlman  
*Title:* Quantum Mechanics and Free Will

1:30 - 1:55 p.m., HS 336  
**Sarah Meyer**  
*Faculty Sponsor:* Mark Perlman  
*Title:* I'm Talking to Myself: The Argument for Skepticism

2:00 - 2:25 p.m., HS 336  
**Andrew Grimes**  
*Faculty Sponsor:* Mark Perlman  
*Title:* Retribution and the Death Penalty

2:30 - 2:55 p.m., HS 336  
**Kurtis Drews**  
*Faculty Sponsor:* Mark Perlman  
*Title:* The Cartesian Circle

3:15 - 3:40 p.m., HS 336  
**Lance Cummins**  
*Faculty Sponsor:* Mark Perlman  
*Title:* Boethius vs. God’s Foreknowledge of Human Actions

3:45 - 4:10 p.m., HS 336  
**Caitlin King**  
*Faculty Sponsor:* Mark Perlman  
*Title:* Virtue Ethics

4:15 - 4:40 p.m., HS 336  
**Stephanie Mackey**  
*Faculty Sponsor:* Mark Perlman  
*Title:* Liberty and Necessity
**Political Science**

Session Chair: Mary Pettenger  
Session Title: Political Science Poster Session  
Location: Werner University Center (WC)

**Posters**

11:30 a.m. - 1:30 p.m., WC Pacific Room  
Sabrina Root  
**Faculty Sponsor:** Mary Pettenger  
**Title:** The Convention on the Prevention and Punishment of the Crime of Genocide  
**Abstract:** The paper defines genocide and looks at the laws the Genocide Convention created. It examines the historical context leading up to the convention and creation of these new international laws. The last aspect of the paper analyzes the laws' overall effectiveness.

11:30 a.m. - 1:30 p.m., WC Pacific Room  
Kaleen Flukinger  
**Faculty Sponsor:** Mary Pettenger  
**Title:** Women in War: The Portrayal of Women in Fictional Film and Novels  
**Abstract:** War in fictional films and novels gives a civilian audience a glimpse into the lives of soldiers, enemies and those who are left at home. What about women in war? This paper focuses on the portrayal of women in war and how that has changed over time. Covering four wars: the Civil War, World War II, the Vietnam War, and Desert Storm; commonalities are found throughout showing shared themes regarding women. Though a woman’s role has changed through each war, three themes are evident in each. First, women are portrayed as capable survivors. Second, women display a resilient strength. Finally, women can not escape war unchanged.

11:30 a.m. - 1:30 p.m., WC Pacific Room  
Angela Kinslow  
**Faculty Sponsor:** Mary Pettenger  
**Title:** North Korea: A Nuclear Threat  
**Abstract:** On Oct. 9, 2006, North Korea tested a nuclear device. The purpose of this paper is to explain why the nuclear test took place. An analysis looks at four crucial levels: individual, domestic, interstate, and global.

**Psychology**

Session Chairs: Lauren Roscoe and Chehalis Strapp  
Session Title: Psychology Presentation Session 1  
Location: Instructional Technology Center (IT)

**Presentations**

8:45 - 9:00 a.m., IT 211  
Allison Dias-Garcia  
**Faculty Sponsor:** Joel Alexander  
**Title:** Racial Bias in Juries and Sentencing  
**Abstract:** The purpose of this study was to look at the amount of racial bias in juries when deciding length of prison sentences. A synopsis of a crime case (armed robbery of a convenience store) was given to participants, after reading the case they were asked to decide a sentence for the defendant. There were four different defendants: White, Black, Asian, and Hispanic. The only differences between the cases given to the participants were given was the race of the defendant. On average the Black defendants were given the longest sentences (M=10 years, SD=1.21). White defendants were given the shortest sentences (M=4 years, SD=.89). The Hispanic and Asian defendants fell somewhere in between (M=6.5 years, SD=1.65). These results suggest that race does play a role in the decision of juries.

9:00 - 9:15 a.m., IT 211  
Alisha Foster  
**Faculty Sponsor:** Joel Alexander  
**Title:** Effects of Positive and Negative Mood on Memory  
**Abstract:** This study predicted that participants induced into a positive mood would perform better on a verbal recall task than those induced into a negative mood. The participants consisted of 20 undergraduate students, half male and half female, randomly assigned into either the positive or negative mood group. The study was a mixed design in which participants in each group were given a pre-test of verbal recall, induced into the desired mood, and then tested again for verbal recall. As expected, the positive mood group performed better on the post-test than the negative mood group. This research suggests that learning verbal material is impaired by negative mood.

9:15 - 9:30 a.m., IT 211  
Jennifer Cox  
**Faculty Sponsor:** Joel Alexander  
**Title:** Effects of Motivation on Effort  
**Abstract:** This research predicted that participants induced into a positive mood would perform better on a verbal recall task than those induced into a negative mood. The participants consisted of 20 undergraduate students, half male and half female, randomly assigned into either the positive or negative mood group. The study was a mixed design in which participants in each group were given a pre-test of verbal recall, induced into the desired mood, and then tested again for verbal recall. As expected, the positive mood group performed better on the post-test than the negative mood group. This research suggests that learning verbal material is impaired by negative mood.
other and perceived their opposite gender more at fault. Parents believed one individual was more at fault than the relationship. Results showed that participants with divorced parents indicated the degree of fault but the gender of the individual initiating the divorce changed across scenarios. Participants indicated the degree each person contributed to the failure of the relationship. What these results show is that past victimization is an influential factor in how severely a criminal is punished for the same crimes.

9:45 - 10:00 a.m., IT 211
Kim Davis
Faculty Sponsor: Joel Alexander

Title: The Nose Knows
Abstract: This research predicted that females would be more capable than males at recognizing objects through only the sense of smell. Using a between subjects design, including approximately 10 females and 10 males that are Western Oregon University students, with an age range of about 18 to 45. Forty-five participants were assigned to their group, whether it was the five seconds to smell the scent or unlimited time. All scents were presented in identical containers for the blindfolded participant to smell. Other materials used were a stopwatch to time the participant and writing materials for recording their answers. The amount of correctly identified smells determined the higher recognition of smell. Females were found to have a higher recognition of smell than males, confirming the hypotheses.

10:00 - 10:15 a.m., IT 211
Jennifer A. Pastorino
Faculty Sponsor: Joel Alexander

Title: Divorce and the Perception of Relationships
Abstract: This study examined perception of divorce as a function of parental divorce. A between-subject design was used with 40 participants (20 females and 20 males) ages 18-30, half of whom had parents who divorced and half with parents that are still married. Participants were assigned to read a divorce scenario, both individuals have equal fault but the gender of the individual initiating the divorce changed across scenarios. Participants indicated the degree they believed each person contributed to the failure of the relationship. Results showed that participants with divorced parents believed one individual was more at fault than the other and perceived their opposite gender more at fault.

10:15 - 10:45 a.m., IT 211
Mia Broberg, Scott Brown, Courtney Earle, Samantha Farmer, Allison Fuller, Andrew Gilles, Ryan Gordon, Sarah Griffith, Alvaro Hernandez, Annika McMillan, Jennifer Mill, Robert Patterson, Erick Rivera and Anne Spalding
Faculty Sponsor: Chehalis Strapp

Title: The Effects of a School Based Mentoring Program on Academic Achievement, Organizational and Life Skills
Abstract: This presentation will provide an overview and discussion from the effects of the Western Oregon University-Talmadge Middle School mentoring program. Fourteen undergraduate students, including eight females and six males mentored at-risk middle school students for 6 months. Mentors and students developed individual goals and tracked progress across two terms. Results suggest that in addition to academic improvements, middle school students showed increases in organizational skills, and decreases in problematic behaviors including detentions. Implications for school based mentoring programs are discussed.

11:00 - 11:15 a.m., IT 211
Tricia Brigham
Faculty Sponsor: Rob Winningham

Title: The Relationship between Patients’ Self-Efficacy and their Effort Level and Improvement within a Physical Therapy Setting
Abstract: This study examined how relevant a perpetrator’s past victimization is on sentencing time with the belief that the more the past victimization is known, the less the sentencing time will be. Forty participants, ages 18 to 25, both male and female, were administered a survey that described the charges of a male offender with a 1 to 10 Likert rating for how severe the sentencing time should be. A second survey was used that had the exact same story but also noted an incident of the perpetrator’s past victimization. The results showed that the participants had more empathy for perpetrators when they were informed of the perpetrators past victimization. What these results show is that past victimization is an influential factor in how severely a criminal is punished for the same crimes.
11:30 a.m. - 12:30 p.m., IT 211
Invited Speaker: Dr. John Edwards
Oregon State University
Psychology Keynote Speaker, WOUPSA Club
Title: Why Does It Matter if I Don’t Know Why? Effects of Causal Uncertainty on Thinking, Behavior, and Life Outcomes
Abstract: Sometimes people come to doubt their ability to understand the causes of events, as in the case of a student who doesn’t understand why he received a C on a test or a person who feels that she doesn’t understand why a relationship ended. This state, called causal uncertainty, has been shown in numerous studies to affect people’s judgments, moods, behavior, and health. This talk will describe the nature of causal uncertainty, how it develops, and its effects on people.

Presentations

1:00 - 1:15 p.m., IT 211
Allison L. Meyer
Faculty Sponsor: Chehalis Strapp
Title: Foreign Vocabulary Learning: Keyword Method and Imagery Effects on the Recall of Foreign Vocabulary Words
Abstract: The keyword method used with images was expected to increase the recall of foreign language vocabulary words. This study tested recall of foreign vocabulary of 33 WOU students ages 18 to 43 (M=22.76, SD=6.03). Participants were shown word pairs, which included an English word and its foreign translation, and the two experimental groups were shown keyword sentences accompanied with an image. Participants recall of the word pairs was tested and results showed the keyword method produced significantly better scores compared to the control group. One-way ANOVA F (2, 30)=15.03, p<.05, r=.50. Results demonstrated the keyword method is effective for learning foreign vocabulary and can be used as a teaching method or study strategy.

1:15 - 1:30 p.m., IT 211
Danielle Bitz
Faculty Sponsor: Mary-Ellen Dello Stritto
Title: Student Needs: Preliminary Results from the Abby’s House Survey
Abstract: Abby’s House: Center for Women and Families collected data from students during the Fall Term 2006. Students were asked if they (or a friend) needed information about 20 issues such as: relationships, depression, date rape, and financial stress. They were asked to respond to the following: 1) the importance of having services available, 2) their awareness of Abby’s House, 3) if they would consider visiting, and 4) if they thought there was a better location. This presentation will highlight the issues that students reported as most important and what services are most needed. Finally, it will include a comparison of different types of students.

1:30 - 1:45 p.m., IT 211
Chris Martinez
Faculty Sponsor: Joel Alexander
Title: Tattoos: Influences on Short-term Dating Potential
Abstract: The present study evaluated if the presence of body art can significantly influence short term dating preferences in a variety of individuals. Participants included 40 subjects who are students at Western Oregon University (ages 18-24). Short-term dating preferences for potential partners with the presence, absence, or concealment of body art was manipulated. Qualities of profiles were also manipulated. Males reported higher levels of attraction to potential partner’s displaying body art in the photo portion of the profile, whereas females reported higher levels of attraction to higher quality profiles of the potential partner, regardless of the presence of body art.

1:45 - 2:00 p.m., IT 211
Ian Molay
Faculty Sponsor: Joel Alexander
Title: Perceived Childhood Attachment and Collegiate Relationship Satisfaction
Abstract: This study aims to identify the relationship between perceived childhood attachment and emerging adulthood relationship satisfaction. Using a between subjects design, sixty participants, including 30 females and 30 males were randomly assigned to control groups and asked to rate their levels of attachment in childhood. Based on random assignment, participants were given one of three attachment stories ranging from secure to avoidant. Participants were then asked to report their levels of attachment in adulthood via the Experiences in Close Relationship-Questionnaire (ECR-R). A relationship was identified between secure-attachments in childhood and overall relationship satisfaction in adulthood. Results suggest that levels of attachment can act as a predictor of relationships in emerging-adulthood.
2:00 - 2:15 p.m., IT 211
**Deborah Van Hook**  
*Faculty Sponsor: Joel Alexander*  
**Title:** Gender and the Presence of Alcohol as Determining Factors in Rape Blame  
**Abstract:** This research predicted that thinner applicants would be recommended for hiring more often than obese applicants. Using a within-subjects design (reception versus accounting) x 2 (thin versus obese), subjects, including 13 males and 17 females were randomly assigned to read a job description and resume, a photo of each applicant was also included. Subjects were asked to rate applicants on a Likert scale of 1 being unlikely to 5 being very likely to recommend for hiring. As expected, the thinner applicant was recommended for hiring more often than the overweight individual. These findings have important implications for a society currently experiencing a rise in the prevalence of obesity.

2:15 - 2:30 p.m., IT 211  
**Ashley Dimeo**  
*Faculty Sponsor: Joel Alexander*  
**Title:** Face recognition: Variance created with biological sex and education level  
**Abstract:** For this study education level, biological sex, and television exposure were expected to greatly affect one's ability to accurately identify well-known faces with names. Approximately 30 students participated, age ranging between 18 and 30. Males with less education identified less famous females, than females will more education. This study was designed to test each individual's ability to correctly identify 66 famous faces when presented with false or real names. The pictures contained faces only, cutting out any defining characteristics such as hair, body type, or clothing style. Results indicate that male students of any education level correctly identified fewer women faces than women of any education level.

2:30 - 2:45 p.m., IT 211  
**Edie Rayhel**  
*Faculty Sponsor: Joel Alexander*  
**Title:** The Effects of Obesity on Employability  
**Abstract:** This research predicted that thinner applicants would be recommended for hiring more often than obese applicants. Using a within-subjects design (reception versus accounting) x 2 (thin versus obese), subjects, including 13 males and 17 females were randomly assigned to read a job description and resume, a photo of each applicant was also included. Subjects were asked to rate applicants on a Likert scale of 1 being unlikely to 5 being very likely to recommend for hiring. As expected, the thinner applicant was recommended for hiring more often than the overweight individual. These findings have important implications for a society currently experiencing a rise in the prevalence of obesity.

2:45 - 3:00 p.m., IT 211  
**Kalie Long**  
*Faculty Sponsor: Joel Alexander*  
**Title:** The Effects of Odor and Techno Music on Memory with Word Recall  
**Abstract:** This study investigated the power of scent and music on memory performance. My hypothesis was that those exposed to scent and fast techno music would do better on the free recall vocabulary test. Sixty university students participated. Apple cinnamon was the odor used. The music options: no music, slow techno 70 to 90 BPM (beats per minute) and fast techno 140 to 160 BPM. Data was measured through word recall from a 40 word list. Results indicated participants in the scent group achieved better recall test scores than those who were not exposed to scent. However, the scent and techno beat group had lower scores than the scent and no techno beat group. Results indicate apple cinnamon scent did affect memory performance through word recall.

3:00 - 3:15 p.m., IT 211  
**Sean Morris**  
*Faculty Sponsor: Joel Alexander*  
**Title:** Differences in Comprehension between Hardcopy and Computer Monitor Reading.  
**Abstract:** The present study explored students’ reading comprehension on either computer monitor or hardcopy conditions. The researcher expected scores on the hardcopy condition would be higher than that of the computer monitor condition. The study consisted of 40 college age students of which 28 were female. The researcher used a 2X2 mixed design where the reading comprehension test was within and the reading medium was the between subjects variable. The results showed that reading comprehension scores of hardcopy mediums were higher than that of computer monitor mediums. The results could lead to institutions revamping the way standardized test are given.

3:15 - 3:30 p.m., IT 211  
**Kayla Callaham**  
*Faculty Sponsor: Joel Alexander*  
**Title:** The Influence of Racism and Sexism Authoritarianism  
**Abstract:** This research investigated the effects of racism and sexism on authoritarian personalities. The participants consisted of 45 subjects, mixed in gender and ranging in ages from 18 to 35. Subjects were randomly assigned to an exposure of either racist, sexist, or no samples. The results indicated that both racism and sexism had a positive increasing effect on authoritarian personality scores. In regards to sexist samples, the results showed that they had a stronger increasing effect on authoritarian scores than racist samples. Thus the research indicated that environmental variables have an increasing effect on authoritarian personalities.
Sarah Griffith  
*Faculty Sponsor: Joel Alexander*

**Title:** Perception of College Attendance and Completion Based on Race and Socio-Economic Status  
**Abstract:** This study investigates people’s perception of college attendance and completion based on race. It is hypothesized that those who view headshots of people of color will yield more biased answers on the questionnaire. Forty people of mixed age, race, and gender participated in this study. Twenty viewed four headshots and read a scenario that accompanied each photo. They were then given a series of questions on college attendance and completion. Another twenty were simply given the scenarios to read; no photos were shown. They were given the same questionnaire as the first group. Results showed that those who viewed headshots tended to have more negative opinions about who attended and completed college.

Carl Stewart  
*Faculty Sponsor: Joel Alexander*

**Title:** Physical Disability and Future Employment  
**Abstract:** Since the inception of the American’s with Disabilities Act, much attention has been devoted to creating equal opportunities for persons of differing physical capabilities. This study seeks to determine if having a physical disability causes an individual to be deemed less employable than able-bodied peers by future employers. Participants will include university students. Participants will score employment applications, each with varying severity of the applicant’s physical disabilities, as well as score how attractive each candidate would be for employment. It is anticipated that participants will score candidates with a minimal physical disability as being more attractive for employment than those with more profound disabilities.

Lisa Russell  
*Faculty Sponsor: Joel Alexander*

**Title:** How Physical Attractiveness Can Impair Judgment  
**Abstract:** The research conducted in this study predicted that males and females would give a prison sentence of more time to unattractive photos than to attractive photos, with males showing a greater bias than females. Using a Mixed-subjects design, 20 males and 20 females read 3 similar crime scenarios each about the opposite sex (attractive, unattractive, without) where the defendant was already guilty. The participant was asked to decide how much time should be served in jail by the criminal. Unattractive photos received a longer prison sentence, and males gave longer prison sentences to females than to males.

Scott Brown  
*Faculty Sponsor: Joel Alexander*

**Title:** Gender Differences in Perceived Taste of Soda Brands  
**Abstract:** This study looked at the preference of soda brands even when the actual drink was identical. It was hypothesized that both males and females would prefer Coca Cola and Pepsi over Shasta cola. There were 36 (19 female, 17 male) college student participants (mean age 22, SD=2.1). Seventy-three percent were regular Coca Cola drinkers. Participants rated three drinks of soda that were identical but were labeled Coca Cola, Pepsi, or Shasta, after each drink they were rated 0-10. Results showed that both males and females preferred Coca Cola over Shasta but there were no other significant findings. More research needs to be done to see if there is a difference between male and female preferences.

Morgan Hutmacher  
*Faculty Sponsor: David Foster*

**Title:** Psychology Practicum at WOU  
**Abstract:** Practicum in Psychology is available to juniors and seniors admitted to the program who want to take their learning outside of the classroom. Practicum is typically four credits, with 30 hours of work for each credit hour during the quarter expected. Students can choose a range of practicum sites. This presentation is to inform WOU students of one of the possible experiences they might encounter during their practicum. I have been doing my practicum at an elementary school in Salem, Oregon. My duties have included but were not limited to: helping the school counselor, leading small groups, and mentoring children.

**PSYCHOLOGY**

**Session Chairs:** Lauren Roscoe and Chehalis Strapp  
**Session Title:** Psychology Poster Session 1  
**Location:** Werner University Center (WC)

**Posters**

9:00 - 11:00 a.m., WC Pacific Room  
Casey Circle  
*Faculty Sponsor: David Foster*

**Title:** Effects of Video Game Violence on Aggression  
**Abstract:** This study examined the effects of violent video game play on aggression. It was hypothesized that playing violent video games would cause an increase in negative mood, and non-violent game play would show the opposite. Participants were 35 college students. Nineteen were male and 16 female. Participants completed a scale of their current mood before and after game play. They were assigned to play a violent or non-violent game on an XBOX360 console. Results showed a significant difference from pre to post conditions. These results show that violent video game play does have an effect on mood.
Participants were assigned to one of four conditions, Mozart, positive reinforcement; Mozart, no reinforcement; no Mozart, positive reinforcement; no Mozart, no reinforcement. The results showed that exposure to Mozart significantly enhanced spatial abilities ($F=3.27, p<.08$). There were no significant main or interaction effects for reinforcement.
useful in studying why people are affected emotionally by infidelity.

2:00 - 4:00 p.m., WC Pacific Room
Mia Broberg and John Jones
*Faculty Sponsor:* David Foster

**Title:** The Effects of Music on Attention

**Abstract:** This research was trying to find the effects of music on one’s ability to concentrate on cognitive tasks. Our hypothesis stated that listening to pop music, due to the lyrics and style, would create more distraction than classical music or silence while performing cognitive tasks such as the Stroop Test. Participants included 30 undergraduate students from Western Oregon University: 21 women, and nine men. The Stroop Test was administered while participants were in the presence of pop music, classical music, or silence. Further research should be considered to study limitations on noise during performance on cognitive tasks.

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**SOCIOLOGY**

**Session Chair:** Dean Braa

**Session Title:** Research and Praxis in Sociology

**Location:** Humanities and Social Sciences (HS)

**Presentations**

8:30 - 9:00 a.m., HS 235

**Faculty Presenters:** Dean Braa, Maureen Dolan, Peter Callero

**Title:** Introduction to WOU Sociology

9:00 - 9:15 a.m., HS 235

**Nicole Shelton**

*Faculty Sponsor:* Dean Braa

**Title:** The Unique Characteristics of Rural Poverty in Oregon

**Abstract:** Our nation has experienced a permanent restructuring of the economy. We have undergone a shift from an economy dominated by manufacturing to one dominated by the service sector. The decline of jobs can be felt in central cities and rural areas. This study aims to explore the causes and forms of rural poverty. Often times rural areas lack economic diversity and rely on a limited number of industries. Many rural regions in Oregon rely on natural resource industries such as agriculture and timber. This can result in limited job advancement and makes rural employment more vulnerable to market forces and industrial restructuring. One of the goals of this research is to explore how global forces affect the unique characteristics of rural poverty in Oregon.

9:15 - 9:30 a.m., HS 235

**Heather Peasley**

*Faculty Sponsor:* Maureen Dolan

**Title:** From Grassroots to Legal Reform: A Social Movement against Sexual Assault

**Abstract:** This is a case study analysis of how the Marion County Victim Assistance program has served as a grassroots/social movement that advocates for legal reform and social consciousness in confronting the crime of sexual assault. The methodology includes interviews of (4) Marion County District Attorney’s and (4) Victim Assistance advocates in order to establish an understanding of the institutional changes, and the consciousness of legal professionals and advocates. Also included are (89) surveys of Western Oregon University students from (3) distinct classroom settings in order to provide a measure of the social consciousness of the issues among college educated youth.

9:30 - 9:45 a.m., HS 235

**Title:** Discussion on Student Research Papers

9:45 - 10:00 a.m., HS 235

**Laura Brown**

*Faculty Sponsor:* Peter Callero

**Title:** Hegemony, Dissent, and the Corporate Media: A Critical Examination of Media Discourse on Trade Liberalization

**Abstract:** This study applies Edward S. Herman and Noam Chomsky’s ‘propaganda model’ (PM) to the New York Times coverage of the debate leading up to the passage of NAFTA and CAFTA. The research asks whether the media discourse reflected the interests of political and economic elites, and if the presentation of the coverage was hegemonic. In addition, this study tests the flexibility of the PM by assessing if, or how, the media discourse dealt with growing dissent on these types of trade agreements.

9:45 - 10:00 a.m., HS 235

**Jennifer Zimmerman**

*Faculty Sponsor:* Dean Braa

**Title:** Gender Bias in the Diagnosis of Depression

**Abstract:** A consistent finding throughout the research on depression is the higher prevalence of certain forms among women. This suggests a possible gender bias in the diagnosis of depression. Different theories have developed across different disciplines to try to explain these unequal depression rates. This study will first provide a brief overview of the major biological, psychological and social theories on this topic. Qualitative data collected through in-depth interviews with mental health professionals/educators and females diagnosed with depression, has been collected as a means of provisionally identifying gender bias in the process of diagnosis. Special attention is given to the instruments used to diagnose depression, the presentation of male and female symptoms, and the gender differences in patient load.
10:15 - 10:30 a.m., HS 235  
Title: Discussion on Student Research Papers

10:30 - 10:45 a.m., HS 235  
Tiffani McCoy  
Faculty Sponsor: Dean Braa  
Title: Contradictions in Oregon Business Tax Incentives and Economic Development  
Abstract: A growing number of Oregon corporations have been paying the minimum state tax of ten dollars set in 1931. In the last two decades Oregon has experienced several economic recessions, coupled with periods of high unemployment. In response, the State of Oregon implemented several forms of business tax incentives and earmarks which had the goal of attracting and retaining corporate investment. In fact, these neoliberal incentives were promoted as the necessary means of promoting economic growth. Unfortunately, many of the recipient corporations have implemented downsizing and outsourcing of jobs which has helped to deindustrialize the Oregon economy. This study will document this growing contradiction.

10:45 - 11:00 a.m., HS 235  
Elizabeth Miller  
Faculty Sponsor: Peter Callero  
Title: Social Class in Child Rearing and the School System  
Abstract: Prior research has shown a link between a child’s social class and their achievement level. This study asks whether or not there is a teacher bias against students from poor and working class families. Data was collected using participant observation and a survey of teachers in an elementary school. The findings are consistent with prior research in that there is a bias against students from a poor and working class families and that there is a negative correlation to the child’s achievement level in the classroom.

11:00 - 11:15 a.m., HS 235  
Title: Discussion on Student Research Papers

11:15 - 11:30 a.m., HS 235  
Faculty Presenter: Peter Callero  
Title: The Struggle for Identity in a Time of Globalization

11:15 - 11:30 a.m., HS 235  
Faculty Presenter: Maureen Dolan  
Title: New Directions in the Latino Mentor Program

9:00 - 9:30 a.m., WC Calapooia Room  
Jennifer Ezzell  
Faculty Sponsor: Elisa Maroney  
Title: Posting Assignments to the Web  
Abstract: Technology is expanding all walks of life, including Interpreting. One way I have found to keep track of all my work and videos needed for the ASL/English interpreting program was to post my work onto my school website. This presentation will show how to save documents and video to your personal school website. I will describe how to save the video to your computer and then post it to the website. I will also show how to access the school computers from home so that you do not have to be on campus to create the site.

9:30 - 10:00 a.m., WC Calapooia Room  
Audrey Ramirez-Loudenback  
Faculty Sponsor: Elisa Maroney  
Title: Adding Technology to an Interpreting Student’s Tool-Belt  
Abstract: Combining technology, creativity and professional development: Using my WOU Web site, Dreamweaver and Flash I was able to submit my course work in the form of images, videos and documents electronically, in an easy to use format. This also included a term long translation project, in which anyone can view my progress in each phase of this project. Creating a webpage gave me the opportunity to view myself as an emerging professional within this field and to utilize some of my creative and artistic skills.

10:00 - 10:30 a.m., WC Calapooia Room  
Crystal Burford  
Faculty Sponsor: Elisa Maroney  
Title: Translation Project Process and Results  
Abstract: This presentation will show the process of coming up with translations of an English source into ASL and an ASL source into English. I will show the thought process in preparation of the translation, as well as the different steps and drafts that led to the final translation. The translation process will show the ways that we transferred the meaning of the original sources into the target language - including dealing with the use of idiomatic language use in the source language.
Elizabeth Bowling  
*Faculty Sponsor:* Elisa Maroney  
**Title:** Life, Growth, & Service in Community  
**Abstract:** In 2007, I joined the WOU Amnesty International Club for a service-learning project. Through my service, I learned to be active in making the relationships and functions of community flow smoothly and become stronger, which involves being intentional, disciplined, and committed. I realized the value of listening to others’ ideas and of sharing my own, thus partnering together. These are valuable lessons to me as a student and as a future professional. I am continuing to serve today because I want to keep learning and because I believe it is important to be committed to actively participate in my communities.

Melody Wilson  
*Faculty Sponsor:* Elisa Maroney  
**Title:** Self Care for Interpreters  
**Abstract:** Maintaining a balanced lifestyle is a desirable and necessary goal to support individuals working as professional interpreters. A balanced lifestyle is complex, marked by choices composed of many daily decisions including proper nutrition choices, making time in your schedule for exercise, utilizing stress management tools for a healthy mental and emotional state, and interactions with colleagues who are part of your support system. As the interpreter prepares for their assignments each day, allowing time and attention to one’s self care will enhance and support their overall health and professional success.

Robyn Dalke  
*Faculty Sponsor:* Elisa Maroney  
**Title:** Gendered Language Use: An Important Aspect of Interpreting  
**Abstract:** In this poster session you will see how gender can influence an interpreter’s sign and word choice during an interpretation. Different gender’s use of fillers, vulgar language, and lack of, or use of politeness, will be discussed as well. Once gender differences are identified, interpreters can then apply this knowledge to their work; creating a more equivalent interpretation.

Emily Cardoza  
*Faculty Sponsor:* Michele Price  
**Title:** Contradas of Experience: My International Education  
**Abstract:** During spring term 2007, I studied abroad in Siena, Italy. Using photographs and passages from my study abroad capstone project, I will highlight outstanding moments and demonstrate how my study abroad experience was truly life changing. I am particularly excited to share how my new perspectives have caused me to look at the world differently and how that will help me as a social studies educator.
Presentations

9:00 - 9:15 a.m., ED 217
Angela Halsne
Faculty Sponsor: Linda Cress
Title: Teaching Ecosystems in an Interactive Setting
Abstract: Ecosystems and differing habitats exist all around us. In a third grade classroom this concept can be difficult to comprehend unless they experience it first hand. Students were given the opportunity to graph information, simulate natural occurrences through engaging activities, and investigate their own playground for signs of life. This unit focuses on oceans, rainforests, ponds, grasslands, tundra, and deserts. At the elementary level these ecosystems are fascinating, especially when the students participate in their own discoveries. I will discuss and demonstrate some of these interactive approaches and hope to inspire ideas that are useful while working with students in the classroom.

9:20 - 9:35 a.m., ED 217
Adair Wolf
Faculty Sponsor: Linda Cress
Title: Earth in Space
Abstract: I will be presenting my term III work sample, which I created specifically for my 4th grade classroom. It involves hands-on inquiry lessons that make learning memorable.

9:40 - 10:00 a.m., ED 217
Jacinta Hyskell and Stephanie Gutierrez
Faculty Sponsors: Chloe Myers and Linda Cress
Title: Simple Machines
Abstract: This simple machines unit was design with the learning needs of English Language Learners of all language proficiency levels specifically in mind. Each lesson implemented ESOL methods and strategies to help make real life connections with academic language and allow for a hands-on learning experience. Along with the needs of ELs, learning strategies and integration of the multiple intelligences were implemented to ensure a learning connection for all students. To further the connection literacy was integrated throughout the unit in the form of science journals. Students preformed tasks then wrote in journals about investigations and personal learning experiences from that day.

10:05 - 10:30 a.m., ED 217
Jeff Roberts, Claire Carpenter, Sarah Krebs, Stephanie Phillips and Byron Bethards
Faculty Sponsor: Brynn Carter
Title: After School Programs
Abstract: Our Presentation is on the benefits of having after school programs (ASP). We have statics and skits to show the differences of being in an ASP. We show how children can progress their skills in a creative environment and how children use their skills in the wrong manner. At the end, we have a song that we perform about a girl in an ASP.

10:35 - 10:50 a.m., ED 217
Jennifer Schulze
Faculty Sponsor: Sue Dauer
Title: The Impact of a Critical Literacy Study in First Grade
Abstract: A friend once said that certain events can change the way we see things in the same way that the patterns of color and light are changed in a kaleidoscope. If you look through one and give it a little tap, things will look completely different. This project has been a kaleidoscope tapping experience for me. My original question about whether participating in a critical literacy study would enhance my student’s engagement with text seems miniscule compared to the growth that I experienced as a teacher throughout the project. When I look through the kaleidoscope of my classroom now, my view has been tapped. I’m seeing things in a completely different way.

1:00 - 1:15 p.m., ED 217
Rehab Hassan Alfakih
Faculty Sponsor: Denvy Saxowsky
Title: Culture and Emotion
Abstract: Emotions are a part of human nature and all cultures on the earth have a similar set of basic emotions. However, each culture has a unique way of expressing emotions and the emotions shown in a particular culture reflects the norms, values, practices, and language of that culture. All people of different cultures must learn to deal with different emotions in different cultures. While many of international students study in the Unites States universities, they do not take any classes about dealing with another culture’s emotions. As a result, international students in the United States universities have some difficulties dealing with other culture’s emotions because they do not have a good understanding about the difference in cultural emotions.

1:20 - 1:35 p.m., ED 217
Ismaiel Almuhaithief
Faculty Sponsor: Denvy Saxowsky
Title: Changes in Organizational Culture in Initiatives: Implementing Sociotechnical Systems to Manage Knowledge
Abstract: Managing knowledge in organizations became a crucial factor for success, especially in initiatives or new organizations. This is a result of the rapid growth of data, information and human experience. Technology habitually
Abstract

Second and Third Grade Classroom

Small group work, in girls build math confidence and understanding in a mixed action research study focuses on developing strategies to help express dislike or a sense that they are “bad at math.”

More alarming is the early age that girls begin to display negative attitudes towards math and exhibit wavering confidence and understanding. More alarming is the early age that girls begin to express dislike or a sense that they are “bad at math.” This action research study focuses on developing strategies to help girls build math confidence and understanding in a mixed second and third grade classroom. Small group work, increased math work periods, pre-exposure to material covered in whole group settings and concentration on basic number sense, influenced a dramatic change in their math attitude and confidence.

2:40 - 2:55 p.m., ED 217
Fran Hossfeld
Faculty Sponsor: Mark Girod

Title: Assessing to Support Student Growth and Effort in a K/1 Classroom

Abstract: Most teachers strive to get their students to do their best work and to be self-motivated, and as a K-1 teacher, I am no exception. Students are often unaware of the progress or lack of progress they have made over time because assessing is normally left to the teachers alone. Over the past six months, I have encouraged my 17 K-1 students to become aware of their academic growth and motivated to do their best work by facilitating student self-assessment, providing students with exemplars and individualized goals. Students have felt pride in meeting their individual goals and have become confident in the work they turn in without needing teacher approval. They have learned to work with a specific goal in mind and check to see that they have met that goal before saying, “I’m done!” The results of my action research show that students as young as five to seven years old can do their best work and be self-motivated when teachers share assessment goals and outcomes with their students.

3:00 - 3:15 p.m., ED 217
Laurel Glasmire
Faculty Sponsor: Mark Girod

Title: Self-Reliance in Mathematical Problem Solving in a Second and Third Grade Classroom

Abstract: In teaching at Arbor School, I noticed a lack of self-reliance in my second and third grade mathematics classroom. In response to this situation I modeled, and the students practiced, problem solving strategies to which they could turn when confused. By making self-reliance a buzz word of the classroom and asking students to slow down their math process to identify their strategies, I noticed a change in student behavior. My students are able to produce more organized representations of their math thoughts, use classroom checklists and their own ingenuity when stuck, and enjoy doing a problem completely on their own.

2:20 - 2:35 p.m., ED 217
Jennifer Lowe
Faculty Sponsor: Mark Girod

Title: Building Better Conversations: Improving Mathematical Understanding and Confidence through Dialogue

Abstract: I wanted to improve mathematical understanding (and thereby confidence) in my 4th graders, but wondered if there was a better way than by playing high-anxiety games like “Around the World” or dull drilling on worksheets. Through practicing various aspects of conversation (not
interrupting, students keeping a tally of contributions they made, restating what was said, asking clarifying questions, students made great strides in learning to be better members of a dialogue, and each showed masterful and clear knowledge of geometry above and beyond 4th grade level expectations.

3:40 - 3:50 p.m., ED 217
Jennifer George  
Faculty Sponsor: Mary Scarlato  
Title: The Benefits of Using Direct Instruction in Reading  
Abstract: With seven-weeks of systematic and explicit Reading instruction, CH, a fourth grader with a Specific Learning Disability, made substantial gains in fluency, passage comprehension, and decoding. Direct instruction principles were applied to various Reading materials (i.e., Rewards: Multisyllabic Word Reading Strategies, Great Leaps, Next Step series stories, and teacher-designed sound and words lists). Daily one-minute reads of rehearsed passages with student-charting of correct words per minute resulted in CH’s progress from 99 to 138 correct words per minute (39% increase in seven weeks). Moreover, CH’s independent reading level advanced from Grade 2 to Grade 3 and his attitude and motivation toward reading increased dramatically.

3:55 - 4:10 p.m., ED 217  
Elizabeth Altenburg  
Faculty Sponsor: Mary Scarlato  
Title: Employing Direct Instruction in a Variety of Instructional Settings  
Abstract: Direct instruction was applied to teach a variety of skills across four distinct instructional settings over three months. H., a student with Autism, improved addition and subtraction skills by one grade level. J., a student with autism, language disability, and Attention-Deficit Hyperactivity Disorder improved from no reading, to decoding three letter words. S., a student with Greigg’s Syndrome, Autism, and mental retardation, went from refusing to have her teeth brushed, to brushing her teeth independently. A group of four students with learning disabilities each improved accuracy, fluency and comprehension by one grade level.

4:15 - 4:25 p.m., ED 217
Rozeanne Steckler  
Faculty Sponsor: Hank Bersani  
Title: Incidence Rates of Cerebral Palsy and the Correlation with Gestational Age and Birth Weight  
Abstract: The poster reviews seven current research articles on the incidence rate of CP especially in very-low-birth-weight and low-gestational age infants during the years 1972 to 2003. The results across the studies are examined for patterns in the incidence rate of CP over time and in the how birth weight and gestational age impact the risk of CP. The analysis shows that the incidence rate of CP is decreasing over time and that the use of prenatal steroids and surfactants has helped lower this rate while the use of antenatal steroids increases the risk of CP in preterm, low-birth-weight infants. A correlation is found in some of the studies between gestational age and risk of CP but no correlation is found between birth-weight and the risk of cerebral palsy.
5:30 - 5:45 p.m., ED 217

**Tara Stroup**  
*Faculty Sponsor: Tracy Smiles*

**Title:** Implementing Change in the Classroom: Small Steps  
**Abstract:** As teachers we all experience that feeling of tension when something isn’t working the way we’d like. However, implementing change can be an overwhelming endeavor. In this presentation I will discuss the process I went through in order to rethink and redesign one aspect of my literacy program. Through a survey of the available professional resources related to conferring with student writers, I created a plan for instruction and assessment that is both research based and practical for classroom use. This process is adaptable across content areas for those who are seeking change, one step at a time.

5:50 - 6:05 p.m., ED 217

**Heather Anderson**  
*Faculty Sponsor: Tracy Smiles*

**Title:** Language Use in Literature Circles  
**Abstract:** This presentation is about how students use language during literature circles in a diverse 2nd grade classroom. It examines ways to help students use a variety of language styles when discussing text. The project was carried out in the Dallas School District and offers teachers strategies that can be implemented in their own classroom to enhance student language learning. One key element to this presentation will be open discussion about changes I have made in the classroom and in my own teaching practices because of the research I conducted. The presentation emphasizes the importance of teachers as researchers.

6:10 - 6:25 p.m., ED 217

**Cindy Dauer**  
*Faculty Sponsor: Mark Girod*

**Title:** Evaluating the Effectiveness of the Learning Cycle  
**Abstract:** What is the learning cycle and should I use it in my classroom? I was confronted with this question when I entered the field of science education. The learning cycle was everywhere from dozens of periodicals to curriculum materials produced by Bill Nye. I had to know why so many people were championing the learning cycle as an effective model for science instruction. So I designed a study to investigate whether using the learning cycle effected student understanding and achievement in science. I found that the learning cycle does have a place in science education, a limited one.

6:30 - 6:45 p.m., ED 217

**Cynthia Villwock**  
*Faculty Sponsor: Mary Bucy*

**Title:** C.S.I. Chemeketa Style: Development of a High School Science Camp  
**Abstract:** This presentation details the background, development, implementation and future plans for “C.S.I. Chemeketa Style.” C.S.I. Chemeketa Style is a science camp for high school students that introduces students to applications of the sciences. Capitalizing on the popularity of television shows such as C.S.I., the camp provides science instruction in a “case study” approach. Students are introduced to a “crime scene” that requires an application of chemistry, physics, geology, and life science experiments to determine “who-done-it.” Case study information is presented as a “police debriefing” each morning with students acting as fellow investigators. Unlike most “crime scene” experiences, one of the students in attendance is the “guilty party.”
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