# Western Oregon University Digital Commons@WOU

Academic Excellence Showcase Proceedings

Student Scholarship

2009-05-28

# 2009 Academic Excellence Showcase Proceedings

Western Oregon University

Follow this and additional works at: https://digitalcommons.wou.edu/aes

#### **Recommended Citation**

Western Oregon University, "2009 Academic Excellence Showcase Proceedings" (2009). *Academic Excellence Showcase Proceedings*. 4. https://digitalcommons.wou.edu/aes/4

This Article is brought to you for free and open access by the Student Scholarship at Digital Commons@WOU. It has been accepted for inclusion in Academic Excellence Showcase Proceedings by an authorized administrator of Digital Commons@WOU. For more information, please contact digitalcommons@wou.edu, kundas@mail.wou.edu, bakersc@mail.wou.edu.

# WESTERN OREGON UNIVERSITY

# ACADEMIC EXCELLENCE SHOWCASE

THURSDAY, MAY 28, 2009

Proceedings of the 2009 Academic Excellence Showcase

Sponsored by: The Honor Society of Phi Kappa Phi *and* The Program for Undergraduate Research Experiences

> WESTERN OREGON UNIVERSITY

# TABLE OF CONTENTS

Welcome2	
Phi Kappa Phi Keynote Address	;

## Academic Areas

Alternative Break6
Anthropology6-7
Art
Biology9
Business and Economics10
Chemistry10-11
Dance11-12
Earth Science12-19
Earth Science/Chemistry19-21
English21-22
Graduate School22
Health, Physical Education and Exercise Science23-25
Mathematics25-26

Model United Nations	27
Music	27
Philosophy	28
Political Science	
Psychology	
Sociology	40
Special Education	40-41
Study Abroad and International Exchanges	41
Teacher Education	
Teacher Education/English	44-45
Theatre	45-46

Index	
Acknowledgements	47
Presentation Schedule Guide	52
Campus Map	inside back cover

# WELCOME

A Message from Dr. John Minahan, President, <u>Western Or</u>egon University

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.

A Message from Dr. Kent Neely, Provost and Vice President, Academic Affairs, Western Oregon University

A fundamental part of being a vital university faculty member is to participate in intellectual discourse, the sharing of knowledge. Faculty members engage in intellectual discourse in a variety of ways beyond teaching their classes. They conduct experiments, write critical commentary about others' writings, create original works of art and musical compositions and then share their thoughts by publishing their findings or by making presentations at conferences, symposia, festivals and concerts. As they participate in intellectual discourse, they broaden the realm of human knowledge and thereby provide us a better understanding of the world in which we live.

The Academic Excellence Showcase introduces Western Oregon University students to the honored tradition of intellectual discourse. The Showcase allows them to learn that it is a fundamental part of education and of culture. They share their knowledge, gained through research and creative activity, with their peers and their faculty mentors in a public venue, an opportunity not given to undergraduate students at many universities. I am delighted that WOU, the Program for Undergraduate Research Experiences, and the Honor Society of Phi Kappa Phi have supported the Academic Excellence Showcase and that it has become a highly anticipated event each spring that enables intellectual discourse.

A Message from the Western Oregon University Chapter of the Honor Society of Phi Kappa Phi – co-sponsor of the 2009 Academic Excellence Showcase

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 approximately 30,000 students, faculty, professional staff and alumni. The Society has over 300 chapters ranging from Maine to the Philippines and from Alaska to Puerto Rico. 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.

A Message from the Western Oregon University Program for Undergraduate Research Experiences – co-sponsor of the 2009 Academic Excellence Showcase

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 numerous ways to help facilitate and enhance undergraduate research experiences at WOU. One recommendation—to facilitate greater participation by the entire campus in celebrating our students' accomplishments—resulted in Academic Excellence 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 has become a hallmark of the outstanding undergraduate experience offered at WOU.

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 cancel classes so students may attend the Showcase. Over 80 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, more than 350 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 2009 Academic Excellence Showcase. We hope you will join us in attending as many sessions as possible and congratulating students on their outstanding scholarship.

# THE HONOR SOCIETY OF PHI KAPPA PHI

#### The 2009 Phi Kappa Phi Initiation Ceremony Keynote Address

Speech given at the Phi Kappa Phi Induction Ceremony Western Oregon University, Werner University Center April 15, 2009, by Kent Neely, Ph.D.

Dr. Kent Neely, Western Oregon University's Provost and Vice President for Academic Affairs delivered the following keynote address during Phi Kappa Phi's 2009 initiation ceremony. Dr. Neely has graciously consented to include his speech in this year's Academic Excellence Showcase Proceedings. The Western Oregon University Chapter of The Honor Society of Phi Kappa Phi is pleased to provide Dr. Neely's inspirational message below.

#### The Love of Learning during Turbulent Times

I am very pleased to be here tonight and to have the opportunity to share some comments on the occasion of your induction. I extend my appreciation to the officers of WOU's chapter of Phi Kappa Phi: John Leadley, Rob Winningham, Jeanne Deane and particularly Bryan Dutton who extended the invitation to me to speak.

Tonight's ceremony is meant to recognize your achievement of excellence in academic pursuits. I found a poignant example that I thought could give us an unusual perspective on excellence. It's an answer provided on a freshman level world history test regarding the significance of ancient Greek culture on world history. That seems especially appropriate given that our organization takes its name from the Greek.

#### A Greek History Lesson

Without the Greeks we wouldn't have history. The Greeks invented three kinds of columns -- Corinthian, Doric, and Ironic. They also had myths. One myth says that the mother of Achilles dipped him in the river Stynx until he became intolerable. Achilles appears in the Iliad, by Homer. Homer also wrote the Oddity in which Penelope was the last hardship that Ulysses endured on his journey. Socrates was a famous Greek teacher who went around giving people advice. They killed him. Socrates died from an overdose of wedlock.<sup>1</sup>

Obviously, such an answer does not represent academic excellence but it does remind us that humor is alive in academia. Our purpose here tonight is obviously more serious. It is framed by the mission of Phi Kappa Phi which is:

# To recognize and promote academic excellence in all fields of higher education and to engage the community of scholars in service to others.<sup>2</sup>

I interpret that mission to mean we should encourage, enable and celebrate the life of the mind. I believe the mission is rooted in an assumption that life long learning improves us. That seems to be supported by the organization's motto: *Let the love of learning rule humanity.*<sup>3</sup>

Certainly those of us who make our living in the academy and many of you who have begun your college education are accustomed to revering individuals who have excelled in intellectual activities and who have instilled in us a love of learning. Those people have inspired us because they have challenged our assumptions and given us ideas that stimulate new thoughts of our own. Such people may have been teachers, religious leaders, parents, relatives, friends or even people in the public eye.

In my life that included Avery Milstead, my ninth grade science teacher. Mr. Milstead threatened the young women in the class with the "kiss of death." He would bring out a Wimhurst static electricity machine and ask a young woman to put her knuckle next to the extended electric pole while sparks jumped to her body and then invited any young man to kiss her - if he stood in a pan of water. Mr. Milstead also taught me the scientific method, what a hypothesis and theory are, and, importantly, not to laugh at or dismiss things I did not understand.

I also have fond memories of Robert Barnard, my tenth grade world history teacher. He brought to life the tremendous events, people and places of the past. And he made me realize that people of different times, countries and cultures had made contributions equally important as those of contemporary times in the West. I was fortunate to see him two years ago on the occasion of my fortieth high school reunion. I was amazed he remembered me and the class I took from him but was not at all surprised that he still possessed a wonderful joy of learning.

And I recall Leonard Leone, my Ph.D. adviser. He had an indefatigable interest in theatre and an undying excitement about the future. He prodded me to reach further than I thought I could and to excel beyond my initial goals. Four years ago, I was fortunate to attend Professor Leone's ninetieth birthday party. He came to the podium unassisted and gave a twenty minute speech – without notes. He continued to inspire those who worked for him and those who were his students.

Hopefully each of you has had a similar person or persons in your life.

But we are now in turbulent times. The Phi Kappa Phi motto, "Let the love of learning rule humanity," may have a different ring to it. In times like these, we are challenged in ways that may be completely foreign to us. We may have had inspirational role models but our love of learning may be dimmed. Living and learning in a time of war or economic strife can shake your sense of stability and belief in things that would normally not be questioned.

The news events of recent weeks are unsettling: suicide bombings in Baghdad, more troops needed in Afghanistan, five million unemployed and major corporations on the verge of bankruptcy. These make me recall William Butler Yeats' poem, "The Second Coming," written in 1922, four years after World War One and two years after the fall of the Ottoman Empire. You likely have read it:

Turning and turning in the widening gyre The falcon cannot hear the falconer; Things fall apart; the centre cannot hold; Mere anarchy is loosed upon the world, The blood-dimmed tide is loosed, and everywhere The ceremony of innocence is drowned; The best lack all conviction, while the worst Are full of passionate intensity.

Surely some revelation is at hand; Surely the Second Coming is at hand.

The Second Coming! Hardly are those words out When a vast image out of Spiritus Mundi Troubles my sight: somewhere in sands of the desert A shape with lion body and the head of a man, A gaze blank and pitiless as the sun, Is moving its slow thighs, while all about it Reel shadows of the indignant desert birds. The darkness drops again; but now I know That twenty centuries of stony sleep Were vexed to nightmare by a rocking cradle, And what rough beast, its hour come round at last, Slouches towards Bethlehem to be born?<sup>4</sup>

Yeats' poem captures the fear and uncertainty that many of us feel now - 87 years after he wrote it.

The current wars in Iraq and Afghanistan have aroused international, passionate debate about their justification and necessity. Governing bodies around the world have argued the necessity for discourse – diplomacy rather than force, learning rather than assumption. Some have suggested that having discourse and diplomacy is the difference between civility and brutality.

The world economy is in crisis, the worst since the Great Depression. Outside Sacramento, California, a tent city has appeared where homeless families have congregated trying to survive. Unfortunately this scene is being repeated across the country.

I wish to underscore that in turbulent times like these, our beliefs, our pursuits and our values are challenged in unexpected ways. Indeed, it brings the Phi Kappa Phi motto under scrutiny – how do we "let the love of learning rule humanity?" How do we love learning in turbulent times?

Can we be inspired to enrich the life of the mind despite world events? Do we work to excel in educational pursuits when the future is filled with so many doubts?

I submit that it is precisely the time that we look for such inspiration and redouble our efforts to "let the love of learning rule humanity." It may be that only learning and discourse will endure as answers to conflict, economic crisis and uncertainty.

Earlier I suggested that we all have encountered individuals who have inspired us by challenging our presumptions and stimulating new ideas of our own. War, like that in Afghanistan and Iraq, presents the greatest challenge to find such individuals who can motivate us to continue that quest – to "let the love of learning rule humanity." I want to tell you of one such individual – Terry Waite.<sup>5</sup>

Terry Waite worked for the Archbishop of Canterbury, within the Church of England. He had begun serving in the Church Army when he washed out of the regular army after being found allergic to the uniform. The Church Army is a society of the Church of England devoted to social and mission work. Waite would continue to serve in that capacity until 1980 when he joined the Archbishop in Lambeth Palace. He would become the Archbishop's Special Envoy.

Waite's Church Army service took him around the world. He worked in Pakistan, the Philippines, India, Botswana, Ghana, Uganda, Kenya and South Africa. Waite's fame came in the 1980s when, as Special Envoy, he took on a new responsibility – that of hostage negotiator.

Then, as now, the Middle East was in turmoil. Much of it was between Arab nations and Israel but Western interests, particularly the United States and Britain, were also involved. In 1981 Waite first negotiated the release of hostages who were in service of the Church of England and held by the Iranian revolutionary government. Two years later he successfully negotiated release of other British hostages held by Libyan leader, Colonel Muammar Gaddafi. In the 1980s, the Middle East, and Lebanon in particular, had taken center stage with respect to hostage-taking by terrorists. The International Committee of The Red Cross estimated that 6,000 Lebanese had been kidnapped or had disappeared from 1975 to 1987.<sup>6</sup> The kidnapping of Western civilians gained international attention with the case of David Dodge, the acting president of the American University of Beirut. He was abducted by suspected Shiite militia members in 1982 and freed in 1983.<sup>7</sup>

By late 1987, 23 foreigners were suspected to be held as hostages in Lebanon. These included journalists, diplomats and university administrators and teachers. Included in this group was Terry Anderson, the chief Middle East correspondent for the Associated Press, who was taken hostage on March 16, 1985, and had been held in captivity for over two years as had five other Western civilians.<sup>8</sup> It was kidnappings like these that brought Terry Waite to Lebanon in 1987 to work for the release of Terry Anderson, Father Lawrence Jenco, David Jacobson, John McCarthy and Tom Sutherland, all who had been captured in 1985 and 1986.

Waite's involvement was oddly tied to a complex scheme called the Iran-Contra affair. Following a tip that America might be able to assist his efforts, Waite contacted an operative of the Reagan Administration's National Security Council. He was Marine Lt. Col. Oliver North. North had shown great interest in facilitating the release of the Lebanese hostages. What Waite did not know was that North had been working secretly to establish ties with Iran and to sell them arms for their war with Iraq. The profits would then be used to fund revolutionaries in Nicaragua that the Reagan administration wished to support. North and Waite both knew that the hostages in Lebanon were being held by pro-Iranian groups, groups that would yield to Iranian directives.

Waite did not know that North was selling arms to the Iranians or, in effect, giving ransom to the country aligned with the kidnappers. Waite also did not know that the kidnappers gained knowledge of his contacts with North and suspected him of being a spy for the American military.

That fact was perhaps the most fundamental reason that on the evening of Jan. 20, 1987, Terry Waite agreed to go alone with Islamic Jihad fundamentalists believing that he would make contact with the hostages and begin negotiations for their release. Instead, he became a hostage himself and he would be imprisoned for the next 1763 days – nearly five years.

Mr. Waite recounts his imprisonment in his book *Taken on Trust*, which I relied upon for many facts in my speech, and I can heartily recommend it to you.<sup>9</sup>

His experience was not unlike others who were held hostage. It was extraordinarily disorienting and frightening. He was blindfolded when he was first imprisoned and not allowed to see where he was taken. When he finally was allowed to see his surroundings, he found himself in a room that was tiled from floor to ceiling. He had heard rumors of these rooms that were used as torture chambers because they could be scrubbed clean of blood after acts of torture took place.

During the 1763 days of his imprisonment, Mr. Waite was shackled by his feet, given very little time for exercise and most of the time kept in rooms that lacked any natural light or fresh air. He experienced physical torture – like having the soles of his bare feet beaten with steel cable. He experienced a mock execution. His captors told him he would die one day and gave him materials to write his family and the Archbishop – a gun was placed to his head and then, at the last moment, he was given a reprieve. His diet was erratic. He contracted various infections. His breathing was severely impaired at one point due to prolonged exposure to a generator's exhaust fumes. He was often cold or hot because of inadequate heating or ventilation. He had dental problems and he lost a great deal of weight. But the most excessive injustice brought upon this envoy of peace was that he was kept in solitary confinement virtually the entire time of his imprisonment. His only contact with other human beings came during the time when he was brought food or when he was allowed to go to the toilet. And that interaction included only the most rudimentary conversation.<sup>10</sup>

Mr. Waite had made three promises to himself upon his capture: he would allow himself no regrets, no sentimentality and no self pity.<sup>11</sup> Yet, as strong as his will was, many times he felt on the verge of insanity. His situation was brutal to say the very least. I suggest to you that he was tested in a way that few, if any of us, will ever experience.

I have asked myself: how could he find a sense of hope? Certainly his strong faith bolstered him. But even his steadfast religious beliefs could not fully resolve what was happening to him mentally – he experienced a true threat to the life of his mind. There was no opportunity for learning or for intellectual engagement that could keep his mind active.

Yet he prevailed. From early in his imprisonment he craved books. He craved the need to keep his mind exercised to keep alive the process of learning. For many, many months he had only isolation although he had pleaded for books to read. Then he was given a book, then later another. Let me share what he said about that experience:

At last another book, and what a book! I hold it in my hands and feel genuine happiness for the first time in weeks. The First Circle by Alexander Solzhenitsyn. After weeks of pleading, hoping, waiting, I have a book, and one I have always wanted to read. I examine it in detail: the date of publication, the publisher's blurb, the back cover. I count the number of words so that I know how long it will last me. I want to savor the book, to enter into the mind of the writer. Solzhenitsyn came to Lambeth Palace once: bearded, angular, marvelously individualistic. A sentence jumps out from the page: 'If one is forever cautious, can one remain a human being?' The words of Volodin, whose humanity sent him to the camps.

I can give you an answer to that, Innokenty Volodin. A clear, unequivocal, resounding 'no'. I have so wanted to be cautious, to play for safety, not to take risks, but something within has always nagged me to push forward. I can't possibly compare myself to the stalwart victims of the gulag, but I know what you say when you speak. I feel the iron in my soul. I am pierced by self-doubt, I am a fool, but I desire life, freedom, justice, truth. I want them passionately, but they terrify me with their absolute demands. I can't imagine a better book for the moment. The light bulb flickers and goes out. I light my stub of candle, pick up my magnifying glass, and begin to read.

'I have sought for rest everywhere, but I have found it nowhere except in a corner with a book.' So, rather surprisingly, wrote Thomas a Kempis in an autobiographical note. Today that experience has been mine. I have been able to leave my own life, travel with others, listen to their conversations, share their sorrows. Today I have experienced the beauty and peace of solitude. No extra visits from the guards, no shelling outside, just a candle, a book, and my imagination.<sup>12</sup> Terry Waite had experienced the most difficult of times and still loved learning. His very form of punishment, solitary confinement, could be transformed into sanctuary when he was able to engage in intellectual activity.

He was given more books as his captors finally relented in supplying him an odd collection obtained from unknown sources. He was given romances, westerns, novels by P. G. Wodehouse, Dorothy Sayers, Dostoevsky's *The Brothers Karamazov*, various sections of encyclopedia and all were gratefully accepted and read.

In his final year of captivity, he was relocated to discover that other prisoners were housed in an adjacent room – and through secret tapping upon the walls, he learned that his fellow prisoners were some of the very men he had hoped to free in 1987 – Terry Anderson, Tom Sutherland and John McCarthy. Finally, he was allowed to join them in the same room, to speak freely and to reacquaint himself with his fellow human beings.

Terry Waite was released from Lebanon Nov. 18, 1991, nearly five years since his capture. After a period of recovery, Mr. Waite wrote *Taken on Trust*.

It was my good fortune to meet Mr. Waite and to hear his experiences first hand. I can still remember my first sight of him as I greeted him in the airport - a man of 6'7" carrying a valise filled to bursting with books. His character is immeasurably good – his intellect exceptionally deep and his humor unfettered by his past. He remains one of those individuals who has inspired me to love learning – even in turbulent times – and to take heart in the ideal expressed through the Phi Kappa Phi motto: "Let the love of learning rule humanity."

#### (Endnotes)

<sup>1</sup> Lederer, Richard. St. Paul's School. "The World According to Student Bloopers." Widely circulated on the internet, this quote is thought to have originated with Lederer in 1987. For comments on its origin see: "Student Bloopers," <u>Snopes.</u> <u>com.</u> 3 April 2009. <<u>http://www.snopes.com/humor/lists/</u> student.asp>.

<sup>2</sup> "Mission and History," The Honor Society of Phi Kappa Phi. 3 April 2009. <http://www.phikappaphi.org/Web/ AboutPKP/missionhistory.html>.

<sup>3</sup> "Mission and History." 3 April 2009.

<sup>4</sup> Pethica, James and William Butler Yeats. <u>Yeats's Poetry</u>. <u>Drama and Prose</u>. New York: W. W. Norton & Company, 2000. 76.

<sup>5</sup> Waite, Terry. <u>Taken on Trust.</u> New York: Harcourt Brace & Company, 1993. Facts about and references to Waite in this speech are taken from this book unless otherwise noted.
 <sup>6</sup> Research Division, Federal. <u>Lebanon a Country Study.</u> Kessinger Publishing LLC, 2004. 249.

<sup>7</sup> Fox, Margalit. "David Dodge, an Early Lebanon Hostage, Dies at 86." 31 January 2009. <u>New York Times.</u> 3 April 2009. <a href="http://www.nytimes.com/2009/01/31/world/middleeast/31dodge.html">http://www.nytimes.com/2009/01/31/world/middleeast/31dodge.html</a>.

<sup>8</sup> Lebanon a Country Study. 249.

9 Waite. Taken on Trust.

<sup>10</sup> Waite, Terry. Public Speech. Boise State University, Boise, Idaho, 10 April 2001.

<sup>11</sup> Waite. Taken on Trust. 8.

<sup>12</sup> Waite. <u>Taken on Trust.</u> 204.

# **ALTERNATIVE BREAK**

Session chair: Tina Trinh

Session title: Alternative Break, Doing Something to Make a Difference During Break (Seattle 2008, San Diego 2009, Texas 2009, Denver 2009)

Location: Werner University Center (WUC)

#### Presentations

3 – 3:30 p.m., WUC Santiam Room **Samantha Goodwin** *Faculty sponsor:* Tina Trinh

#### Title: Toy N' Joy Drive

*Abstract:* The presentation will show and explain the work completed by the WOU team in Seattle. The team worked with the Salvation Army's Toy N' Joy drive sorting, unpacking, and distributing toys across Seattle. We also got the chance to volunteer at one of the elementary schools and interact with students who needed help reading. Some teachers invited us to talk about college life.

3:35 – 4:05 p.m., WUC Santiam Room **Ekaette Udosenata** 

Faculty sponsor: Tina Trinh

Title: Hurricane Ike

*Abstract:* Hurricane Ike left the people of Galveston, Texas, devastated and hopeless. The island of Galveston was about 12 feet underwater. The city was able to safely evacuate many of its citizens; nonetheless, many more refuse to be evacuated. The Alternative Break program sent students and staff members to aid the victims of this natural disaster. We were shocked to see after six months, many neighborhoods appeared as though the storm had just hit the day before. Personal belongings of the prior occupants were discarded outside. The team helped in cleaning up and rebuilding the community.

4:10 – 4:40 p.m., WUC Santiam Room Julie Rementeria Faculty sponsor: Tina Trinh

Title: The Storefront San Diego

*Abstract:* The San Diego Alternative Break team went to San Diego to work with an emergency shelter called The Storefront that serves homeless, runaway, or endangered youth ages 12 to 17. The team planned safe and fun activities for the youth to do all week, and they also deep-cleaned The Storefront. The San Diego team was made up of two student leaders, seven student team members, and two faculty advisers. Learn about their experience! 4:45 – 5:15 p.m., WUC Santiam Room Jennifer Mill Faculty sponsor: Tina Trinh

*Title:* Food for the Rockies

*Abstract:* For spring break, a team of students and staff traveled through the snow to volunteer with the Food Bank of the Rockies. The food bank provides food to over 1,000 hunger-relief programs in Northern Colorado and Wyoming. Last year the food bank distributed 22 million pounds of food, which equals 47,000 meals each day that feeds people in need. The team assisted with a variety of tasks to help the food bank distribute food to the areas of need.

# ANTHROPOLOGY

Session chair: Robin Smith Session title: Anthropology Symposium Location: Werner University Center (WUC)

1 – 1:30 p.m., WUC Calapooia Room Samantha J. Dunkel

Faculty sponsor: Isidore Lobnibe

*Title:* Religion versus Evolution: American Museum Representation of Two Ideologies

*Abstract:* Ever since Darwin (1859), scholars have debated the (un)scientific basis of evolutionary theory and the (ir)relevance of creationism. The ideologically charged US debate has generated a large body of literature and public discourse. Some states have banned the teaching of creationism in public school, compelling museums to join the debate. My project addresses the role museums play, examining the ways creationists and evolutionists represent their respective positions in two regional museums. I employ interviews with museum staff and patrons, personal observations, and analysis of secondary sources to better understand how museums offer alternative educational sites for different beliefs and ideologies.

1:30 – 2 p.m., WUC Calapooia Room **Noe Pizano** *Faculty sponsor:* William Smith

Title: Of Sand, Sun, and Sangre: Oral Histories and the Border

*Abstract:* Recently, the U.S. has enacted policies directed at securing its borders against terrorists, undocumented immigrants, and diseases. Historic events, policy making, and governmental institutions have dynamically changed the border to a place of exclusion and inclusion. There remains a void in anthropological discourse concerning how this aspect of the border has directly affected immigrants and their decision-making processes. My project involves the collection of Mexican immigrant oral histories, which will give policy makers and those affected by their policies a better idea of identities, immediate needs, and other factors directly influencing the lives of the informants.

## 2 – 2:30 p.m., WUC Calapooia Room Ashley Sexton

Faculty sponsor: William Smith

*Title:* Teenage Pregnancy on the Rise: Seeking an Explanation to a Rural Town's Predicament

*Abstract:* The United States teen pregnancy rates are significantly higher compared to other developed nations; nearly five times higher than Germany's and four times higher than France's. This study will examine the causes behind the high rate of teen pregnancies within the rural town of Willamina, Ore. The occurrence of this crisis, I hypothesize, is linked to a lack of sex education and available contraceptives. In order to address this issue the school system and community need to implement a program which will educate the teens on the consequences of sex in addition to making contraceptive options available to the teens.

#### 2:30 – 3 p.m., WUC Calapooia Room Katherine Tremont

Faculty sponsor: Robin Smith

*Title:* Land Use and Early Urbanization: A Cultural-ecological Investigation of Ancient Mycenae

*Abstract:* This proposed research project seeks to investigate paleoenvironmental land use in ancient Mycenae, focusing on how the rise of Mycenaean urbanization, resource use, and trade impacted the ecology of ancient Greece. I plan to conduct this research by drawing on data from an archaeological field school in Pylos, Greece, where a Mycenaean regional urban center is being excavated at a site called Iklaina. The data found here, as well as information from secondary sources on both the Mycenaeans and cultural ecology, will be interpreted to examine the ways in which human activities within the Iklaina area influenced environmental change.

3 – 3:30 p.m., WUC Calapooia Room Lisa Catto

Faculty sponsor: Robin Smith

*Title:* Dimensions of Nonelite Rural Romans in Southern Italy: Excavating the Roman Imperial Site of Vagnari in Gravina in Puglia

*Abstract:* This project examines the lifes of rural Romans in southern Italy during the second and third centuries A.D. Research was conducted through a five-week bioarchaeological field school in July 2008, which excavated a portion of a Roman cemetery called Vagnari. This was part of the Roman town called Silvium, modern day Gravina in Puglia. The human remains and grave goods excavated are being examined in order to try and reconstruct the lives of this past population. 3:30 – 4 p.m., WUC Calapooia Room Joy Charron

*Faculty sponsor:* Robin Smith

*Title:* The Working Child: Textile Factories, Child Labor & American Corporation Involvement

*Abstract:* Using information gathered from the Thomas Kay Woolen Mill and archival sources, I designed and executed an exhibit on how child labor has changed throughout history in American textile factories and how American corporations are connected to the issue today. The exhibit itself is a means to present the issue of child labor to those who view it and also an example of how to give the issue exposure and educate the public. Views on child labor have shifted between the rise of the textile industry and industrialization and the present day.

4 - 4:30 p.m., WUC Calapooia Room

Mat Davila

Faculty sponsor: Robin Smith

*Title:* Uncovering New Philadelphia: Blacksmithing Technology of the Mid 19th Century

*Abstract:* An archaeological study of a blacksmith shop refuse pile uncovered in 2006 at the New Philadelphia, Ill. townsite. This study investigates the artifacts resulting from the preliminary excavation of the blacksmith shop at New Philadelphia through the use of documentary and ethnoarchaeological data. It is the goal of this project to illustrate with greater depth, the technology and behavior that created the artifacts in the refuse pile, as an effort to aid further excavation.

#### 4:30 – 5 p.m., WUC Calapooia Room Mary Wright

Faculty sponsor: William Smith

*Title:* Rescuing 911: Adrift in a Sea of Stress, Staffing and Conflicting Identities

*Abstract:* Across the United States, 911 emergency call centers are confronted with myriad problems including chronic understaffing and difficulty retaining qualified personnel. Stress from exposure to critical incidents or excessive overtime is often presumed as the cause for employee burnout. However, this paper argues that within routine calls are hidden conflict zones within which public safety communicators struggle with amorphous and conflicting identities. This paper examines the identity switches occurring during actual calls from the different groups using emergency dispatch services through sociolinguistic analysis of different language registers and patterns of thought.

# ART

Session chair: Jodie Raborn Session title: Professional Concerns **Portfolio Presentations** Location: Campbell Hall (CH)

#### **Presentations**



8:30 - 8:45 a.m., CH 101 Sarah Schultz Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



8:45 - 9 a.m., CH 101 **Becky Cook** Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



9 – 9:15 a.m., CH 101 Jin Chen Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation





10:15 – 10:30 a.m., CH 101 **Katie Stobie** Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation

10:30 - 10:45 a.m., CH 101 **Kattie Probst** Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



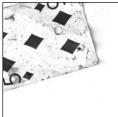
10:45 - 11 a.m., CH 101 Meghan Bansen Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation





11 – 11:15 a.m., CH 101 Sarah Harmon Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation

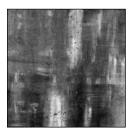
11:15 - 11:30 a.m., CH 101 **Christian Rogers** Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation Recipient: Art Academic Excellence Award



9:15 – 9:30 a.m., CH 101 **Jacob Severson** Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



9:30 - 9:45 a.m., CH 101 Tara Houglum Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



10 – 10:15 a.m., CH 101 Tiffany Kehl Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation





11:30 – 11:45 a.m., CH 101 **Jennifer Gimzewski** *Faculty sponsor:* Jodie Raborn *Title:* Art Portfolio Presentation Recipient: Art Academic Excellence Award



1:30 – 1:45 p.m., CH 101 Aeon Huang Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



12:30 – 12:45 p.m., CH 101 Christa Keim Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



1:45 – 2 p.m., CH 101 **Sadie Heintz**  *Faculty sponsor:* Jodie Raborn *Title:* Art Portfolio Presentation



12:45 – 1 p.m., CH 101 Joshann Schoen-Clark Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation



1 – 1:15 p.m., CH 101 **Haley Schopp**  *Faculty sponsor:* Jodie Raborn *Title:* Art Portfolio Presentation



1:15 – 1:30 p.m., CH 101 Jennifer Rodd Faculty sponsor: Jodie Raborn Title: Art Portfolio Presentation

# BIOLOGY

Session chair: Jeff Snyder Session title: Biology Research Posters Location: Werner University Center (WUC)

#### Poster

9:00 – 11 a.m., WUC Pacific Room Jessica Grabow and Scott Oeffner Faculty sponsor: Jeff Snyder

*Title:* Gender Differences in Age Specific Survivorship Between Rural and Urban Communities in Central Willamette Valley, Ore.

Abstract: We collected demographic data from 3,543 headstones (n=1,642 rural headstones, n=1,901 urban headstones) between urban and rural communities in the North Willamette Valley, Ore., hypothesizing no differences in survivorship between genders, and those born before and after 1900. Analysis revealed differences in (qx) between urban and rural males born both before and after 1900, but was the difference was less for males born after 1900. Most significant differences were found during mid-life survivorship. We conclude that significant industrial, sociological, and global events during the early 20th Century affected both community types equally.

# **BUSINESS AND ECONOMICS**

Session chair: Jennifer Yang Session title: A Marketing Plan for the Jensen Arctic Museum: Research to Recommendations Location: Natural Sciences (NS)

#### Presentation

9 – 9:30 a.m., NS 101 **Sam Thompson** *Faculty sponsor:* Jennifer Yang

*Title:* A Marketing Plan for the Jensen Arctic Museum: Research to Recommendations

*Abstract:* Nestled amid the numerous amenities of Western, the Paul Jensen Arctic Museum provides a unique opportunity to be immersed in the sights, sounds, culture and history of the Arctic. Unfortunately, the museum is largely a "hidden gem" to both the campus and surrounding community. To increase excitement and public visibility, an extensive marketing plan was developed for the museum, with the objective being to synchronize the museum's inimitable features with the interests of the broader public. The intent of this presentation is to describe our class-wide project, marketing research process, and corresponding recommendations.

# CHEMISTRY

Session chair: Arlene Courtney Session title: Chemistry Capstone Seminars Location: Natural Sciences (NS)

#### Presentations

10 – 10:45 a.m., NS 101 **Jeff Sigrist** *Faculty sponsor:* Arlene Courtney

*Title:* Have Electron Will Travel: Electrochemical Ammonia Production

*Abstract:* Humanity has been using chemicals since antiquity for a multitude of purposes but mostly to improve the quality of life. The most recognizable chemicals are fertilizers, solvents, and plastics. In the case of fertilizers, scientists have come up with quite ingenious ways to convert nitrogen into useful forms by minimizing complexity. The electrochemical synthesis of ammonia is a significant improvement over the commonly used Haber-Bosch process. The chemicals involved in the synthesis are easily obtained water and nitrogen gas. Unlike other commonly used processes, this method doesn't need hydrocarbons as a feed source. 10:45 – 11:30, a.m., NS 101 Kayla Aird Faculty sponsor: Arlene Courtney

*Title:* The Chemistry of Fireflies: Illuminating the Path to Medical Research

*Abstract:* You may have seen the bright short flashes of fireflies during a hot summer night or witnessed the illumination of a glowworm. This strange phenomenon of light is known as bioluminescence, and for centuries it has been known that fireflies are among several thousand organisms that emit light. The reaction process involves luciferin and is catalyzed by the enzyme luciferase to produce luminescence. The focal point of this presentation is to demonstrate how fireflies emit light, and why this ancient discovery has recently become important to medical researchers.

11:30 a.m. – 12:15 p.m., NS 101 **Rvan Burge** 

Faculty sponsor: Arlene Courtney

*Title:* The Chemistry of Taste: Toothpaste + Orange Juice = Yuck

*Abstract:* One of life's greatest mysteries since the invention of toothpaste has been the cause of the bitter taste from orange juice following brushing your teeth. The most likely culprit for this offensive taste is a foaming agent found in nearly all toothpastes. As it turns out, this ingredient affects the way taste buds recognize the flavor molecules present in orange juice. This seminar will investigate the chemical interactions between orange juice and toothpaste that leave a bad taste in your mouth.

1 – 1:45 p.m., NS 101 **Corey Perkins** 

Faculty sponsor: Arlene Courtney

*Title:* Things That Make You Go Boom: The Detection of Peroxide Based Explosives

*Abstract:* The use of explosives by terrorists has prompted the need to develop cost effective and efficient means of explosives detection. By utilizing their conductive properties, hydrogen molybdenum bronze and sodium molybdenum bronze are prime candidates for effective detection of peroxide based explosives. These nano-particles have the ability to purify water from poisonous metals such as hexavalent chromium and nickel. This presentation will show methods of synthesis, explain the applications, and reveal some of the current research being supported by many agencies including the Department of Defense.

1:45 – 2:30 p.m., NS 101

#### James Dunning

Faculty sponsor: Arlene Courtney

*Title:* Star Trek Chemistry: Exploring the Final Frontier

*Abstract:* Imagine trying to conduct a chemistry experiment where there is no gravity to hold compounds in their containers, no pressure to cause interaction, and an almost complete absence of heat to supply energy. These are the distant chemical environments which confront scientists in the fields of Astro and Cosmo chemistry. Examining these types of systems can be done using an assortment of instrumentation in connection with well understood physical properties. This seminar will discuss recent findings ranging from the simple identification of space dust and extraterrestrial ice to theories involving the origin of life on Earth.

2:30 - 3:15 p.m., NS 101

#### **Heather Powells**

Faculty sponsor: Arlene Courtney

*Title:* The Sweet Side of Chemistry: Making Chocolate Out of Beans

*Abstract:* Nothing can compare to the feeling of chocolate melting in your mouth, however, this is not how the seeds of the plant Theobroma cacao were originally used. The seeds have been used in religious ceremonies, as a fatty and unpleasant drink, and as currency. From these beginnings, cacao beans now go through a complex process to make delicious and popular treats. How the cacao bean is converted into chocolate has been a subject of much research, and this seminar will look at the chemistry that causes these changes.

# **CHEMISTRY**

Session chair: Patricia Flatt Session title: Applications in Forensic Chemistry Location: Werner University Center (WUC)

#### Posters

2 – 4 p.m., WUC Pacific Room Jenna Moser and Aaron Chritton Faculty sponsor: Patricia Flatt Title: The Lies of Blood Spatter to Postrate Crim

*Title:* The Use of Blood Spatter to Recreate Crime Scene Dynamics

2 – 4 p.m., WUC Pacific Room **Kayla Aird and Jennifer East** *Faculty sponsor:* Patricia Flatt

Title: Applications of Forensic Anthropology

#### 2 – 4 p.m., WUC Pacific Room **Ryan Burge and Heather Powells** *Faculty sponsor:* Patricia Flatt

*Title:* Photographing Footwear Impressions Using Oblique Lighting Techniques

2 – 4 p.m., WUC Pacific Room Jeff Sigrist and Chris Rule Faculty sponsor: Patricia Flatt

Title: Forensic Analysis of Explosives and Arson

## DANCE

Session chair: Sharon Oberst Session title: Academic Excellence in Dance Location: Maple Hall (MH)

#### **Presentations and Performances**

9 – 9:15 a.m., Maple Hall Julia Gingerich Faculty sponsor: Sharon Oberst

*Title:* A Stranger No More: The Process of Combining the Church Sanctuary, Dance, and Symbolism

Abstract: This is a presentation and video exploring the process of creating a modern dance piece to be performed in churches as a sermon through movement. A Stranger No More was choreographed for the lent performing series for Power and Praise Dance Company located in Portland. It explores gestures of human frustration and symbols of Christ's salvation. The piece consists of four dancers, three of whom are already believers of God's love and forgiveness. The fourth dancer is a stranger to God's saving grace and is struggling lost in a world of sin. As the piece unfolds, the stranger experiences God's love through the hands of his believers and becomes part of the community of the other three dancers. A Stranger No More sends a dual message about finding God's love if you are a stranger, and accepting strangers into your community if you are already a follower of Christ.

9:15 – 9:30 a.m., Maple Hall **Kaitlin Bauld** *Faculty sponsor:* Sharon Oberst

*Title:* The Witch and the Angel of José Limon's The Moor's Pavane

*Abstract:* This presentation discusses choreographer, José Limon's, most famous work, The Moor's Pavane. Based upon Shakespeare's Othello, Limon created a work that examines the relationships between the two main couples in the story, Othello and Desdemona/Iago and Emilia. This paper will analyze Limon's use of compositional elements such as movement vocabulary, movement quality, space and time as well as music and costuming for the male characters of Othello and Iago versus those used for the female characters Desdemona and Emilia.

9:30 – 9:45 a.m., Maple Hall

Krista Clarkson

Faculty sponsor: Deborah Jones

*Title:* Creating a Business Plan for an Adult Oriented Dance Studio

*Abstract:* This presentation will focus on how to start a dance studio, with emphasis on the assessment of business opportunities and the concepts, skills, information and attitudes required to successfully create a new venture. Delving into concepts such as, creating products/services that fulfill a need, targeting markets, advertising efforts, and financial viability, this presentation will display how a simple idea can become a feasible and functioning business endeavor.

9:45 – 10 a.m., Maple Hall **Sheena Worley**  *Faculty sponsor*: Darryl Thomas *Title*: WOU: Dancers in Motion

*Abstract:* This presentation will focus on the process of planning, preparing and creating a promotional video meant as an informational tool for incoming freshman or transfer students interested in pursuing a major or minor in dance at Western Oregon University.

#### 10 – 10:10 a.m., Maple Hall

#### Kaitlin Bauld, Allie Boyden, Chenise Crockett, Brittany Humphrey, Julia Gingerich, Kailee McMurran, Marketa Renner and Ermine Todd, IV Faculty sponsor: Darryl Thomas

Title: Guest artist Jodi Melnick's Three Square Pigeon

Abstract: What the Artist Says About Her Work - Three Square Pigeon is a dance for eight. Intersecting duets, trios, and guartets culminate in a melee for the entire ensemble. An articulate, intimate setting gains momentum and tumbles into a dense, wildly physical dance laced with subtle, gestural, quiet moments all along the way. Movement design is integral to my work- the articulate body is where I start. I wanted to start simple. The simplest form is a body standing on stage, another enters and the dancers raise their arms, slice through the space, change their facing, turn one leg out, join their arms together in a straight line, bring the extended arms back into their sockets, then form a circle with them. Shortly after, they grab their shoulder, touch their chest; there is a small collapse of the sternum, a release, maybe the first sign of emotion or drama within the body.

10:10 – 10:20 a.m., Maple Hall Nastassia Zacarias Faculty sponsor: Darryl Thomas

Title: Rejoice

*Abstract:* Rejoice is an expression of the joy that many dancers experience as we step onto a stage, walk into rehearsals, train in technique classes, and feel even when only thinking about dancing. I hope that by experiencing the joy of this dance, the audience will better understand why all of us "crazy dance people" spend our days and hours beating ourselves up in the studio only to return for more. Another intention for creating this dance piece was to remind us all that "rejoicing" feelings often are found in anything that we have a passion for, whether it is cooking or reading. This work is not one specific style of dance, but is a compilation of the many different genres that I have studied throughout my dance education. 10:20 – 10:30 a.m., Maple Hall **Chelsea Bowman** *Faculty sponsor:* Sharon Oberst

*Title:* That which connects...

*Abstract:* This dance is not a dance that tells a story. It is a dance about the different connections we experience; how we all feel connected to someone or something in every stage of our lives. That connection could be to a friend, a family member, a lover, or something that merely helps to pass the time. It is my intention that the connections in this dance represent something different for each person who views it.

10:30 – 10:40 a.m., Maple Hall **Rebecca Chadd** *Faculty sponsor:* Deborah Jones

Title: Lifeline

*Abstract:* Inspired by the stop-and-go, run-around pace and isolated state of much of American culture today, Lifeline challenges the viewer to take the risk of breaking away from the "rat race" to truly connect with others, exploring the deep satisfaction that can potentially come from that. The work combines the talent of nine unique and talented dancers that embody the raw emotion we so often long to express.

# EARTH SCIENCE

Session chair: Jeff Myers Session title: Field Research in Sedimentary Geology Location: Natural Sciences (NS)

#### Presentations

9 – 11 a.m., NS 218 **Ryan Stanley** *Faculty sponsor:* Jeff Myers

Title: Provenance of the Elkton and Coaledo Formations

Abstract: The middle Eocene Coaledo and Elkton formations exposed near Cape Arago, Ore., contain arkosic sandstone and metavolcanic pebbles deposited in nearshore to deep marine environments. The presence of two distinct grain size populations, sandstone and pebbles, indicates two sediment sources. Heller and Ryu propose a distinction between sandstone and pebble sources, suggesting a provenance of proximal Klamath derived sediment and distal Idaho Batholith sediment. Sandstone in the Elkton Formation consists of very fine-grained to medium-grained arkose with metavolcanic pebbles locally preserved as channel lag. Sandstone beds in the Coaledo Formation consist of well-sorted fine to mediumgrained arkose, while pebbles preserved in channel lags are compositionally similar to Elkton Formation pebbles. Highly reworked fine to medium grained arkose sandstones in both formations contain crystal fragments of muscovite mica, feldspar, and quartz that match the lithology of the Idaho batholith. Pebbles in both formations indicate erosion of a volcanic arc complex like that of the proximal Klamath Mountains. The two grain size populations with distinctly different compositions indicate two separate sediment sources, supporting the conclusion of Heller and Ryu.

#### 9 – 11 a.m., NS 218 Brittnie Andrew Faculty sponsor: Jeff Myers

*Title:* Depositional Significance of Flaser Bedding in the Elkton Formation

Abstract: Abundant flaser beds from the middle Eocene Elkton formation exposed at Cape Arago, Oregon refute the hypothesis that flaser beds occur most commonly in shallow tidal environments. Flaser bedding forms as fine grained sand is deposited as ripples from a low energy current, followed by a period of quiescence during which mud is deposited atop the sandstone, settling in the troughs. However, in the Elkton formation, soft sediment deformation such as flames, ball and pillar structures, abundant complex horizontal burrows in turbidity currents indicate deposition in a deep marine environment. The Elkton formation was deposited at depth on a continental slope environment. Deep water currents created sand ripples in fine sand, followed by quiescence allowing mud to deposit atop the sand. This continuous cycle resulted in conditions at which flaser bedding formed at depth, rather then in a shallow tidal environment.

# EARTH SCIENCE

Session chair: Steve Taylor Session title: Earthquake Hazards and Risk Mitigation in Western Washington and Oregon

Location: Werner University Center (WUC)

#### Posters

11:30 a.m. – 1:30 p.m., WUC Pacific Room Steve Taylor (*faculty presenter*)

*Title:* Overview of Earthquake Hazards and Risk Reduction in Western Washington and Oregon

*Abstract:* This theme session involves presentation by 15 WOU earth science students enrolled in ES473 Environmental Geology, spring term 2009. The focus of the session is on earthquake hazards and risk reduction in western Washington and Oregon.

The Pacific Northwest is a tectonically active region comprised of complex fault systems in association with the Cascadia subduction zone. Earthquakes are regularly-occurring geologic phenomena associated with these types of tectonic settings. Since a majority of the population in the Pacific Northwest lives in the Puget-Willamette Lowland (I-5 Corridor) of Washington and Oregon, subduction-related seismicity presents a persistent risk to the socio-economic infrastructure of the region. This theme session provides an assessment of the hazards, risks and mitigation techniques necessary to prepare for potentially catastrophic earthquake events in the near future. The range of topics include: the regional geologic and tectonic framework, the Cascadia megathrust system, intraplate crustal faulting, historic seismicity and fault rupture, ground-shaking hazards, co-seismic landsliding, liquefaction, earthquake preparedness and risk reduction, and site-specific case studies of seismic hazards in Seattle, Tacoma, Portland, the mid-Willamette Valley, and Klamath Falls.

11:30 a.m. – 1:30 p.m., WUC Pacific Room Ben Shivers

*Faculty sponsor:* Steve Taylor

*Title:* Geologic Framework and Tectonic Setting of the Pacific Northwest

*Abstract:* The Pacific Northwest is a tectonically active region comprised of complex fault systems in association with the Cascadia subduction zone. The tectonic setting is characterized by a long history of oblique convergence of the Juan de Fuca plate beneath North America. Subduction processes are manifested in the Pacific Northwest by an offshore trench, accretionary Coast Range complex, Puget-Willamette lowland, and Cascade Volcanic arc.

Seismicity in the region is driven by an assortment of stress regimes that are propagated via faults in the underlying bedrock. Earthquakes are triggered by movement along these fault systems and the hazards associated with the Northwest include ground shaking, liquefaction, landslides, structural damage and tsunamis. Many quakes in this region stem from shallow-crustal fault movement and deep-intraplate fault movement, both of which commonly produce earthquake magnitudes of 5.0 to 7.0 with recurrence intervals between 10 to 30 years. Primary concerns now focus upon a catastrophic 9.0 magnitude earthquake centered within the 800 mile long Cascadia subduction zone. Research places seismic recurrence intervals along the subduction zone between 300 to 500 years with the last Cascadia quake occurring Jan. 26, 1700 off the coast of Oregon.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room **Pat Stephenson**

Faculty sponsor: Steve Taylor

*Title:* Overview of Bedrock and Surficial Geology of the Pacific Northwest

*Abstract:* Topographically constrained by the Cascade Mountain Range to the east and Oregon Coast Range to the west, the Willamette River basin represents a forearc depositional environment in the Cascadia subduction zone. Sediment deposition varies through time depending on the morphology of the river system, punctuated by localized volcanism. Long-term Tertiary and Quaternary depositional processes have resulted in complex stratigraphy, with interbedded sedimentary and volcanic strata.

Similar to the Willamette Valley, the Puget Lowland receives drainage from the Washington Cascade Mountains, Washington Coast Range, and Olympic Mountains on the north end of the Olympic Penninsula. The Puget Lowlands form a narrow gap between the confining mountain ranges and is underlain by a wide variety of materials, including poorly sorted fluvial deposits, lahar deposits, and formations of glacial till and outwash. The combination of older consolidated bedrock at depth, and overlying surficial sediments, establishes the geologic framework upon which to assess the potential for seismic-related hazards in western Oregon and Washington. 11:30 a.m. – 1:30 p.m., WUC Pacific Room Janelle Anzalone Faculty sponsor: Steve Taylor

*Title:* Cascadia Subduction Processes and Earthquake Hazards

*Abstract:* Prior decades of scientific research document the potential for a great megathrust earthquake on the Oregon coast due to subduction of the Juan De Fuca Plate beneath North America. The initial research questions have progressed from "if?" to "when and how big?" This paper will present paleosiesmic and subsurface geologic data that suggest a strong possibility for a large magnitude Cascadia earthquake in the near future.

Evidence for regional earthquake activity includes neotectonic uplift, tsunami deposits, coastal submergence of wave-cut coastal benches, burial of previously vegetated lowlands and tidal flats, tree ring and carbon dating, and sedimentary structures indicative of ground shaking. All findings support an extensive and regular history of megathrust events, the last of which occurred in January 1700. Upon analysis of the data, it appears that we are in fact on track to experience a great earthquake "starting yesterday".

11:30 a.m. – 1:30 p.m., WUC Pacific Room

#### Matt Moore

Faculty sponsor: Steve Taylor

*Title:* Intraplate Crustal Faulting and Earthquake Sources in the Pacific Northwest

*Abstract:* Intraplate crustal faulting is a result of active tectonic motion in the Pacific Northwest. Seismic analysis indicates that fault depths can extend 15 km, or deeper, into the earth's crust. Unlike Cascadia megathrust slip events, these types of structures rupture quite frequently, usually with low magnitudes (M1 to 2) that are only observed by seismographs. Despite the low magnitudes of the average crustal fault earthquake, they periodically produce sizeable events capable of causing considerable shaking and damage. The Scotts Mills Earthquake of 1962 (M5.5), the Spring Break Earthquake of 1993 (M5.6), and late Holocene evidence of a M7.0 event along the Tacoma Fault Zone are examples.

Different types of crustal faults are associated with varying stress regimes across the Pacific Northwest. The region extending from northwestern Oregon to Puget Sound, is characterized by northwest-striking reverse faults. In contrast, southeast and central Oregon is associated with Late Cenozoic normal faults that are generally oriented to the north-northeast. Due to extensive surficial cover and vegetation in the western portions of Washington and Oregon, many surface faults have remained undetected. Recent advances with LIDAR (Light Distance and Ranging) technology have permitted identification of previously hidden scarps, giving a more detailed perspective on intraplate faulting in the Pacific Northwest. 11:30 a.m. – 1:30 p.m., WUC Pacific Room **Ryan Stanley** *Faculty sponsor:* Steve Taylor

*Title:* Historic Seismicity, Neotectonics and Active Faulting in Washington and Oregon

*Abstract:* Evidence of active faulting and seismicity in the Pacific Northwest has been documented through analysis of stratigraphic relationships and use of modern instrumentation. Crustal, intraplate, and subduction zone earthquakes represent three types of Cascadia deformation, each with unique seismic characteristics. Earthquake monitoring utilizes specialized instruments that collect information to understand sizes, locations, frequency of occurrence, and types of earthquakes. Written documentation of historical events did not appear in Oregon until the 1840s, and seismograph stations were not established in the Pacific Northwest until 1906.

The discovery of multiple buried soils in coastal intertidal lowlands suggests that great megathrust earthquakes have repeatedly occurred within the Cascadia subduction zone. Multiple lines of evidence indicate an average megathrust earthquake recurrence interval of ~500 years, with the most recent occurring A.D. 1700. Since 1841 more than 6,000 earthquakes have occurred in Oregon. Oregon's largest earthquakes include the 1873 Crescent City, 1936 Milton-Freewater, 1962 Portland, 1993 Scotts Mills, and 1993 Klamath Falls earthquakes. This paper provides a synopsis of historic seismicity and seismic sources in Oregon, with implications for hazard planning throughout the state.

11:30 a.m. – 1:30 p.m., WUC Pacific Room **Thomas Van Nice** 

*Faculty sponsor:* Steve Taylor

Title: Earthquake Risks I: Ground Shaking Hazards in Oregon

Abstract: Earthquakes are one of the most powerful natural disasters that occur in the world. Ground motion and shaking during an earthquake can be detected hundreds of miles away from the source. The ground motion and shaking that accompany an earthquake are produced by the waves that are a result of the motion derived from brittle failure of consolidated rock materials. There are three main types of waves, S-waves, P-waves, and surface waves, each of which results in different styles of ground motion. The intensity and the duration of the shaking will be determined by the amount of energy released during the earthquake event. The strength of an earthquake is measured from seismograms using a moment-magnitude calculation (e.g. Richter scale). Earthquakes with magnitudes 3.0 and above can be felt by humans depending on material mechanics and other variables. Shaking and ground motion are associated with a significant portion of infrastructure damage and resulting deaths in an earthquake event.

Ground-motion modeling is used to construct seismic hazards maps in the Pacific Northwest. Critical input parameters include seismic sources, wave travel paths, and composition of subsurface materials. This project focuses on ground-shaking processes and hazards mapping in western Oregon. 11:30 a.m. – 1:30 p.m., WUC Pacific Room James McLeod Faculty sponsor: Steve Taylor

*Title:* Earthquake Risks II: Co-seismic Landslides in Western Washington and Oregon

*Abstract:* Co-seismic landslides are associated with significant infrastructure damage and human casualties in earthquakeprone areas of the world. These types of mass-wasting processes are induced by the ground movement associated with earthquakes. Factors contributing to co-seismic landslides include slope gradient and water-saturation state of surface materials. Correlating historic co-seismic landslide data in the Pacific Northwest with those from similar geologic terrains elsewhere enable better prediction of slope failure during future Cascadia earthquake events.

Evidence of past co-seismic landslides is commonly hidden by overlying sediment and vegetation, or has been removed over time by erosion. As western Washington and Oregon have become more populated over the past several decades, the risks of earthquake-related losses are greater than at any time in the past. By examining records and using new technologies like LIDAR, researchers are better able to predict where co-seismic landslides will occur in the future and prevent loss of life. This paper examines trigger mechanisms for seismically induced landslides and provides an overview of hazard-prone localities in the Pacific Northwest.

11:30 a.m. – 1:30 p.m., WUC Pacific Room Amanda Tondreau

Faculty sponsor: Steve Taylor

*Title:* Earthquake Risks III: Liquefaction Potential in the Willamette-Puget Lowland

*Abstract:* Liquefaction is an earthquake-related hazard that causes unstable land and poses risks to building infrastructure in urban areas. Saturated sediments, ranging from gravel to silt, are more prone to liquefaction during an earthquake compared to those that are unsaturated and well drained. Unconsolidated sediments deposited within the last 10,000 years, during the Holocene era, are particularly vulnerable to liquefaction in the Willamette-Puget Lowland.

Liquefaction processes commonly result in buried pipelines and other objects floating to the surface, and commonly cause foundational failure in roads and buildings. Analysis of paleo-liquefaction features preserved in the geologic record provides a technique that allows use of past events to predict future risks of damage. This paper focuses on geotechnical aspects of seismically-induced liquefaction hazards in western Washington and Oregon.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room **Keoni Wong** *Faculty sponsor:* Steve Taylor

*Title:* Earthquake Mitigation I: Techniques for Reducing Earthquake Hazards

Abstract: Earthquakes are unequivocal. Emergency planning and implementing strategies to prevent loss of life and property is the only real way to be ready for when an earthquake hits. Identifying hazard-prone areas, preparing development plans, reinforcing failure-prone buildings, and public outreach are some techniques used to reduce earthquake hazards and potentially save lives. Once these protocols are established, and risk models are developed, planners and decision-makers can use this information to guide modification of building codes to make sure that all roads, offices, residential areas are modernized and ready to withstand earthquake motion. These hazard-mitigation techniques are necessary to reduce the risk to human life and property, potentially saving regional governments billions of dollars in losses should an earthquake ever occur. This paper focuses on earthquake mitigation techniques that are currently employed in the Pacific Northwest.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room Gerritt Vincent

Faculty sponsor: Steve Taylor

*Title:* Earthquake Mitigation II: Loss Potential, Preparedness, Risk Reduction and Recovery

*Abstract:* Earthquakes are hazardous to people and the economy. Potential loss impacts include lives, homes, office buildings, manufacturing plants, schools, port facilities, and transportation infrastructure. Urban development in active tectonic settings, such as the Pacific Northwest, is fraught with risk, therefore earthquake education, outreach, and planning are necessary to minimize damage and establish recovery plans. People living in areas where earthquakes exist must understand pre- and post-earthquake issues.

This paper focuses on shaking-related hazards associated with western Oregon Topics include expected financial loss, building damage scenarios, and the casualty risks associated with severe earthquake events. Emphasis is placed on public awareness, earthquake-related legislation, site-specific seismic-hazard investigations, and organizational strategies that target risk reduction (e.g. Cascadian Region Earthquake Workgroup-CREW). By understanding seismic mechanisms and planning for the affects of severe earthquakes, Oregonians can better prepare for disaster recovery.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room **Brad Adams**

*Faculty sponsor:* Steve Taylor

*Title:* Regional Case Study I: Seismic Hazards in the Seattle Area

*Abstract:* Detection of active faults and seismic hazards in the Seattle area is problematic, owing to thick surficial deposits and abundant vegetative cover. Aeromagnetic mapping techniques have given insight into this once enigmatic area. The Seattle fault zone is segmented and comprised of several east-trending, north-verging splays along a reverse-thrust system. Three distinct magnetic anomalies are associated with the fault zone, and in combination with regional stratigraphic records, help elucidate seismic history in the area.

The fault has been active from 40 Ma to the present, with a major M7 earthquake occurring 1,100 years ago. The Seattle area is prone to co-seismic ground failure such as that associated with the Olympia 1949 and Seattle-Tacoma 1983 earthquakes. In 2001, the Nisqually event yielded a M6.5 tremor that was felt as far south as Salem. The Nisqually earthquake had a similar hypocenter to that of the 1949 Puget Sound event. The area has been associated with widespread liquefaction processes during past earthquakes. The expansion of urban development in the Seattle area over the past two decades has significantly increased the risk of widespread, catastrophic damage when the next seismic event occurs. This paper presents a summary of past seismic activity in the Seattle area and risk potential for catastrophic earthquakes in the future.

# 11:30 a.m. – 1:30 p.m., WUC Pacific Room **DJ Jaeger**

Faculty sponsor: Steve Taylor

*Title:* Regional Case Study II: Seismic Hazards in the Tacoma Area

*Abstract:* The Tacoma area has many fault scarps that are visible in LIDAR-based elevation models. LIDAR uses aerial surveying techniques to pulse a laser, reflect it from the ground surface, and measure the return time. These techniques are used to map locations of fault scarps and changes in ground elevation due to active tectonic stress fields.

Puget Sound has a large concentration of fault scarps, providing evidence of neotectonic activity and active surface deformation. Detailed mapping of scarps helps define the seismic hazards that faults pose, including the magnitude and frequency of past earthquakes. Tacoma has experienced many high-magnitude earthquakes in the past, as well as related tsunami inundation of low-lying tidal areas. There is great need to address these hazards and predict future events to mitigate the potential for major destruction. This paper focuses on the seismic history and fault patterns associated with the southern Puget Sound region, with implications for hazards management in Tacoma.

## 11:30 a.m. – 1:30 p.m., WUC Pacific Room Alyssa Pratt

*Faculty sponsor:* Steve Taylor

*Title:* Regional Case Study III: Seismic Hazards in the Portland Area

*Abstract:* The Portland Metropolitan area faces seismic hazards not only from the Cascadia megathrust, but also from several crustal faults located within the vicinity. An example of the latter is the Portland Hills Fault, which extends 40 to 60 km in length, and dips southwest beneath the western portion of the city. Recent paleoseismic work indicates that this fault is capable of generating largemagnitude earthquakes ranging from M6.8 to 7.2.

M6.8 ground-shaking models of the Portland hills fault indicate that potential surface accelerations from an average rupture event would exceed comparable motions generated by a M9.0 Cascadia-subduction event. These models support the hypothesis that regional crustal faults are potentially the most hazardous in western Oregon. In addition to shaking intensity, the widespread presence of unconsolidated Quaternary sediment tends to amplify ground motion and promote liquefaction. This paper presents a synopsis of potential fault triggers in the Portland area, and provides an overview of the geological data necessary to estimate damage potential.

11:30 a.m. – 1:30 p.m., WUC Pacific Room Sarah Johnson

Faculty sponsor: Steve Taylor

*Title:* Regional Case Study IV: Seismic Hazards in the Mid-Willamette Valley

*Abstract:* The Willamette Valley is subjected to many hazards due to its geologic setting. Volcanic activity, landslides, floods, and earthquakes are all realistic considerations when living near an active plate boundary. Oregon and Washington are both located at the convergent zone of the North American and Juan de Fuca plates, with a long history of oblique subduction of the latter throughout the Cenozoic. This ongoing tectonic process generates magma in the Cascade arc and greatly influences the geologic structure of the Pacific Northwest.

Much of Oregon's diverse landscape, including the Mid-Willamette Valley, is due to Cascadia subduction processes. This forearc region has several fault zones that pass through, including the Mt Angel, the Canby-Molalla and the Gales Creek. These fault patterns are a manifestation of regional tectonic stress fields and are potential sources of crustal seismic activity. Historic seismicity, such as the 1993 earthquake, is an indicator that inland crustal faults in the mid-Willamette Valley are capable of causing widespread damage. This paper presents a summary of past seismic activity in the Willamette Valley and risk potential for catastrophic earthquakes in the future. 11:30 a.m. – 1:30 p.m., WUC Pacific Room Gretchen Boyer

Faculty sponsor: Steve Taylor

*Title:* Regional Case Study V: Seismic Hazards in the Klamath Falls Area

*Abstract:* Mount Mazama and the Crater Lake caldera lies at the north end of the fault bounded basin that is known as the "Klamath Graben." This structural low lies at the northwestern end of a set of complex northwest-trending fault-block mountains, located on the western edge of the Basin and Range province. The graben is bounded on the west and east sides by the active West Klamath Lake and East Klamath Lake fault zones, respectively. All of the above geologic factors pose significant seismic hazards, although historically the majority of earthquake epicenters occur within the Klamath graben proper. While both of the marginbounding fault zones are active, there are more data available for the West Klamath Lake portion. These data provide the scientific framework that allows understanding of seismic hazards in the Klamath Falls area.

The West Klamath lake fault zone terminates to the south, near the epicenter of the September 1993 "Klamath Falls Earthquakes." The two main shocks that struck the Klamath Falls area during that time registered magnitudes 5.9 and 6.0, causing landslides, significant building damage and two deaths. As a result of the 1993 earthquakes, closer seismic monitoring of the Klamath region was implemented in order to better understand the dynamics of fault activity. This paper focuses on earthquake mechanics and hazards monitoring programs associated with the Klamath Falls area.

# EARTH SCIENCE

Session chair: Steve Taylor Session title: Geographic Information Systems as a Tool for Watershed Analysis Location: Werner University Center (WUC)

#### Poster

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

Steve Taylor (faculty presenter), Matthew Buche, Brandon Button, Patrick Ferrari, Dustin Fulks, Andrew Holmes, Rachel Johnson, Joseph Krom, Alyssa Marquez, Christopher Meyer, Roberto Rios, Ryan Stanley, Brenna Susee, Hannah Thoman, Alicia Thompson, Amanda Tondreau, Thomas Van Nice, William Vreeland and Seth Webb Faculty sponsor: Steve Taylor

*Title:* Geographic Information Systems as a Tool for Watershed Analysis

*Abstract:* Geographic Information Systems (GIS) are a set of computer hardware and software tools that link digital maps to relational databases. GIS places land surface information in the context of spatial relationships, and provides a robust means for analyzing and visualizing geologic information. This theme session presents final project compilations of 18 students who were enrolled in ES341 Fundamentals of Geographic Information Systems, winter term 2009.

The focus of the class is to learn the art of GIS, as applied to problems in the Earth Sciences. Our focus for the winter 2009 final project was to use ArcGIS software techniques to compile geospatial data for select watersheds in western Oregon. Each student was assigned a select watershed location west of the Willamette River, then asked to compile GIS data via online resources and independent transformation. Map themes included vegetation, bedrock geology, soils, precipitation, roads, cultural features, drainage network, aerial photographs, topographic maps, and digital elevation models. The results of the final projects are presented in this theme session. The following is the list of watersheds and authors, respectively: Luckiamute Watershed (Taylor), Gales Creek (Tondreau, Thoman), Beaver Creek (Webb, Holmes), Lower Coquille (Thompson, Meyer), Lower Coast Fork Willamette (Ferrari, Johnson), Sixes River (Buche, Stanley), Lower Siletz (Barnes, Button), Upper Umpqua (Marquez, Susee), Kilchis River (Krom, VanNice), and West Fork Millicoma (Vreeland, Rios, Fulks).

# EARTH SCIENCE

Session chair: Jeffrey Templeton

Session title: Earth Science Senior Seminar: Potential for a Large Mega-Thrust Earthquake along the Cascadia Subduction Zone Location: Natural Sciences (NS)

#### Presentations

1 – 1:10 p.m., NS 103 **Jeffrey Templeton** (*faculty presenter*)

*Title:* Introduction to Earth Science Senior Seminar Symposium: Potential for a Large Mega-Thrust Earthquake along the Cascadia Subduction Zone

1:10 – 1:30 p.m., NS 103 **Ryan Stanley** 

Faculty sponsor: Jeffrey Templeton

*Title:* Seismic Modeling of the Cascadia Subduction Zone: Geophysical Evidence for Megathrust Earthquakes in the Pacific Northwest

Abstract: Seismic imaging of the Juan de Fuca and North American plates provides important insights into the structure of the Cascadia Subduction zone, with implications for modeling potential megathrust earthquakes. Earthquake monitoring utilizes specialized instruments that collect information to understand sizes, locations, frequency of occurrence, and types of earthquakes. Written documentation of historical events did not appear in Oregon until the 1840s, and seismograph stations were not established in the Pacific Northwest until 1906. Wide-angle seismic techniques measure reflected and refracted wave arrival times to interpret the earth's interior. Refractions and reflections from offshore air-gun blasts and reversing reflections recorded from chemical explosions on land have provided images of the descending Juan de Fuca slab. Several lines of evidence suggest that the Juan de Fuca and North American plates are well coupled. In addition, bathymetry and seismic reflection records reveal that three subaqueous megaslides have occurred, involving much of the accretionary prism.

#### 1:30 – 1:50 p.m., NS 103 Alicia Thompson Faculty sponsor: Jeffrey Templeton

*Title:* Subduction Zones of the World: Comparison to the Cascadia Subduction Zone and the Potential for Producing Large-scale Earthquakes

Abstract: Subduction zones occur around the world, but are most abundant around the Pacific Ocean. The Cascadia Subduction zone (CSZ) in the Pacific Northwest is one such region where the Juan de Fuca plate is pushed beneath the North American plate. Where lithospheric plates subduct, they can produce large-scale earthquakes with magnitudes greater than 7.5 on the Richter scale. Since the Sumatra earthquake in 2004, there has been increased concern of a large mega-thrust earthquake occurring in the Pacific Northwest. Earthquakes along the CSZ appear to occur every 500 years on average. By studying historical earthquakes at subduction zone around the world one can compare and contrast the CSZ with other regions. Increased understanding of other subduction zones improves the overall knowledge of mega-thrust earthquakes and can help guide preparations for a potential earthquake along the CSZ.

1:50 – 2:10 p.m., NS 103 **Robert Kelso** 

Faculty sponsor: Jeffrey Templeton

*Title:* Tsunami Deposits in the Pacific Northwest: Implications for Earthquakes along the Cascadia Subduction Zone

Abstract: Tsunami's have occurred in the past and will continue to occur along the Cascadia Subduction Zone (CSZ). Overwhelming evidence can be found as "tsunami sand" layers found in coastal lakes and marshes at numerous coastal localities from northern California to southern British Columbia. Geological studies provide an understanding of tsunami occurrences in the past, and application of the law of uniformitarianism enables us to model and predict future events. Tsunamis have tremendous energy that is capable of transporting sediment and organic debris to coastal lowlands. These deposits of sediment and debris are buried and preserved in near-shore environments such as coastal lakes and marshes. Thicknesses of individual tsunami deposits depend on intensity and strength of the wave generated by the offshore earthquake. Correlating intensity with carbon dating of organic material provides a record of tsunami occurrence and by inference large-scale earthquakes along the CSZ.

2:10 – 2:30 p.m., NS 103 Matt Buche

Faculty sponsor: Jeffrey Templeton

*Title:* Lions, Tigers, and Turbidites, Oh My! Offshore Geologic Evidence for Great Cascadia Subduction Zone Earthquakes and Future Implications

*Abstract:* That great earthquakes have occurred periodically along the Cascadia Subduction zone (CSZ) during recent geologic time is well-documented. Onshore evidence includes buried marshes and soils, drowned forests, tsunami sands, lake deposits, and coseismic subsidence. However, estimated earthquake magnitudes of M8.0+ would be expected to produce offshore evidence as well. More than thirteen, well-dated turbidites have been sampled in sea channels off the Pacific Northwest margin and provide supplementary evidence to onshore observations. The marine sedimentary record constrains recurrence intervals of great earthquakes, age of the last rupture, and probability for the next great quake along the CSZ. Strong correlation with onshore evidence makes turbidite research important for evaluating the potential for future large earthquakes along the CSZ and has potential for use in other areas like Sumatra, Indonesia.

2:30 – 2:50 p.m., NS 103 Janelle Anzalone

Faculty sponsor: Jeffrey Templeton

*Title:* Buried Forests and Marshes: Evidence for Subsidence from Past Mega-thrust Earthquakes in the Pacific Northwest

*Abstract:* It is increasingly apparent that great mega-thrust earthquakes (8 to 9+ magnitude) have a history on the Cascadia Subduction Zone (CSZ). Evidence mounts in many forms. I will discuss the burial of marshes and forests along the west coast of North America at localities from British Columbia to northern California. These buried landscapes are the result of subsidence following sudden uplift during mega-thrust events in the past, the last of which was 300 years ago. I will briefly discuss the actions related to subsidence along the CSZ. Tree ring measurements recorded in trees that survived some quakes and in cedars that died in others provide a chronology of past events that is corroborated by radiocarbon dating of buried forests and marshland soils.

Break: 2:50 - 3 p.m.

3 – 3:20 p.m., NS 103 **Donnie Kasper** *Faculty sponsor:* Jeffrey Templeton

*Title:* Recurrence Intervals for Large Magnitude Earthquakes along the Cascadia Subduction Zone

*Abstract:* A large magnitude earthquake occurring along the Cascadia Subduction Zone is a significant concern to geologists and citizens of the Pacific Northwest. To determine the recurrence intervals of subduction zone earthquakes, geologists have undertaken paleoseismic studies, which include records of turbidites, tree rings, and tsunami deposits in estuaries and tidal marshes at coastal localities from northern California to southern British Columbia. Numerous studies point to a recurrence interval of 300 to 500 years. Models have been formulated that calculate the probability of a certain magnitude earthquake (above M8.0) occurring over a specific time frame. These studies provide a framework to understand how often in the past large earthquakes have occurred and to estimate future seismic events.

#### 3:20 – 3:40 p.m., NS 103 Brittnie Andrew Faculty sponsor: Jeffrey Templeton

*Title:* Modeling Great Mega-Thrust Earthquakes along the Cascadia Subduction Zone

*Abstract:* The buoyant Juan de Fuca Plate is being forced beneath the North American Plate in a broad region extending from northern California to southern British Columbia known as the Cascadia Subduction Zone (CSZ). This process is creating shear stress and pressure leading to great mega-thrust earthquakes. Numerous faults near Vancouver Island, British Columbia indicate an active area, where pressure is building up. These faults can help determine the location of future mega-thrust earthquakes and infer a path of plate motion to show earthquake occurrences. The CSZ has had and will have earthquakes with magnitudes 8.2+ as the interlocked plates shift and grind against one another. The generation of a model for the CSZ allows for anticipated earthquakes, an understanding of past events, and what may occur in the future.

3:40 – 4 p.m., NS 103 James McLeod Faculty sponsor: Jeffrey Templeton

*Title:* Hazards and Costs of a Large Magnitude Earthquake along the Cascadia Subduction Zone

Abstract: Major hazards associated with an earthquake from the Cascadia Subduction Zone include ground shaking, landslides, and tsunamis. These primary hazards can lead to secondary hazards such as fires, dangerous material spills, and building vulnerability. Recognizing these threats can better prepare us for such an event and prevent greater economical and personal losses. Estimated damage costs range from 15 to 30 billion dollars. These costs include destruction to buildings, roads and highways, sea ports, farm lands, and lost wages. These hazards and cost estimates were determined by studying data from previous earthquakes such as the Sumatra Earthquake of 2004, the Alaska Earthquake of 1964, and other quakes which have occurred in a similar tectonic setting as the coast of Oregon. Looking at the affects and aftermath of these two quakes can provide useful information for saving property, land, and lives in Oregon.

#### 4 - 4:20 p.m., NS 103

#### **Patrick Stephenson**

Faculty sponsor: Jeffrey Templeton

*Title:* Tsunami Formation, Hazards, and Damage Mitigation along the Cascadia Subduction Zone

*Abstract:* Recent studies of the Cascadia Subduction zone (CSZ), which extends from northern California to southern British Columbia, reveal a diverse and complicated geologic past. Geologic investigations indicate that there are serious geologic hazards associated with the 1,200km-long CSZ, one of which is the possible creation of large-scale tsunami waves associated with a megathrust earthquakes or coseismic offshore landslides. Tsunamis associated with the CSZ have left evidence of considerable run-up along the coastline and disastrous inland inundation. Investigations throughout the Pacific Rim have shown convergent plate boundaries to

consistently create large tsunamis. By, using the December 2004 Sumatran earthquake and tsunami as a model, tsunami hazard zones have been mapped and mitigation strategies have been developed to minimize damage to municipal areas and loss of life along the coastal regions of the Pacific Northwest.

# EARTH SCIENCE/CHEMISTRY

Session chairs: Philip Wade and Arlene Courtney Session title: Energy and the Environment: Exploring Science by Making Movies Location: Natural Sciences (NS)

#### Presentations

8 – 8:10 a.m., NS 103

Philip Wade and Arlene Courtney (faculty presenters)

*Title:* Energy and the Environment: Exploring Science by Making Movies

#### 8:15 - 8:30 a.m., NS 103

Zach Boles and Christopher McFetridge Faculty sponsors: Philip Wade and Arlene Courtney

Title: The Pre-Driven Car

*Abstract:* Since the advent of mass automobile production, cars have become increasingly important to American society. Today one car exists for every two people in the United States. Only recently, amid energy and environmental worries have individuals become concerned with more than the price of a car. Fossil fuels and pollution are now equally as important as vehicle price to many consumers. If consumers truly desire to be environmentally conscious, alternatives which reduce the production of automobiles such as mass transit, need to be considered since one important part of the auto-industry's environmental impact comes during the production process.

#### 8:30 - 8:45 a.m., NS 103

Herbert Louis Keyser, Jr. and Katina Brodkorb Faculty sponsors: Philip Wade and Arlene Courtney

*Title:* Benefits and Concerns of Hydroelectric Power Generation

*Abstract:* Hydroelectric power is an essential energy source throughout the world. Of all the energy produced, 20 percent is hydroelectric power. This documentary focuses on the history and current developments of hydro energy production at the Bonneville Dam in the Pacific Northwest. Hydro energy is a reliable energy source, but there are still many concerns monetarily and environmentally, with the environmental concerns being the most prevalent. What is being done to counter these problems? Are the overall benefits of hydroelectric power generation worth the economical and environmental detriments? These are some of the questions that will be discussed and answered in this presentation.

#### 8:45 – 9 a.m., NS 103 **Tabitha McAfee and Sara Henderson** *Faculty sponsors:* Philip Wade and Arlene Courtney

Title: Energy Efficiency at WOU

Abstract: During the past 10 years, Western Oregon University has built multiple buildings, and yet their energy bill has not increased. This may seem impossible; however by embracing new technology, Western is taking part in protecting our Earth by keeping energy use at a minimum. With efficient lighting and cooling technologies, Western has innovatively conserved energy use on campus. This summer Western will begin construction of a new dorm which will be the most energy efficient dorm in Oregon. This video will illustrate revolutionary technologies that will be implemented at Western in the coming years, as well as modern technologies available for future dorms in the United States.

Break: 9 - 9:10 a.m

9:15 – 9:30 a.m., NS 103 Kady Hossner and Nicole Miller Faculty sponsors: Philip Wade and Arlene Courtney

Title: One Man's Trash is Another Man's Renewable Energy

*Abstract:* The average American generates 4.5 pounds of trash every day. Scientists have developed ways to utilize this waste and turn it into a renewable source of energy. This presentation will cover the positive and negative effects of using this new technology. Discussions need to be made as to whether using trash for energy is a stable and renewable source of energy. The Marion County Trash to Energy Facility demonstrates the feasibility of converting garbage into usable energy as well as reducing the size of landfills. This strategy is currently employed by major corporations like BMW and Johnson and Johnson and may soon be available for smaller scale applications.

#### 9:30 - 9:45 a.m., NS 103

Brandon Gould and Justin Karr

Faculty sponsors: Philip Wade and Arlene Courtney

Title: The Power of the Wave

*Abstract:* At the beginning of the 21st Century, the energy industry began to popularize green technologies, searching for renewable fuel sources with less significant impacts on the environment. As energy companies regress from petroleum fuel, the green innovations in development attempt to provide conventional and reliable energy sources, but one energy source with great potential has yet to become commercially popular – ocean waves. Innovators have proposed an array of nearshore and offshore technologies that harness wave power with minimal environmental and ecological impacts. These technologies could fuel major metropolitan areas worldwide, including the highly populated cities of the Pacific Northwest.

#### 9:45 – 10 a.m., NS 103

Leslie Martinez Faculty sponsors: Philip Wade and Arlene Courtney

*Title:* Skipping Fossilization: Development and Usage of Biomass as an Energy Source

*Abstract:* Biomass is arguably the most viable alternative energy source. It is expected to end our dependence on petroleum and bring us into a new era of energy independence in which our waters will run clear and our air will be breathable once more. Opponents of using this resource claim that it is wrong to convert crops into fuel. However, by skipping the fossilization process humanity is taking advantage now of what will eventually become fossil fuel but without the side effects. Furthermore, genetically altered crops for fuel production as well as land and habitat clearing are reasonable prices to pay when consumerism and our ability to urbanize are threatened.

Break: 10 –10:10 a.m.

#### 10:15 – 10:30 a.m., NS 103 Angelica Strickland and Allison Glasscock Faculty sponsors: Philip Wade and Arlene Courtney

Title: The Gentle Giants of the Columbia River Gorge

*Abstract:* Wind farms are becoming important sources of alternative energy. This documentary explores the history of wind farms in the Columbia River Gorge. It describes the controversy surrounding the development of additional wind farms in the areas surrounding the Columbia River and analyzes the advantages and disadvantages of wind energy. The documentary concludes with a discussion of the future of wind energy and the initiatives we can take as a country and as individuals to promote this technology.

10:30 – 10:45 a.m., NS 103 Ermine Todd IV and Joel Jacob Kobzeff Faculty sponsors: Philip Wade and Arlene Courtney

Title: The Vicissitude of the Beast

*Abstract:* Transportation: Seemingly the focal point of the discussion on alternative energy and efficiency, but only mass transit systems continue to ensure maximum energy efficiency. This documentary explores the issue of transportation efficiency in the modern age focusing on local mass transit systems with specific consideration to busses and electric rail lines. Public transportation technologies facilitate statistically advantageous means of energy efficiency per passenger mile; these technologies, dynamic and constant in expansion and advancement, alter the macroinfrastructure as it evolves to accommodate growth. The Vicissitude of the Beast manifests a statistical appreciation for energy efficiency, an evaluation of present systems, and a perspective of forthcoming machinations. 10:45 – 11 a.m., NS 103 Alysse Parker and Bryan Danaher Faculty sponsors: Philip Wade and Arlene Courtney

Title: Nuclear Fission, Fusion, and the Environment

*Abstract:* Our presentation is a creative video which discusses the processes of nuclear fission and fusion. It begins with a straightforward description of the mechanics involved, as well as the actual and potential uses associated with each process. The main focus of the presentation, however, is waste. We assess the type and quantity of waste produced by fusion and fission, as well as the existing and potential methods of disposing of this waste. Furthermore, we discuss the effects that nuclear waste either does or could do on local and extended environments.

# **ENGLISH**

Session chair: Jason Waite Session title: English, Writing, and Linguistics Location: Werner University Center (WUC)

#### Symposium

8:45 – 8:55 a.m., WUC Columbia Room Natasha Berger Faculty sponsor: John Campbell

Title: Nature's Fire

*Abstract:* The essay is about fire created naturally and the positive effects it has on our forests, such as the reduction of debris that allows for new growth. I want to show the positive side and the historical patterns of fire. In the paper I also discuss the emotional toll on human beings when faced with a natural disaster, such as a fire, and how specialists suggest we cope.

8:55 – 9:05 a.m., WUC Columbia Room Kenneth Anderson Faculty sponsor: Henry Hughes Title: Selected Poetry

9:05 – 9:15 a.m., WUC Columbia Room Jeff Elliott Faculty sponsor: Cornelia Paraskevas

*Title:* Reading in, Writing Out

*Abstract:* Reading in, Writing Out" is a literacy narrative that connects language literacy to computer literacy as the author reflects on his overall literacy learning.

9:15 – 9:25 a.m., WUC Columbia Room Brian Mosher Faculty sponsor: Henry Hughes Title: Selected Poetry 9:25 - 9:40 a.m., WUC Columbia Room

Ben Pearson

Faculty sponsor: Marjory Lange

*Title:* The Expended Fruits of Knowledge: Virgil's Transition from Tutor to Supporter

*Abstract:* The teacher of Dante Aligheri's Divine Comedy changes from Virgil in Inferno to the repentant souls and even Dante himself in Purgatory because Virgil is just as lost in his surroundings as Dante, Dante possesses more knowledge of Christian theology, and Dante has already learned much from Virgil in their journey through Hell.

9:40 – 9:50 a.m., WUC Columbia Room **Miles Robinson**  *Faculty sponsor:* Henry Hughes *Title:* Selected Poetry

9:50 – 10 a.m., WUC Columbia Room **Dennis Butler** *Faculty sponsor:* Curtis Yehnert

Title: A Frayed Knot

*Abstract:* "We aren't going to need that are we?" Blaire asked, cautiously eyeing the 50 meter climbing rope. But they would. They would need rope enough for three, the courage to press on, and the sense to walk away.

10 – 10:15 a.m., WUC Columbia Room Hollee Schildan Faculty sponsor: John Campbell

Title: Cape Kiwanda Housing Developments

*Abstract:* This essay explores the environmental and economical impacts of several housing developments in the small coastal town of Pacific City, Ore. The main focus of the paper is on the 2004 construction of 42 houses on three acres of land now called Dory Pointe. It presents the lack of utilization of the beach land near Cape Kiwanda in terms of revenue and how the economic downturn has made it difficult for people to be able to purchase the already constructed homes near the beach.

10:15 – 10:30 a.m., WUC Columbia Room Andrea Hughes and Valerie Wiegand Faculty sponsor: Uma Shrestha

Title: Like, Our Project

*Abstract:* Based on the study done in our Language and Society class (LING 312), we decided to interview women of three different age groups to determine which group used "like" as a regular part of their vernacular in the two different settings in which we interviewed them. We then organized our data and noticed the patterns in our findings as well as the difference in the number of times "like" was used when changing from a formal to an informal setting. 10:30 – 10:45 a.m., WUC Columbia Room **Aaron Timm** *Faculty sponsor:* John Campbell

*Title:* Seventeen Celebration with Snow, Lentils, and Camp Robbers

*Abstract:* The paper recalls my time spent in Catherine Freer Wilderness Expeditions, a wilderness drug treatment program. The paper also relates to environmental issues and my thoughts on some of these issues.

10:45 – 11 a.m., WUC Columbia Room **Katie Tvrdy**  *Faculty sponsor:* Henry Hughes *Title:* Selected Poetry

11 – 11:10 a.m., WUC Columbia Room **Evan Christopher**  *Faculty sponsor:* Henry Hughes *Title:* Selected Poetry

11:10 – 11:25 a.m., WUC Columbia Room Meyer Prize Winner – *To be announced Faculty sponsor:* English Department

#### Phi Kappa Phi First Year Writing Competition Award Winners

**Mikhael Yitref** *Faculty Sponsor:* Christine Harvey *Title:* What iPods Mean for Tomorrow's America

**Tammy McWilliams** *Faculty Sponsor:* John Campbell *Title:* Are We Adequately Equipping Our Struggling Readers?

# **GRADUATE SCHOOL**

Session chairs: Linda Stonecipher and Mary Bucy Session title: Graduate Reception – Graduate School Location: Werner University Center (WUC)

#### **Posters and Reception**

3 – 5 p.m., WUC Oregon Room Karley Herrick Faculty sponsor: Kevin Walczyk Title: Piano

3 – 5 p.m., WUC Oregon Room **Chie Nakagawa**  *Faculty sponsor:* Kevin Walczyk *Title:* Piano

3 – 5 p.m., WUC Oregon Room **Robert Moore, Tyler Laughlin, Vivian Reed, Jon Tipton, Lindsay McNeill and Sam Summers** *Faculty sponsor:* David Doellinger *Title:* 2008-2009 History MA Graduate Research Projects

3 – 5 p.m., WUC Oregon Room **Roseanne Steckler**  *Faculty sponsor:* Mickey Pardew *Title:* Innovative and Effective Curriculum for Under-Performing Students in Special Education

3 – 5 p.m., WUC Oregon Room Vanessa E. Martinez Faculty sponsor: Chung-Fan Ni Title: Vocational Rehabilitation: Steps to Career Placement

3 – 5 p.m., WUC Oregon Room **Stephanie W. Hampton** *Faculty sponsor:* Chung-Fan Ni *Title:* Suicide in Oregon

3 – 5 p.m., WUC Oregon Room **Melissa Lalack** *Faculty sponsor:* Stephen Gibbons

*Title:* Inmates and Staff's Perceptions of Programs and Services Offered at Oak Creek youth Correctional Facility

3 – 5 p.m., WUC Oregon Room Hind Alghanmi Faculty sponsor: Mary Bucy

*Title:* The Principles of Communication Theory and their Application to the Use of Technology in the Classroom

# HEALTH, PHYSICAL EDUCATION AND EXERCISE SCIENCE

Session chairs: Daryl Thomas and Eric Bruce Session title: Health, Physical Education and Exercise Science Symposium

Location: Werner University Center (WUC)

#### 8:40 – 8:55 a.m., WUC Santiam Room Andrea Kester

Faculty sponsor: Katherine Farrell

*Title:* Be Cool, Keep P.E. In School!! (Early Elementary Physical Education)

*Abstract:* In PE433 the class was given a project in which we were supposed to imagine that the school we were working for would be cutting physical education due to budget cuts and the fact that the school had decided physical education was not necessary and unimportant. The P.E. specialist asked us to help them come up with a report to present to the school board addressing why such an essential part of the curriculum should not be cut. We were required to do research to justify the educational worth of physical education and why it should remain in schools.

9 – 9:15 a.m., WUC Santiam Room Katrina Griffith

Faculty sponsor: Daryl Thomas

Title: Comparing Recycling in the US and Germany

*Abstract:* It is imperative to the world's health that people recycle to help reduce green house gas emissions. Recycling is the process of not "throwing away" glass, cardboard, paper, motor oil and other materials. Instead, these materials may be broken down and made into new products. In Germany, the government established the Green Dot System under the Packaging Ordinance of 1991. Germany's recycling rate is 113 percent, in the USA it is 30 percent, and in Oregon the recycling rate is close to the national average. A comparison of US and German philosophy, policy and program for recycling and a brief evaluation of effectiveness of several programs will be presented.

9:20 – 9:35 a.m., WUC Santiam Room Annalyse Nordstrom Faculty sponsor: Daryl Thomas

*Title:* Home versus Hospital Childbirth

*Abstract:* Based on the documentary The Business of Being Born this presentation investigates hospital birth practices in the USA and compares this to the option of home birth. By providing women with the information needed to be considered about their birthing options, this allows them to have power over their choices for childbirth. 9:40 – 10 a.m., WUC Santiam Room Shannon Carey Faculty sponsor: Daryl Thomas

Title: Underinsured in America

*Abstract:* The United States health care system is in a crisis. Many of the problems stem from concerns regarding health insurance. The number of uninsured Americans is at an all-time high and is continuously rising. Another group of Americans in jeopardy, but often overlooked, are the underinsured. This population is rarely researched or advised. Nevertheless, those who are underinsured are at great risk, facing many of the same experiences of those with no coverage. This issue needs to be catapulted into the spotlight because millions of people are suffering in the shadows.

10 – 10:15 a.m., WUC Santiam Room Garret Caster and Kate Townsend Faculty sponsor: Robert Hautala

*Title:* Aquatic Agility Training and its Effect on Soccer Dribbling vs. Physical Ability

*Abstract:* The purpose of this study was to investigate differences between physical ability and motor skill. The study consisted of two pre-tests; one of physical ability test one of motor skills, an "agility training program" – 30 minute agility training sessions in a pool; four days a week for three consecutive weeks, and two post-tests that mirrored the pre tests. Results showed an increase in subjects' physical ability but little to no improvement in motor skill performance. This project gave us a better understanding of the subject and also provided a valuable experience in developing our research skills and applying our creativeness in a field experience.

10:20 – 10:30 a.m., WUC Santiam Room **JD Welch and Phil Schmaltz** *Faculty sponsor:* Robert Hautala

Title: Attentional Focus and Skill Acquisition

*Abstract:* The purpose of this research project was to determine if a specific attentional focus would have an effect on skill acquisition and retention learned under varied practice conditions. The two practice groups, composed of equal numbers of males and females and all college students with no prior skill experience, practiced under either distributed or massed practice schedules but with different attentional focus instructions. Subjects were given baseline and retention tests with the same instructions for both groups and tests. Our study found that the distributed practice group had the greatest increase in points between tests, compared to the practice group.

10:30 – 10:45 a.m., WUC Santiam Room Kellen Walker

Faculty sponsor: Robert Hautala

Title: Positive versus Negative Feedback

*Abstract:* It has been hypothesized in past studies that positive coaching combined with a high amount of technical instruction will produce the peak level of performance for

an athlete. This study looked at the effect of negative versus positive feedback on skill acquisition. Ten females and 10 males subjects participated. No subjects had any significant experience playing either softball or baseball. Data collection occurred over two separate sessions, in which subjects fielded 20 ground balls in each session while using an external attentional focus and receiving two different types of feedback. Data trends will be discussed.

#### 11 – 11:15 a.m., WUC Santiam Room Kandace Bangert

Faculty sponsor: Tom Kelly

Title: The Effects of L-Arginine and Exercise

*Abstract:* Consumption of supplements to improve performance is a multi-billion dollar industry in the U.S. This presentation examines the current research regarding claims about the efficacy of L-arginine as an ergogenic aid for enhancing human performance. Specifically in the area of increasing power, lean body mass and what it does to the body.

11:15 –11:30 a.m., WUC Santiam Room **Brad Pankey** *Faculty sponsor:* Tom Kelly

*Title:* Critical Analysis of Ergogenic Claims made for Glutamine

*Abstract:* Glutamine is an amino acid that is often purported to be useful as an ergogenic aid. The main claim from manufacturers is that it helps the body preserve muscle tissue and contributes to glycogen storage in muscles. This study is aimed at examining peer reviewed journal articles that will help reveal whether glutamine supplementation will in fact boost performance and aid in recovery. This presentation is a summary of the findings that includes some recommendations regarding possible supplementation for athletes.

#### 1 - 1:15 p.m., WUC Santiam Room

# Katrina Griffith, Roxana Menjivar, Tyler Sutherland and Ashlee Richardson

Faculty sponsor: Daniel Lopez-Cevallos

Title: Evaluation Plan for Dental HOPE

*Abstract:* Dental HOPE is a program at the Boys & Girls Club in Salem, Ore. The program was designed to provide dental services to children of low-income families and preventative education for the parents at no cost to the families. The objectives of the evaluation plan are to find out if the required education classes are increasing the parent's awareness and knowledge of dental hygiene as well as if the children and parents satisfied with the educational program and dental services. The evaluation tool developed was a 15 question survey for the parents assessing the evaluation objectives.

#### 1:20 – 1:35 p.m., WUC Santiam Room Roxana Menjivar, Laura Gilbert and Jenilyn Lacer

Faculty sponsors: Daniel Lopez-Cevallos and Jerry Braza

Title: FHDC Colonia Amistad - Lecturas en Familia

*Abstract:* Lecturas en Familia (Reading in Families) is a Spanish literacy program designed for migrant farmworking families, specifically pre-school to elementary aged children and their parents. The purpose of the program is for children to learn how to read and write at an early age in their mother language. Participation in the program provides the children with the literacy skills to have a smoother transition into schooling and preserves their native language. The continuing impact of the program in this population includes creating a sense of leadership, confidence, and feelings of empowerment among all of its community members.

#### 1:40 - 1:55 p.m., WUC Santiam Room

#### Tasha Burlison, Sydney Ewing, Austin Haag and Megan Vanderplaat

Faculty sponsors: Daniel Lopez-Cevallos and Jerry Braza

Title: Forgotten People Foundation

*Abstract:* The Forgotten People Foundation was created to provide housing and care for abandoned and severely disabled children in Bac Ninh, Vietnam. In HE471W Program Planning at Western Oregon University, the students have been working in cooperation with the Forgotten People Foundation to increase the quality of living conditions for the disadvantaged people in Vietnam, also providing basic supplies, health awareness and vocational training. Working together a benefit concert was hosted to raise funding to complete the construction of an orphanage in Vietnam. The benefit concert is one small step that contributes to a much larger social issue that lies in Bac Ninh, Vietnam.

# 2 – 2:20 p.m., WUC Santiam Room

#### Rebecca Kelly, Jenn Oldenburg, Natasha Murashko and Marissa Hufstader

Faculty sponsor: Daniel Lopez-Cevallos

Title: Campus Wellness Challenge Assessment/Evaluation

*Abstract:* For our assessment and evaluation health class we presented on Western Oregon University's Campus Wellness Challenge. There were needs assessed for this program along with program objectives that the program coordinator, Carli Rohner, had established. As an assessment team, we looked into the program by evaluating the program and determining the effectiveness of the program on the WOU campus. We included an assessment budget, fall-back strategies, literature review, utilization plan, logic model and other evaluation tools for our project.

2:20 - 2:40 p.m., WUC Santiam Room Whitney Langwell Faculty sponsor: Jessica Henderson

Title: Multiple Sclerosis: A Case Study

*Abstract:* This case study paper documents the personal experience of a woman diagnosed with multiple sclerosis. The interview illustrates the biopsychosocial model of disease and how one person copes with the physiological, psychological, social and cultural aspects of the disease. A summary of a related published research article investigates the impact of stressful life events on risk of relapse in women with multiple sclerosis.

# **MATHEMATICS**

Session chair: Michael Ward Session title: Academic Excellence in Mathematics Location: Werner University Center (WUC)

#### Presentations

8:30 – 8:50 a.m., WUC Willamette Room **Michael Rivers** *Faculty sponsor:* Michael Ward

Title: The Last Round of Betting in Poker

*Abstract:* Every poker player has a way to determine what decision to make in the last round of betting, but few use the power of game theory to maximize their profits. Some specific solutions exist, but playing optimally is not always the best you can do. In The Last Round of Betting in Poker, Jack Cassidy discusses an interesting notion: how should you play if you can determine your opponent's strategy? In many situations a dominant strategy to the usual optimal strategy for the last round of betting exists. Learn basic principles that are easy to apply and will help you make the mathematically correct decisions in order to maximize your profits at your next poker game.

8:50 – 9:10 a.m., WUC Willamette Room Chris Mock

Faculty sponsor: Michael Ward

Title: 3-Colorings of Finite Groups

*Abstract:* Briefly talking through the ideas given in a mathematical paper written by Robert Haas, titled 3-Colorings of Finite Groups or an Algebra of Nonequalities, this presentation will cover the ideas of graph coloring theory applied to the theory of groups. Using a specific definition of a coloring, the ultimate goal I wish to show is that 3-colorings of finite groups provide a respectable amount of information about the structure of the group itself.

9:10 – 9:30 a.m., WUC Willamette Room Wesley Parker Faculty sponsor: Michael Ward

*Title:* Hide and Seek with (7,3,1)

*Abstract:* This presentation, inspired by a paper by Ezra Brown, will introduce the audience to the object known by one name as (7,3,1) and cover a subset of the many branches of mathematics where this object has been found. Join me in a game of hide and seek with (7,3,1).

#### 9:30 - 9:50 a.m., WUC Willamette Room

#### Andrew Nerz

Faculty sponsor: Michael Ward

*Title:* Chessboard Non-Attacking Puzzles: Graph Theory, Combinatorial and Integer Programming Solutions

*Abstract:* This presentation will focus on a puzzle proposed by Gauss himself: How many of one type of chess piece can be placed on the board such that no two of them can attack? We'll see how three interesting and completely different fields of mathematics can all be used to find solutions to this puzzle. You can try and find solutions to these puzzles yourself at home!

10:10 – 10:30 a.m., WUC Willamette Room Corey Goll

Faculty sponsor: Michael Ward

Title: The Shot Made 'Round the Table

*Abstract:* When playing pool on an elliptical table, one may want to return a shot to its original position. See when and if these shots are possible as the shape of the table varies. Learn to impress your friends with the basics of elliptical billiards from a mathematical outlook. Learn trick shots first-hand by trying them a prototype elliptical billiard table.

10:30 – 10:50 a.m., WUC Willamette Room

Jenne Elston

Faculty sponsor: Michael Ward

Title: Peg Solitaire

*Abstract:* This expository presentation, based on the work of several authors, will show the connection of the popular game peg solitaire to the infamous Klien-4 group, including some strategies for it. I will also present a few new games.

10:50 – 11:10 a.m., WUC Willamette Room Matthew James Schmidgall Faculty sponsor: Cheryl Beaver

*Title:* A Rubik's Cube Cipher

*Abstract:* How can a puzzle be used to protect national security? In this talk we will be considering the Rubik's Cube as a basis for an encryption algorithm. We will explore it as a permutation cipher, the possibility of key collisions, and some methods that may be used to increase the cipher strength and security.

11:10 – 11:30 a.m., WUC Willamette Room Masaki Ikeda Faculty sponsor: Michael Ward

Title: Random Juggling: Which State Happens the Most?

*Abstract:* Juggling is well known as a very friendly entertainment. Suppose one keeps juggling randomly for a certain time. We will examine which of the situations of objects caught/thrown happens more likely than others by using Markov chains, as described in a paper by G. S. Warrington.

# **MATHEMATICS**

Session chair: Michael Ward Session title: Pi Mu Epsilon Induction Ceremony Location: Werner University Center (WUC)

2 – 2:20 p.m., WUC Willamette Room **Presenter: Wesley Parker** President, Oregon Delta Chapter, Pi Mu Epsilon *Title:* Pi Mu Epsilon Induction Ceremony

#### 2:20 – 3:30 p.m., WUC Willamette Room Invited Speaker: Professor James Pommersheim Reed College

Title: Euler-Maclaurin Summation for Polytopes

Abstract: Say f(x) is a function, and you want to find the sum . The integral, which is usually easier to compute, can be used to approximate the sum. If you want an even more accurate approximation, the Euler-Maclaurin Formula (1735) tells you what additional correction terms, involving derivatives of f(x), to throw in. Now say f(x,y) is a function of two variables and you want find the sum of f(x,y) over the lattice points in some polygon in the plane. (Lattice points are points with integral coordinates.) If f is the constant function f(x,y)=1, we are simply asking how many lattice points are inside the polygon. This is already an interesting question with an interesting answer, called Pick's Formula (1899). The general question of summing functions over polygons has seen great progress just in the last three years! Time permitting, after discussing the Euler-Maclaurin formula and Pick's Formula, we'll have a look at some of this progress.

# MATHEMATICS

Session chair: Cheryl Beaver Session title: Mathematics Poster Session Location: Werner University Center (WUC)

#### Posters

11:30 a.m. – 1:30 p.m., WUC Pacific Room Emily Trigg, Danny Corliss and Corey Goll Faculty sponsor: Michael Ward

Title: Fundamental Theorem of Finite Abelian Groups

*Abstract:* Have you ever been working with an Abelian group and realized you don't know what that group "looks" like? Well, if the group is finite, then you can quickly and easily find a group to which it is isomorphic! This project describes that process and shows an example of how it can be used.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room Dania Morales, Anne Sanders and Laura Waight *Faculty sponsor:* Michael Ward

*Title:* The Classification of Finite Simple Groups: A Not So Simple Task.

*Abstract:* How many mathematicians does it take to prove a theorem? In the case of the Enormous Theorem, which attempts to classify all finite simple groups, it takes over 100! Beginning with Galois in 1832 and continuing through the present day work of Ashbacher and Janko, the Enormous Theorem is the hottest thing happening in group theory. Come learn some math, a little bit of history, and sing a simple song.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room Mitch Staehle, David Daniels and Cassie-Ann Jacinto Faculty sponsor: Michael Ward

*Title:* Cayley-Sudoku Tables

*Abstract:* Enjoy Sudoku? Well we have a way of creating a new type of Sudoku tables, namely Cayley-Sudoku tables invented here at WOU! The focus of our topic is developed using elementary group theory, and we will be focusing on the integers mod 9. You can create your own, and solve your own using Sudoku rules and group theory rules.

#### 11:30 a.m. – 1:30 p.m., WUC Pacific Room Chris Sermon, Matt Schmidgall and Kristal Temple *Faculty sponsor:* Michael Ward

#### Title: Arthur Cayley

*Abstract:* Groups are one of the basic algebraic objects, but the definition of a group has changed over time. Arthur Cayley was one of the first to define a group. Come see some of the history around this historic event and a comparison between Cayley's definition and the modern one. Can you figure out the pattern of our background?

# **MODEL UNITED NATIONS**

Session chair: Mary Pettenger Session title: Model United Nations Mock Session Location: Humanities and Social Sciences (HS)

#### 10 – 11 a.m., HS 112

Nicole Espeland, Jeffrey Sawyer, Ekaette Udosenata, Melissa Lee, Brandon Harris, Shannon Harrison, Emiko Hori, Kristina Follis and Christina Palmrose Faculty sponsor: Mary Pettenger

Title: Model United Nations Mock Session

Description: The Model United Nations Club will hold a onehour 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: Solveig Holmquist Session title: Concert Choir open rehearsal with new student composition Location: Smith Music Hall (SM)

#### Performance

12:30 – 1:30 p.m., SM 121 Student Composer: Shelley Withee

Title: Tempest (Composer Rehearsal Work)

The Western Oregon University Chamber Singers will rehearse its upcoming concert, including a student composition by Shelley Withee. The piece is scored for 12part choir and two Cellos.

# MUSIC

Session chair: Sherry Alves Session title: Soulstice Location: Smith Music Hall (SM)

#### Performance

7:30 – 9:30 p.m., SM 121 Performance by the music ensemble Soulstice.

# MUSIC

Session chair: Joseph Harchanko Session title: Music Performance Showcase– Concerto Competition Winners Location: Smith Music Hall (SM)

#### Performances

11 a.m. – 12:30 p.m., SM 121 Student Performers, Times to be Announced

**Erica Hall** Faculty sponsor: Jon Savage Title: Concerto No. 2 by W.A. Mozart mvt.2

**Colin Dunlap and Gillian Denton** *Faculty sponsor:* Jamie Hall *Title:* Quiet City by Aaron Copland

Karen Jepsen Faculty sponsor: Kevin Helppie Title: Kommt ein Schlanker Bursch Gegangen by K.M. von Weber

**Kurleen Nowickas** *Faculty sponsor:* Kevin Helppie *Title:* Mon Coeur S'ouvre a Ta Voix by C. Saint Saens

**Bethany Glasscock** *Faculty sponsor:* Diane Baxter *Title:* Concert Champetre by F. Poulenc

**Chie Nakagawa** *Faculty sponsor:* Diane Baxter *Title:* Piano Concerto in C Major by S. Prokofiev

Sara Truelove Faculty sponsor: Dunja Jennings Title: Concerto for Clarinet and Strings Mvt.3, by Malcolm Arnold

# PHILOSOPHY

Session chair(s): Susan Daniel Session title: Senior Tutorial Thesis Presentations Location: Humanities and Social Sciences (HSSS)

9:30 – 10 a.m., HSS 336 **Christopher Mock** *Faculty sponsor:* Susan Daniel *Title:* The Philosophy of Mathematics

10 – 10:30 a.m., HSS 336 Wm Glen La Mar Faculty sponsor: Susan Daniel Title: Forgeries as Art

10:30 – 11 a.m., HSS 336 **Lucas Ewing** *Faculty sponsor:* Susan Daniel *Title:* Pain is Pleasure

1 – 1:30 p.m., HSS 336 **Sarah Furr** *Faculty sponsor:* Susan Daniel

*Title:* A Comparison of Utilitarianism and Hedonism as Accounts of Happiness

1:30 – 2 p.m., HSS 336 Jason McCoy Faculty sponsor: Susan Daniel Title: Pleasure and its Relationship to Happiness

2 – 2:30 p.m., HSS 336 **Adam Martinak**  *Faculty sponsor:* Susan Daniel *Title:* Kant's Moral Theory as it Bears on his Conception of Happiness

2:30 – 3 p.m., HSS 336 **Laura Brown** *Faculty sponsor:* Susan Daniel

*Title:* Rawls's Principles of Justice and a Property-Owning Democracy

3 – 3:30 p.m., HSS 336 **Betsey Culliton** *Faculty sponsor:* Susan Daniel *Title:* Personal Identity and the Self 3:30 – 4 p.m., HSS 336 **Peter McDill** *Faculty sponsor:* Susan Daniel *Title:* The Essence of Evil

# **POLITICAL SCIENCE**

Session chair: Mary Pettenger Session title: Political Science Poster Session Location: Werner University Center (WUC)

#### Posters

11:30 a.m. – 1:30 p.m., WUC Pacific Room Mikhael Yitref Faculty sponsor: Mary Pettenger

Title: Genocide in Srebrenica

*Abstract:* My poster session will include a bit of background information to put this event into the proper context in terms of what led to it and what was going on in the region. I will also include the reasons for why I believe this event took place by talking about what roles certain individuals played, what was going on domestically within Serbia and Bosnia, and how international organizations contributed. In addition to this, I will incorporate pictures and statistics to illustrate the devastation of this particular event.

11:30 a.m. – 1:30 p.m., WUC Pacific Room Chris Young

Faculty sponsor: Mary Pettenger

Title: Energy Policy in Oregon

*Abstract:* Oregon is on the cutting edge of renewable energy technology. As a result of our extensive solar manufacturing and use, wind energy production on the Gorge, being only one of three states that have an active wave energy production program, and our lucrative tax incentives, Oregon has been a leader in the United States' 'Green Revolution.' As an employee at the Oregon Department of Energy, I have witnessed energy policy in action. As a Public Policy and Administration student at WOU, I have researched various topics related to energy, including the Energy Policy Act of 2005. I plan to share my knowledge in this area at the Academic Showcase.

11:30 a.m. – 1:30 p.m., WUC Pacific Room Betsey Culliton Faculty sponsor: Mary Pettenger

Title: Suffering for Suffrage

*Abstract:* This paper examines how Alice Paul and her exposure to the radical political tactics of the Pankhurst women in Britain was able to transfer the same energy to the United States in the fight for woman's suffrage. Additionally, we can use her story as a case study in attempting to answer the questions: Why are there not more female leaders? and What is it about female leaders that makes them the exception to the rule? 11:30 a.m. – 1:30 p.m., WUC Pacific Room Chris Hamilton Faculty sponsor: Mary Pettenger

Title: Washington Special Education Law: A Policy Analysis

*Abstract:* There is a glaring gap between the academic achievement and post school outcomes experienced by students with disabilities and their nondisabled peers. To address this I conducted an extensive analysis of the efficacy of potential remedies for the achievement gap between students with disabilities and students at large. I evaluated potential remedies for several factors affecting their implementation. The paper culminates in a political strategy for adopting the remedy that best balances political feasibility with efficacy.

11:30 a.m. – 1:30 p.m., WUC Pacific Room Jesse Alexander Faculty sponsor: Mary Pettenger

Title: The Life and Legacy of Indira Gandhi

*Abstract:* Indira Gandhi was born into a position of privilege as the only child of Jawaharlal Nehru, an Indian political titan. Indira Gandhi was unique because she had access to education and worldly experience that was not normally available to Indian women. Gandhi was also unique because when she rose to power in India she operated the government in a distinctly un-feminine manner. The ruthless governing style of Gandhi provides a distinct blueprint for aspiring women leaders around the world, from the manner in which to rise to power to methods of holding power.

# **PSYCHOLOGY**

Session chair: David Foster Session title: Psychology Presentation Session 1 Location: Hamersly Library (HL)

#### Presentations

8:30 - 9 a.m., HL 107

Debra Anderson, Marcus Arellano, Jacquelyn DeGraw, Caleb Hughes, Kendra Kunze, Krista Magill, Jennifer Pastorino, Raquel Perez, Nathen Van Slochteren and Lauren Walker

Faculty sponsors: Chehalis Strapp and Kathryn Thompson

*Title:* The Effects of a School Based Mentoring Program on Academic Achievement and Organizational Skills.

*Abstract:* This presentation will provide an overview and discussion of the Western Oregon University-Talmadge Middle School mentoring program. Ten undergraduate students, including seven females and three males mentored at-risk middle school students for six 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.

#### 9 – 9:30 a.m., HL 107

Justin Karr Faculty sponsor: Robert Winningham

*Title:* Omega-3 Polyunsaturated Fatty Acids: Health, the Brain, and the Human Diet

Abstract: Omega-3 Polyunsaturated Fatty Acids (n-3 PUFA) are essential for human health and development. Researchers focusing on n-3 PUFA in the maternal and infantile diets observed benefits on development. Researchers have also linked n-3 PUFA deficiency to several leading causes of American deatHSS: cardiovascular disease, cancer, stroke, diabetes, and Alzheimer's disease. N-3 PUFA have treated mood disorders, attention deficit/ hyperactivity disorder, and autism. Despite their benefits, modern humans consume few n-3 PUFA, but n-3 PUFA in the human diet should promote healthful development and curb disease worldwide. Finally, the cognitive benefits of n-3 PUFA require more research across populations of different ages.

9:30 - 10 a.m., HL 107

#### **Kimber Saville**

Faculty sponsor: Mary Ellen Dello Stritto

*Title:* Date Rape, Depression, and Financial Stress: An Assessment of Student Needs

*Abstract:* During the fall of 2008, Abby's House distributed a student needs survey throughout campus. Students were asked to indicate which out of 22 issues they have faced, if they knew of a friend who needed help, and the importance of each issue. The top five issues faced were stress, financial stress, relationship, depression, and women's health. The issues rated highest in importance were date rape, depression, rape recovery, sexual assault, and financial stress. The majority of students (males and females) agreed that all 22 issues were of high importance and should be recognized by providing resources on campus.

10 – 10:30 a.m., HL 107

#### **Kimber Saville**

Faculty sponsor: Rob Winningham

*Title:* Cortisol Effects and Responsiveness Predicted by Cognitive Inhibition Abilities

*Abstract:* In a time when stress is so high and seemingly unmanageable, learning how to mitigate the negative effects of stress is imperative. We measured salivary cortisol and perceived stress as a function of exposure to a psychosocial stressor. One group was exposed to a stressful condition and the other group was not. Inhibitory abilities were a reliable predictor of cortisol responsiveness (p=.005). Furthermore, better inhibitory abilities were associated with higher cortisol responsiveness and better overall cognitive functioning (p=.03). These findings suggest that cognitive improvement exercises may not reduce the physiological response to stress but may improve cognitive functioning under stress.

# PSYCHOLOGY

#### Session chair: David Foster

Session title: Psychology Keynote Speaker, Western Oregon University Psychology Student Association (WOUPSA) Club Location: Hamersly Library (HL)

11:30 a.m. – 12:30 p.m., HL 107 Invited Speaker Psychology Keynote Speaker, WOUPSA Club

# PSYCHOLOGY

Session chair: David Foster Session title: Psychology Presentation Session 2 Location: Hamersly Library Room 107

#### Presentations

#### 2 – 2:15 p.m., HL 107

Maegan L. Christoson, William J. W. Feldmann, Daniel W. Mutschler and John P. Jones

Faculty sponsor: Robert Winningham

*Title:* Use it or Lose it: The Effects of Cognitive Stimulation on Memory Ability and the Chance of Developing Dementia

*Abstract:* As a result of the aging process, many older adults experience impairments in memory encoding, attention, and inhibition. Worse yet, many older adults develop mild cognitive impairment or dementia. The use it or lose it theory and the reserve hypothesis suggest that consistent cognitive stimulation throughout life can prevent or delay impairment. Based on numerous lines of research, which will be reviewed in this presentation, we conclude that older adults can decrease their chance of developing dementia and may even be able to improve their memory ability by staying cognitively active.

#### 2:15 - 2:30 p.m., HL 107

#### Daniel W. Mutschler, William J. W. Feldmann, Maegan L. Christoson and John P. Jones

Faculty sponsor: Robert Winningham

*Title:* Cognitive Rehabilitation: How to Conduct a Group-Based Cognitive Enhancement Class Designed to Improve Older Adults' Memory Ability

*Abstract:* Older adults can decrease their chance of developing dementia and may even be able to improve their memory ability by staying cognitively active. The activities we use in our group-based classes were designed to stimulate different regions of the brain and help older adults improve targeted cognitive abilities that are vulnerable to the aging process (e.g., attention, memory encoding, and word fluency). The WOU Cognitive Rehab Team will describe how we organize a group-based cognitive rehabilitation class and we will demonstrate various cognitive rehabilitation activities, such as spatial orientation, word generation, sentence completion, mathematical problems, social activities and word puzzles.

#### 2:30 – 2:45 p.m., HL 107 Daniel W. Mutschler, Amanda Zentz, Meagan Christoson and Laura Fink

*Faculty sponsor:* David Foster

*Title:* Personality and Group Development as Predictors of Group Decision Making

*Abstract:* Effects of personality characteristics and group development on group decision making were examined. Participants completed two wilderness survival tasks where groups ranked ten items according to their perceived survival value. Before beginning the tasks, participants completed seven personality measures. A 3X3 experimental design involving forming activities and feedback were used to manipulate group development. In the forming conditions, participants became acquainted with other group members. In the feedback conditions, either performance or process feedback was provided prior to the second task. Participants completed measures on group consensus and emergent leadership after the second task. Results and implications will be discussed.

#### 2:45 – 3 p.m., HL 107

#### Mia Broberg, Erick Rivera, Alisa Mattiazzi, Noreen Valdez and Todd Bjarnson

Faculty sponsors: Eric Cooley, Tamina Toray and Lauren Roscoe

Title: Reactions of College Students to Various Types of Loss

*Abstract:* This study examined the effects of various types of death and non-death losses experienced by college students. It assessed the impact of loss on an individual, and their reactions to it. College students (n=181) participated in a survey twice, at an interval of eight weeks, regarding a specific loss experienced in the previous year. The study found death loss had a lower resolution at time one (p<.05). There were more avoidance related behaviors associated with non-death loss at time one (p<.001). There were more positive feelings reported at time two, although there was no change in overall satisfaction with life.

#### 3 – 3:15 p.m., HL 107

**Courtney M. Earle, , Jennifer Mill and Irina Granov** *Faculty sponsor:* Kathryn Thompson

*Title:* What Does Sex Have to Do With It? Attachment: Mothers, Fathers, Sons, Daughters, & Lovers

*Abstract:* Research indicates women are more expressive, receptive, and committed. We hypothesized mothers would be remembered and perceived more positively than fathers and women would report a more positive view of self and others in relationships; specifically, that men would report themselves as more dismissing than women. University students (n=364) responded to scales measuring adult relationships with intimate partners, and scales measuring relationships with parents. ANOVAs indicated students remembered and perceived mothers more positively than fathers. Although, a MANOVA of our measures did not show a significant sex difference, men rated themselves as significantly more dismissing in adult relationships.

# **PSYCHOLOGY**

Session chair: David Foster Session title: Psychology Poster Session 1 Location: Werner University Center (WUC)

#### Posters

#### 9 – 11 a.m., WUC Pacific Room **Keiko Ushijima-Mwesigwa, Chelsey Asbury** *Faculty sponsor:* David Foster

Title: Effects of Mere Presence on Memory

*Abstract:* The term social facilitation is used to designate any effect of the presence of others on individual task performance (Bond, 2000). Based on theory, we hypothesized that individuals could memorize more complex words alone than when in the presence of others. Data were collected from 30 participants who were asked to recall a list of 32 unfamiliar words either in the presence of others or alone. The results showed no significant differences (F=.996, p>.327) between the mere presence condition and the alone condition. These results were in contrast to previous research on the effects of social facilitation.

9 – 11 a.m., WUC Pacific Room Kerri A. West

Faculty sponsor: Chehalis Strapp

*Title:* The Effects of Music on a Person's Memory and Ability to Recall Information.

*Abstract:* It was predicted that music with lyrics relative to music with no lyrics and to silence would influence a person's ability to recall. There were 33 participants in this study, including eight male and 25 females (M age=20, SD=3.19). Participants filled out a personality questionnaire, then studied a list of words, and then recalled the words under conditions of vocal or instrumental music, or silence. Recall scores were lowest for music with lyrics condition. These results suggest that music with words affects recall ability.

#### 9 – 11 a.m., WUC Pacific Room Kayla Willhite

Faculty sponsor: Chehalis Strapp

*Title:* Gender Related Factors and Their Influence in Stereotyping Homosexuals

*Abstract:* This study looked at whether atypical males and females would be perceived as homosexual. Participants, 24 undergraduates (10 male and 14 females) between the ages of 18-35 (M=20.1, SD=2.5) filled out the Personal Attributes Questionnaire (Spence & Helmreich, 1978) for themselves, then read 1 of 4 profiles of either a typical (i.e. male mechanic) or atypical (i.e. female mechanic) person. Participants also filled the PAQ for the profile person and rated them on a homosexuality scale. Atypical profiles were rated as homosexual more often than typical profiles, suggesting that atypical people are stereotyped more than typical people.

9 – 11 a.m., WUC Pacific Room Samantha Goodwin Faculty sponsor: David Foster

Title: How Color Affects Performance

*Abstract:* The results of previous research on the effects of color on performance have been mixed. This study examined how color impacts the performance level of college students. I hypothesized color would enhance participants ability to speak faster compared to the control group. Data were collected from 20 undergraduate students. Participants read aloud from the same list of words while being timed. The words were presented in a white font on either a blue (experimental) or black (control) background. The results showed no significant differences in performance between the two groups (F=0.31, p>.05). Implications will be discussed.

9 – 11 a.m., WUC Pacific Room Samantha Mitchell Faculty sponsor: Chehalis Strapp

Title: Physiological Responses to Stress

*Abstract:* It has been shown that tactile interaction with dogs lowers blood pressure in humans. Twenty-five undergraduates ages 18 to 24, participated in a within subjects study. Participants completed two timed readings, and answered questions related to the readings; once while interacting with a therapy dog and once without. Additionally participants completed the Pet Attitude Scale. Blood pressure was measured throughout the study. Results indicated that blood pressure was significantly lower in the condition while interacting with the therapy dog relative to without the dog. This study supports the idea that dogs have positive health benefits on humans.

9 - 11 a.m., WUC Pacific Room

#### **Emily Rulla**

Faculty sponsor: Chehalis Strapp

*Title:* The Effect of Reinforcement and Punishment on Learning

*Abstract:* It was hypothesized that participants would learn object discrimination fastest with reinforcement, slowest with punishment, and at a moderate rate with both. Thirty participants (20 females, 10 males; M=21 years, SD=2), were randomly assigned to one of the three experimental conditions. Participants selected one of four colored objects and received feedback. The researcher counted the number of trials it took participants to select the correct object in eight consecutive trials. The results showed that participants in the reinforcement-only group learned fastest and those in the punishment-only group learned slowest. This indicates that reinforcement alone is the most effective feedback. 9 – 11 a.m., WUC Pacific Room **Benjamin C. Fenison** *Faculty sponsor:* Chehalis Strapp

*Title:* The Affect of Forgiveness Imagery on Negative Emotions

*Abstract:* This study measured the negative emotions of 15 males and 19 females psychology students (M age=23, SD=1.5) after introduced to a video and photograph which depicted the transgressions of the 9/11/01 attacks of terrorism. It was hypothesized that participants who were introduced to emotional forgiving imagery would score lower on a negative emotion scale then participants who were not introduced to forgiveness imagery. As anticipated participants in the forgiving imagery group scored lower on the negative emotion scale, which suggested that forgiving imagery lowers negative emotions towards transgressors.

9 – 11 a.m., WUC Pacific Room Daniel Mutschler

Faculty sponsor: Chehalis Strapp

*Title:* The Combined Effects of Vicarious Experience and Verbal Persuasion on Math Self-Efficacy

*Abstract:* This study applied vicarious experience and verbal persuasion towards math success predicting it will lead to higher levels of math self-efficacy. The increased levels of self efficacy should also reflect in math multiplication performance. Participants consisted of 40 Western Oregon University undergraduates ages 18 to 29. They were divided into two conditions. The experimental condition included vicarious success and verbal persuasion, while the control condition included no feedback. Both conditions completed a general and math self-efficacy questionnaire and a multiplication aptitude test. Results show that vicarious experience and verbal persuasion increase both self efficacy and math success.

9 – 11 a.m., WUC Pacific Room Maegan Christoson

Faculty sponsor: Chehalis Strapp

Title: Effects of Availability on Attraction

*Abstract:* This study was designed to investigate perceived attraction of a person based on their relationship availability. Previous research suggests single individuals are rated as more attractive than married or involved individuals. Each participant was presented with a photograph of the opposite gender and given a description including whether the person in the picture was single or married. Participants rated the photograph on attractiveness on a six point Likert scale, one being the least attractive and six being the most attractive. Single individuals were hypothesized to be rated as more attractive than married individuals.

#### 9 - 11 a.m., WUC Pacific Room

Amanda Roberts

Faculty sponsor: Chehalis Strapp

*Title:* The Effects of Invasions of Personal Space on Speed and Accuracy

*Abstract:* It was hypothesized that participants subjected to invasions of personal space would complete tasks faster, and with less accuracy than participants who were given ample space. The participants, male and female college students ages 18 to 34, were randomly assigned to a low density situation (proctor sat across the table) or a high density condition (proctor sat directly next to.) Participants completed several accuracy tasks followed by a survey about perceptions personal space. Participants in the low density situation responded more accurately than those in the high density situation suggesting that invasions of personal space affect concentration.

9 – 11 a.m., WUC Pacific Room Amy Justine Sheets Faculty sponsor: David Foster

Title: Gum Chewing Effects on Attention and Memory

*Abstract:* This study examined the effects of sugared and sugar-free gum on attention. I hypothesized that chewing sugared gum would enhance attention. Data were collected from 30 college aged participants who completed the trailmaking tests while chewing sugared gum or sugar-free gum. Participants were scored based on the total number of seconds it took to complete both tests. There were no significant differences in performance between the groups chewing either sugared or sugar-free gum (F=1.42, p>.05). These results were inconsistent with previous findings on the effects of gum chewing on attention.

9 – 11 a.m., WUC Pacific Room Caitlin Summers

Faculty sponsor: Chehalis Strapp

Title: Stroop Test and Memory

*Abstract:* Anxiety plays a key role in everyday living and can affect memory. This study predicted that participants given a modified stroop test would remember fewer of the anxiety related words than control words as well as have a faster response. Participants responding would show more inhibition and have longer response times on stroop test to anxiety related words,(ie.,Foolish) relative to control words (i.e., Bold.)Using a within subjects design, thirty five participants including 17 males and 18 females (M=21.5, SD=1.21). The results suggest that being exposed to anxiety related words results in fewer words being remembered.

#### 9 – 11 a.m., WUC Pacific Room **Kristina Babbitt** *Faculty sponsor:* Chehalis Strapp

*Title:* The Conflict of Thoughts and Actions: How It Influences Your Cognitive Functioning

*Abstract:* This study predicted that incompatibility between head movements and word valence causes lower word recall counts and lower dexterity scores than the compatible group. In a between-subjects design, 25 females and 15 males (M=19 years, SD=2.25) were randomly assigned to an incompatible or compatible condition. After listening to a list of positively valenced words while moving their heads "yes" or "no" and performing a dexterity test, participants recalled words. The incompatible group remembered fewer words and scored lower on dexterity than the compatible group. These results suggest that conflicts between mind and body impact cognitive resources.

9 – 11 a.m., WUC Pacific Room Krista Magill

*Faculty sponsor:* Chehalis Strapp *Title:* Judicial Appearances: The Effects of Physical

Attractiveness on Judicial Sentencing

*Abstract:* Using a between subjects design, the study compared length of judicial sentencing between two groups. It was expected that physically unattractive defendants would receive longer prison sentences than physically attractive defendants who commit an identical crime. The study consisted of 40 Western Oregon University student participants, 15 males and 25 females ages 19 to 34 (M=21.5, SD=3.69). Participants' judgments were assessed by using a Likert scale and post-questionnaire after the stimulus, a mock burglary case with either unattractive or attractive defendants, was administered.

9 – 11 a.m., WUC Pacific Room Nichole Wagner

Faculty sponsor: Chehalis Strapp

*Title:* Music and Memory: The Effects of Background Music on Short-Term Memory Recall

*Abstract:* This research predicted that music would impair recall. Using a between-subjects design, twenty-five participants, including 15 females and 10 males (M=23.7 years, SD=3.4) were randomly assigned to study a list of fifteen words with either music in the background or in silence. The participants in the music condition remembered fewer words than the participants in the silence condition. These results suggest that listening to music while studying impairs recall.

#### 9 – 11 a.m., WUC Pacific Room Stacey Bennett Faculty sponsor: Chehalis Strapp

Title: Height and Gender Effects on Leadership

*Abstract:* This study examined the effects that height and gender had on the perception of leadership. It was predicted that height would have more importance than gender in predicting higher levels of leadership. Participants were 30 Western Oregon University psychology students, between the ages of 18 and 42 (17 females, 13 males). This between subjects study used written descriptions of subjects of various heights and the participants were asked to rate the subjects on leadership rating scales (Birkenholz & Schumacher, 1994). Results concluded that height plays a significant role in perceived leadership.

9 – 11 a.m., WUC Pacific Room Andrew Gilles

Faculty sponsor: Chehalis Strapp

Title: The Affects of Color on Emotional States

*Abstract:* Forty undergraduates (M age=28; SD=10.72) rated their mood with the expectation that mood would differ based on color of the questionnaire paper (yellow vs. white). Participants rated mood on a 5-point scale, half on yellow paper and half on white. Results suggest that color affects mood.

#### 9 – 11 a.m., WUC Pacific Room Jennifer Mill

Faculty sponsor: Chehalis Strapp

Title: The Effect of Perceived Attractiveness on Persuasion

*Abstract:* This study hypothesized participants reading a persuasive speech with weak arguments by an attractive individual would rate the speech higher in degree of persuasiveness, as well as rate the individual higher in trustworthiness and believability than the unattractive individual. Using a between subjects design, thirty participants,16 females and 14 males (M=18.2 years, SD=1.36), were randomly assigned to read the article with either the attractive or unattractive individual's picture at the top; then rate the speech on persuasiveness and the individual on trustworthiness and believability. The attractive individuals received higher scores in all three areas as predicted, suggesting attractiveness influences persuasion.

#### 9 – 11 a.m., WUC Pacific Room Jhamilla Dumas Faculty sponsor: Chehalis Strapp

Title: The Effects of Ethnicity on Perception

*Abstract:* This research expected to find that participants would rate a picture of a Caucasian person differently than they would rate a person of color. Twenty participants were involved in this between-subjects design, 10 males and 10 females (M=21.5 years, SD=1.26). Each participant was randomly assigned to receive a questionnaire and picture of either a Caucasian person or a person of color. The picture of the Caucasian person was rated higher in quality of life, as well as life status. These findings suggest that ethnicity stereotypes effect perception.

#### 9 – 11 a.m., WUC Pacific Room **Katie Selby** *Faculty sponsor:* Chehalis Strapp

Fuculty sponsor: Chenans Strapp

*Title:* Perceptions of Multiple Intelligences Based on Physical Attractiveness and Glasses

*Abstract:* This study predicts the presence of glasses will affect ratings of attractiveness negatively and multiple intelligences positively when compared with ratings in the absence of glasses. Sixteen female and 16 male undergraduate students (M=22.9, SD=3.95) were conveniently sampled. Participants ranked a photograph of a stimulus person either with or without glasses on attractiveness and multiple intelligences. Findings show that glasses did not affect physical attractiveness ratings, but the differences in intelligence were significant. Implications for the future suggest that as times change, intelligence is being viewed as a universal characteristic regardless of facial artifacts.

9-11 a.m., WUC Pacific Room

M. Catherine Bauman

Faculty sponsor: Chehalis Strapp

*Title:* The Effect of Brand Knowledge on Food Preference

*Abstract:* This research predicted that brand knowledge would affect food preference ratings. Using a between-subjects design, forty participants, including 20 males and 20 females (M=20.5 years, SD=2.5) were randomly assigned to rate the taste of either unlabeled or labeled brand name and generic chocolate chip cookies. The brand name cookies were rated significantly higher than the generic cookies in the labeled condition. However, the brand name cookies were rated the same as the generic cookies in the unlabeled condition. These results suggest that brand knowledge affects taste perception.

9-11 a.m., WUC Pacific Room

#### John P. Jones

Faculty sponsor: Chehalis Strapp

Title: Product Exposure and Product Preference

*Abstract:* This study examined whether implicit memory plays a role in consumer product selection; predicting that recent exposure to a product name influences preference for that particular product. Data was collected from 30 students (Mean age=20, SD=1.5). Participants were given a set of fictitious coupons and asked to arrange them in order of perceived value. After a filler task, participants were presented with a list containing some of the previously observed products as well as new product names, and asked to rate their preference for each product. As anticipated, participants demonstrated a preference for previously exposed products.

#### 9 - 11 a.m., WUC Pacific Room

#### Kendra L Kunze

Faculty sponsor: Chehalis Strapp

*Title:* The Effects of Snack Consumption on Cognitive Performance Tasks

*Abstract:* This research predicted that eating a high energy high calorie snack (donut) will influence cognitive performance scores. Using a within subjects design, thirty participants, including 10 males and 20 females (M=22.5 years, SD= 6.06) were given a free recall and logical reasoning task. Then the participants ate the snack and were retested. The results of the study showed higher scores on the cognitive tasks after the snack was consumed. These results indicated that snack consumption has short term effects on cognitive performance.

9 - 11 a.m., WUC Pacific Room

#### Justin Hernandez

Faculty sponsor: Chehalis Strapp

Title: The Perception of Police Misuse of Deadly Force

*Abstract:* When is it deadly force? It's been shown that perceptions of deadly force has been influenced by shots fired and officers present. 30 participants, M=20 years, with a between subject design was used. The dependent variable was perception of deadly force, on an 11-point Likert scale, based on shots fired and officers present. There was a difference among the groups in perceptions that supported the hypothesis. Looking at the results we can see that the perceptions of misuse of deadly force is a big deal and more training should be put in place to stop this phenomenon.

9 – 11 a.m., WUC Pacific Room Jacob Schoebel Faculty sponsor: Chehalis Strapp

Title: Effects of Attributes on Attraction

*Abstract:* What has a bigger influence on attraction, physical features or attribution features? Prior research shows physical and personal attributes impacts attraction, but there's little evidence for which is more influential. Twenty female undergraduates from Western Oregon University, M=18 years, recruited through convenience sampling with a between subjects design was used. The dependent variable was attraction, measured on a 7-point likert scale (Neave & Shields, 2008), and the independent variable was personal attributes. It was found when the picture was accompanied with attributions; there's a difference between the ratings without the picture, implying personal features have a bigger impact on attraction.

### 9 – 11 a.m., WUC Pacific Room Adonal Arrington Faculty sponsor: Chehalis Strapp

Title: Height and Perception Among College Students

*Abstract:* This research predicted that a person's body height will affect the perception others have towards them. Using a between subjects design, 40 college students, including 20 male and 20 female (M=20.5 years, SD=.85) were randomly assigned to view a photo of a tall or short man, then asked to fill out attributes for this person. Attributes ranged from likeable qualities to unlikeable qualities. Men and women both rated the person who appeared taller with more likeable qualities compared to those who viewed the shorter person. These results show that height does affect one's perception by others.

### 9 – 11 a.m., WUC Pacific Room

**Tyler Lalack** *Faculty sponsor:* Chehalis Strapp

Title: The Effect of Defendant Race in a Mock Jury Setting

*Abstract:* This research projected that a juror would convict and suggest harsher sentences on a female of Latin origin than a female of white European origin. Using a betweensubjects design, fifty participants, including 35 females and 15 males between the ages of 18 and 60 (M=32, SD=9) were randomly assigned to read a scenario about either a Latina or a Caucasian on trial for committing a felony. Following the story each participant completed a guilt rating survey and a suggested punishment survey. The results concluded that jurors convicted and punished more harshly Latina females than European white females.

9 – 11a.m., WUC Pacific Room

## Misty Rose West

Faculty sponsor: Chehalis Strapp

*Title:* Using Stereotypes about Clothing to Judge Sexual Orientation

*Abstract:* This research predicted a person's clothing will be used to judge their sexual orientation. Using a betweensubjects design, 30 participants including 15 females and 15 males (M= 19.5 years, SD= 1.21) were randomly assigned to the rate the sexual orientation of one man or women in a photograph, each wearing a stereotypically homosexual outfit and stereotypically heterosexual outfit. The individuals who were dressed stereotypically homosexual were rated more likely to have homosexual tendencies. These results suggest that people use clothing and stereotypes to judge an individual's sexual orientation.

#### 9 – 11 a.m., WUC Pacific Room Wendy Compton Faculty sponsor: Chehalis Strapp

Title: Perceived Likeliness of an Event

*Abstract:* Individuals will rate an event as more likely to happen based on the availability heuristic: recalling information based on how easy it is to recall the event. Twenty undergraduates (M age=26 years, SD=6.80) rated the likelihood of an event occurring, half read a newspaper article about an event, and then picked which event was most likely to occur from a list of events, while the other simply picked which event was most likely to occur. Participants reported the event from the newspaper article as more likely to occur, relative to the control group, suggesting individuals rely on availability to make decisions.

9 – 11 a.m., WUC Pacific Room Tianna Meduri

Faculty sponsor: Chehalis Strapp

Title: The Effect of Emotional Words on Stroop Task

*Abstract:* This study predicted that participants would perform faster on the Stroop task with positive words (i.e. successful) relative to negative words (i.e. failure). Thirty undergraduate students from Western Oregon University ranging in age from 18 to 25 years participated in this within subjects study. When shown each word positive or negative, participants were asked to ignore the word and name the color font for each word. Responding to negative and positive lists were timed and counterbalanced. As expected- responding was faster for color naming to positive words, relative to negative words. This shows that participants are less able to inhibit negative stimuli.

9 – 11 a.m., WUC Pacific Room Courtney Earle

Faculty sponsor: Chehalis Strapp

*Title:* The Effects of Stress on Decisions Regarding Immediate Child Discipline

*Abstract:* This study looked at effects of stressful environments on levels of punishment administered to children. It was hypothesized that adults in stressful environments will practice more extreme levels of punishment than adults in less stressful environments. Data were collected from undergraduates ranging from 18 to 50 years. While participants read a series of vignettes and rated the appropriateness of the level of punishment administered to the child, one group was exposed to a stressful environment (a crying infant who is unable to be comforted). The group exposed to the crying infant showed higher stress levels and higher tolerance to more harsh punishment. 9 – 11 a.m., WUC Pacific Room **Katrina Johnson** *Faculty sponsor:* Chehalis Strapp

*Title:* The Effects of Gender on Employment: Hiring and Salary

*Abstract:* This study investigated gender bias associated with employment. The researcher expected to see a tendency for higher rates of hiring, and levels of salaries assigned for males with an identical resume as a female. Using a between-subjects design, forty participants, including 20 females, and 20 males (M=20.1 years, SD=1.22) were randomly assigned to read a fake resume from a female, a male, and an unspecified author and rate the potential employee based on competence, hireability, and salary. The female resumes received lower levels of hiring, competence, and assigned salaries. These results suggest that gender stereotypes may influence employment.

9 – 11 a.m., WUC Pacific Room Erick Rivera

Faculty sponsor: Chehalis Strapp

Title: The Effect of Misinformation on Memory Accuracy

*Abstract:* This study examined the effects of misinformation on memory accuracy. It was hypothesized that participants exposed to misleading questions would report more false memories than participants exposed to non-misleading questions. Data were collected from undergraduates ranging from 18 to 50 years. Participants were shown a picture of a typical residence hall room, presented either misleading questions or non-misleading questions, and then asked to recall what items were actually present in the photo. The results showed that participants exposed to misleading questions reported more false memories, supporting the hypothesis that misinformation reduces memory accuracy.

9 – 11 a.m., WUC Pacific Room Casey Circle

Faculty sponsor: Chehalis Strapp

Title: Effects of Media Violence and Desensitization

*Abstract:* This study examined the effects of media violence and desensitization. I hypothesized that participants would show a greater difference in mood scores after viewing aversive stimuli. I also hypothesized that participants who exhibited higher desensitization would be less affected by either stimulus. Participants were 30 college psychology students age 18 to 50. Participants completed a mood scale before and after viewing the aversive or non-aversive stimuli. Then participants completed a questionnaire on exposure and preference to media violence to assess desensitization. Results were statistically significant and supported both hypotheses.

#### 9 – 11 a.m., WUC Pacific Room Julie E Jackson Faculty sponsor: Chehalis Strapp

Title: The Effects of Musical Distraction on Working Memory

*Abstract:* The current study investigated the effects of musical distraction on working memory. Using a within-subjects design, 60 participants, including 46 females and 14 males aged 19 to 21 years (M=20 years, SD =1.7) were randomly assigned to three different musical conditions; vocal, non-vocal, and no music, while reading a 90-word paragraph. Participants completed a multiple choice test based on paragraph read. Results indicated disturbance was highest under the vocal-music condition, while participants assigned to non-vocal, or no music conditions, had no significant differences in test performance. This study supported prior research indicating vocal music can inhibit encoding information into working memory.

9 – 11 a.m., WUC Pacific Room

**Raquel Perez** *Faculty sponsor:* Chehalis Strapp

*Title:* Impression Formation, Body Shape and Implications in Employment

*Abstract:* The research predicted that people hold negative stereotypical beliefs of overweight individuals. These beliefs about weight affect wages, promotions and decisions about employment status negatively. Using a between-subjects design, sixty participants, including 22 males and 38 females (M=22.57, SD=12.3) were randomly assigned to read a resume with a picture of an overweight or normal weight job applicant and then rate the hire ability and likeability of the applicant. The overweight applicant received lower hire ability and less likeability scores compared to the normal weight applicant. These results suggest that weight stereotypes influence perceptions and employment status.

## **PSYCHOLOGY**

Session chair: David Foster Session title: Psychology Poster Session 2 Location: Werner University Center (WUC)

### Posters

2 – 4 p.m., WUC Pacific Room **Derrick Anderson** *Faculty sponsor:* Chehalis Strapp

*Title:* Effects of Task Completion on Reversing Learned Helplessness

*Abstract:* The research predicted that successfully completing tasks would cause a lessening in one's level of learned helplessness. Participants consisted of 19 females, 21 males, ages 18 to 25 (M=20.2 years, SD=1.74). Using a between subjects design, the experimental group received unsolvable anagrams to induce learned helplessness, followed by easily solvable anagrams to nullify the LH effect. Finally, they received moderately difficult anagrams. The control group received only the unsolvable and moderate anagrams. The scores on the moderate anagram tests were compared. The experimental group scored higher than the control group, suggesting that task completion.

2 – 4 p.m., WUC Pacific Room Alexander R. Tipton Faculty sponsor: Chehalis Strapp

Title: Effects of Attraction on Helping Behavior

*Abstract:* The present study looks at the effect that perceived attractiveness of an individual has on a potential helper's behavior. Perceived attractiveness makes an individual more likely to receive help. Thirty undergraduates, 15 males, 15 females were asked to provide directions by an attractive or unattractive female confederate. All participants were measured on the duration of help given to the confederate. Results found that males provided more help to an attractive confederate, than an unattractive confederate, while females provided more help to an attractive confederate and less help to an attractive confederate.

2 – 4 p.m., WUC Pacific Room **Ashley Zuniga** *Faculty sponsor:* Chehalis Strapp

Title: Short-term Memory Recall and Picture-Paired Words

*Abstract:* The research hypothesized that participants would recall word-picture pairs more efficiently than words not paired with pictures. The participants included 10 males and 20 females (M=21.5 years, SD=2.12). Using a between-subjects design, participants were randomly assigned to view a slide show of 20 words alone or 20 words paired with a corresponding picture, then wrote the remembered words following a 30-second delay. Word-picture pairs were better recalled than non-paired words. The results suggest that picture images enhance memory-based learning and improve recall.

2 – 4 p.m., WUC Pacific Room **Pang Yang** *Faculty sponsor:* Chehalis Strapp

*Title:* The Effects of an Observer on Hand-washing in a Public Restroom

*Abstract:* The purpose of this experiment focused on the hand-washing behavior of females in a public restroom. Using a between subjects design, 50 female participants over the age of 18 were randomly assigned to being unobtrusively observed during hand-washing alone in a public restroom or with a female confederate. In each condition, the participants were measured for length of hand-washing and use of soap. Results indicate that frequency and duration of hand-washing is increase in the presence of a confederate. Though evidence supported the hypothesis, using a larger study with both male and female participants may be considered for future research.

#### 2 – 4 p.m., WUC Pacific Room Alexzandra Cramer Faculty sponsor: Chehalis Strapp

Title: Perceptions of Women with Tattoos

*Abstract:* Tattooed bodies are often associated with an unsophisticated crowd with wild nights of partying and sexual rendezvous. This study examined social and physical perceptions of women with and without tattoos. Sixty participants from Western Oregon University rated randomly assigned photos of one woman either with or without a tattoo. Ratings were made for physical attractiveness, sexual promiscuity, and intelligence level. Results showed that tattooed women were rated as less physically attractive, more sexually promiscuous, and less intelligent compared to untattooed women. Results are discussed in terms of typecasts of tattooed women and the effects of such stereotypes on personal welfare.

2 – 4 p.m., WUC Pacific Room Anne Spalding Faculty sponsor: Chehalis Strapp

*Title:* The Effects of Distraction on Memory of Pictures and Words

*Abstract:* In terms of memory researchers predict pictures will be recalled more than words and less will be recalled if a distraction is present. Thirty participants were tested (Male=13, Female=17) ages 18 to 45. One group was exposed to a distraction while being shown pictures and words that they had to recall. The other group had no distractions. In past research pictorial information (pictures) was recalled more than verbal information (words) and with distractions participants recalled less overall (Pellegrino, Siegel & Dhawan (1975, 1976). This implies that the brain stores information into separate area and that distraction hinder overall learning retention.

### 2 – 4 p.m., WUC Pacific Room Julie E Jackson and Sarah Martin Faculty sponsor: Robert Winningham

*Title:* Exercise and Cognition: The Relationship between Physical Activity and Executive Functioning Among Older Adults

*Abstract:* Many older adults experience a disruption in cognitive abilities, including executive function (e.g., attention, inhibition). In this study we tested the hypothesis that physical activity would be positively correlated with executive function. We measured executive functioning in older adults (n=36; mean age=84 years) and their level of physical. Executive function was measured by the time to complete Trails B test (a common neuropsychological test of executive functioning) and physical activity was measured using the Yale Physical Activity Survey. Results indicated older adults who engaged in more physical activity performed better on the executive functioning test (r=.39).

2-4 p.m., WUC Pacific Room

Amber Sams

Faculty sponsor: Chehalis Strapp

Title: Humor's Effect on Memory

*Abstract:* The current study predicted that participants would recall more humorous sentences than non-humorous sentences. Using a between-subjects design, twenty participants, including 12 females and eight males (M=21, SD=2) were randomly assigned to read a list of sentences, which were humorous or non-humorous. Then participants recalled as many sentences as they could. Humorous sentences were recalled more frequently than non-humorous sentences. These results suggest that humorous material is better remembered than non-humorous material.

#### 2 – 4 p.m., WUC Pacific Room **Rachel Peters**

Faculty sponsor: Chehalis Strapp

Title: Context Effects of Background Color in Free Recall

*Abstract:* This research predicted that individuals exposed to words presented against "hot" colored backgrounds (i.e. red and orange) during acquisition will be able to recall more words than individuals who are exposed to words presented against a white background during acquisition. Thirty participants, 11 males and 19 females (M=19.5 years, SD=2.5) were randomly assigned to either the control group, where twenty five one syllable words were presented oneby-one against a white background during acquisition, or the experimental group, where the same twenty five words were presented one-by-one against a background that would alternate randomly between red and orange. Participants were later asked to recall the words. Results indicate that the number of words recalled is influenced by background color.

### 2 – 4 p.m., WUC Pacific Room **Diana L. Pineda** *Faculty sponsor:* Chehalis Strapp

Title: The Use of Misleading Phrases and False Recollections

*Abstract:* This research predicted that the participants that read the word smashed would report higher speed estimates than those who read the word bumped. Using a betweensubjects design, thirty participants, including 20 females and 10 males (M=20.5 years, SD=1.27) watched a short video clip of a car accident. They were then randomly assigned to either receive a questionnaire that contained the word smashed or bumped. The word smashed elicited participants to report higher speeds, compared to the word bumped. These results, like those by Loftus and Palmer (1974), suggest that misleading phrases may lead to false recollections.

#### 2 – 4 p.m., WUC Pacific Room **Olivia Maruame** *Faculty sponsor:* Chehalis Strapp

Title: Effects of Media Violence on Aggression

*Abstract:* The current study examines violence in the media and its ability to raise aggression in an individual. Researchers randomly assigned 40 participants, age 18 to 25, to be in an experimental group that watched a violent, 5-minute movie clip, or a control group that watched a neutral, 5-minute movie clip. A Likert Scale was used to measure hostility, a form of aggression. Participants who viewed the violent movie clip showed significantly higher levels of hostility (M=7, SD=2) than participants who viewed the neutral movie clip (M=4, SD=3). These results indicate that media violence increases aggression.

#### 2 – 4 p.m., WUC Pacific Room Anna Medvedeva

Faculty sponsor: Chehalis Strapp

Title: Mnemonic Images and Associated Pair Recall

*Abstract:* Foreign words are more effectively remembered if the subject associates the meaning of the foreign word with an image. Using a between-subjects design, twenty five participants, 13 females and 12 males (M=22.48 years, SD=5.47), were randomly assigned to control or experimental groups and each presented with the same 10 pairs of English-Russian words. The experimental group had the addition of a graphic for each word which should result with increased recall. The results indicate that by associating imagery with each word has a significant effect on increasing the immediate recall of the ten presented words.

### 2 – 4 p.m., WUC Pacific Room Annika McMillan Faculty sponsor: Chehalis Strapp

Title: Victim Blaming and Sexual Assault

Abstract: Alcohol consumption by the victim and participant gender both effect the attribution of blame in a rape scenario. The participants were 15 female and 12 male WOU psychology students (M=21.3, SD=2.01). Using a between subjects design, participants were randomly assigned to read one of two scenarios: one depicted a rape scene in which the victim voluntarily consumed alcohol, while the second was similar; however, the victim did not consume alcohol. Participants completed an attribution of blame questionnaire. Alcohol consumption was associated with more blame attribution to the victim. Male participants also attributed more blame to the victim in both scenarios, and participants who were assigned scenario one will also attribute more blame toward the victim. This research will hopefully make the public more aware of the prominence of victim blaming, and help to prevent such behaviors in the future!

2 – 4 p.m., WUC Pacific Room **Greg Roberts** *Faculty sponsor:* Chehalis Strapp

Title: Mood in Relation to an Audible Source

*Abstract:* In this experiment, the test to assessed whether or not an audible source will affect an individuals mood by having 26 participants (M= 22.5 years, SD=4.8) fill out a mood survey in presence of both an audible source and complete silence. It was predicted that individuals that have background music playing, will rate in a more upbeat mood relative to no audible source. Upon completion, the results were analyzed and showed that individuals were in a better mood when in the presence of music.

2 – 4 p.m., WUC Pacific Room **Ryan Gordon** *Faculty sponsor:* Chehalis Strapp

Title: Genders Influence on Overt Conformity

*Abstract:* This study observed the difference between gender levels of conformity. It was hypothesized that either men or women would have a higher rate of conformity. Using a between-subjects design, 20 participants: 13 females and seven males (M=20 years, SD=2) were compared. Three confederates sat with the participant and a picture of four lines. They were asked to answer out loud which line the fourth line most resembled. The confederates answered incorrectly; if the participant answered incorrectly they were considered to have conformed. Results showed a significant difference between genders' rates of conformity. This demonstrates that genders respond differently to society's influences.

#### 2 – 4 p.m., WUC Pacific Room **Dani McFarland** *Faculty sponsor:* Chehalis Strapp

Title: Affects of Television Programming on Mood

*Abstract:* This research predicted that television programs that have a certain mood will affect the mood of the viewers. This experiment was a between subjects design that had 30 participants, 15 males and 15 females between the ages of 18 and 25 (M=19, SD=1.3). The participants filled out a mood questionnaire then watched a 5 minute video that was considered to be either a neutral, positive, or negative mood. They then filled out another questionnaire to determine their mood after viewing the video. The mood scores had changed, after the participants watch the positive and negative mood video, from the pre-video scores. These results mean that the mood of a television program can have an effect on the mood of the person watching it.

#### 2 – 4 p.m., WUC Pacific Room **Kyle Hughes** *Faculty sponsor:* David Foster

*Title:* Aggressive Behavior: A Byproduct of Participation or Exposure to Violent Videogames

*Abstract:* Videogames have become more violent, offensive, and true-to-life. The purpose of this study is to examine the differential effects of actively playing versus passively watching violent video games on self-reported aggression. I hypothesized that I would find a less significant effect on the aggressive self-reports of participants watching a violent videogame, and that I would see a more significant effect on the self-reports of participants playing a violent videogame. The data were statistically significant where F=2.94 at the p<.10 level. The study is congruent with the findings of similar experiments. Videogames can have a significant effect on aggression.

2 – 4 p.m., WUC Pacific Room **Kevin Talbot** *Faculty sponsor:* Chehalis Strapp

*Title:* The Influence of the Bystander Effect and Perceived Helping Behaviors

*Abstract:* The bystander effect is the phenomenon in which individuals are less likely to offer help in an emergency situation when one or more persons are presently witnessing the same event. This study examined the effects of bystanders on perceived helping behaviors. Fifty participants from Western Oregon University were randomly assigned to view a video that either depicted a mildly threatened victim of a mock street crime with bystanders, or without. Participants were surveyed on their feelings of personal implication and willingness to help. Results indicated that when bystanders were present, participants responded as being less willing to lend their aid. 2 – 4 p.m., WUC Pacific Room **Ronda Sue Allen** *Faculty sponsor:* Chehalis Strapp

Title: Meaningfulness and Recall

*Abstract:* The objective of this study was to investigate if participants would accurately recall more of a "nonsensical story" with the addition of a black and white sketch vs. no sketch. Participants were randomly assigned to control (no sketch) or experimental (sketch) conditions, and delayed vs. immediate recall conditions. The results showed that the participants recalled more of the "nonsensical story" with the addition of the sketch, which implies that meaningfulness assists in an individual in their ability to recall information.

## SOCIOLOGY

Session chair: Dean Braa Session title: Research, Praxis, and Pedagogy in Sociology Location: Humanities and Social Sciences (HSS)

#### Presentations

9 - 9:30 a.m., HSS 237 **Dean Braa** (*faculty presenter*) *Title:* Introduction to WOU Sociology

9:30 – 10 a.m., HSS 237 Alicia Davis Faculty sponsor: Peter Callero

Title: Juvenile Delinquency and Social Bonding Theory

*Abstract:* This presentation will focus on the process of social bonding using the theoretical work of Travis Hirschi. It will analyze the elements of social bonding: attachment, commitment, involvement, and belief. These elements are applied to the bonding process in an urban, youth church group in Portland, Oregon.

10 – 10:30 a.m., HSS 237 **Kimberly Mitts** *Faculty sponsor:* Maureen Dolan

*Title:* Sex Segregation and Discrimination in the Work Place: A Comparative Study

*Abstract:* This is a comparative case study of sex segregation and other forms of sex discrimination in the workplace. The forms of sex discrimination that I focused on are sex segregation, sexual harassment and the glass ceiling. This study looks at the segregation of men and women in predominately male, predominately female, and equal workplaces. This comparative case study was to show how a male dominated workplace compares to a female dominated workplace. My research interest is to document the comparative incidences of sex discrimination in different gendered workplaces. 10:30 – 11 a.m., HSS 237 **Sarah Snyder** *Faculty sponsor:* Dean Braa

Title: Fair Trade: A Case Study of Ten Thousand Villages

*Abstract:* The focus of this project is to explain the concept and practice of fair trade. The development of fair trade as an alternative to free trade will also be discussed. The history and operations of a fair trade organization, Ten Thousand Villages, is a key part of the presentation. Fair trade is presented as part of a social justice movement that benefits independent producers in the less developed world.

11 – 11:30 a.m., HSS 237 Maureen Dolan (*faculty presenter*)

*Title:* The Politics of Human Rights: Don't Cry for Me Argentina

11:30 a.m. – 12 p.m., HSS 237 Marco Aguirre and Jaime Lopez Faculty sponsor: Maureen Dolan

Title: Latino Mentoring

## SPECIAL EDUCATION

Session chair: Mary Scarlato Session title: Special Education Presentation Location: Education (ED)

#### Presentation

2:50 – 3:05 p.m., ED 217 **Christa Brandenburg** *Faculty sponsor:* Hank Bersani

*Title:* When Substance Abuse Meets Intellectual Disability: Considerations for Rehabilitation Counselors

*Abstract:* This presentation provides an overview of intellectual disability (ID) (formerly mental retardation) and considerations for rehabilitation counselors regarding substance use and abuse. Policy changes in the last 30 years have led to greater community integration for people with ID. A brief historical perspective of the relationship between increased autonomy and risks associated with substance use is outlined. Research, while limited, on the implications of substance use is reviewed. General findings and recommendations for the assessment of social network and of substance use is emphasized for the rehabilitation counselor.

## **SPECIAL EDUCATION**

Session chair: Mary Scarlato Session title: Special Education Posters Location: Werner University Center (WUC)

#### Posters

3 – 5 p.m., WUC Oregon Room **Roseanne Steckler** *Faculty sponsor:* Mickey Pardew

*Title:* Innovative and Effective Curriculum for Under-Performing Students in Special Education

*Abstract:* A variety of curriculum and related materials developed during student teaching during fall 2008 and winter 2009 will be presented. These materials were designed to stimulate middle school students who had low-motivation and resisted learning. Math and language arts curriculum will be presented including LEGO math and a companion activity book for the novel White Water. Some of the curriculum materials I developed for students with low-incidence disabilities would also be appropriate for young elementary students in general education. Other materials were designed for students receiving specially designed instruction in a learning resource center.

3 – 5 p.m., WUC Oregon Room Vanessa E. Martinez Faculty sponsor: Chung-Fan Ni

Title: Vocational Rehabilitation: Steps to Career Placement

*Abstract:* In today's society many individuals with functional limitations or disabilities often have a difficult time finding a career that can satisfy their needs, both personally and professionally. As a result, vocational rehabilitation offices provide services geared towards working with individuals in exploring personal skills and interests, researching viable occupations and conducting labor market surveys in order to determine job availability. The proposed presentation is a formal case study of one vocational rehabilitation client and his process through occupational exploration and labor market surveying as steps towards his career placement.

3 – 5 p.m., WUC Oregon Room Stephanie W. Hampton Faculty sponsor: Chung-Fan Ni

Title: Suicide in Oregon

*Abstract:* This poster will deal with suicide in Oregon, statistics, suicide warning signs, layman first aid, and professional assessment and crisis intervention. Statistics from the Oregon State Public Health Division "Violent Deaths in Oregon: 2007" report will be presented in graphic form which will demonstrate that suicide affects all age levels, genders, and ethnicities and that many "common truths" about suicide are myths. Signs of impending suicide will be given. Utilizing a first aid approach, a stepby-step process for laymen will be presented emphasizing responsibility to perform. Professional intervention will be presented with assessment tools, duty to warn information, and intervention strategies.

## STUDY ABROAD AND INTERNATIONAL EXCHANGES

Session chairs: John Rector and Isidore Lobnibe Session title: The International Experience – Foundation for Personal and Educational Transformation Location: Werner University Center (WUC)

#### **Panel and Discussion**

1 – 1:15 p.m., WUC Columbia Room Mark Gonzales Faculty sponsor: Michele Price

Title: A City of Poverty—A Sign of Hope

*Abstract:* The heart of Ethiopia, Addis Ababa throbs as a place where social infrastructure shows subtle signs of existence. A heart-wrenching poverty, futile sewer systems, and political corruption entrench this region with hopelessness and despair. All the while, life moves through this crowded city in means for survival and I had the opportunity to share this experience with them for a just a brief moment in time. For last fall and winter term, I was immersed into this developing country for all of its 'goods, bads, and uglies' and I have come here to show what's like to step 'behind' the shoes of those within.

1:15 – 1:30 p.m., WUC Columbia Room Sarah Olds

Faculty sponsor: Michele Price

Title: ¡Hola! to Oviedo and a Dream

*Abstract:* A study abroad information session about my summer 2008 term in Oviedo, Spain. The presentation will cover my site location, where I lived, where I traveled, the social aspects of my experience, a sample of my daily life, the pros and cons of my trip, the value of my experience, and advice to prospective students interested in studying abroad.

1:30 – 1:45 p.m., WUC Columbia Room Mayra Colin Carrillo *Faculty sponsor:* Michele Price

*Title:* The Children Who Unknowingly Shaped My Future Goals

*Abstract:* I would like to share the experience that I had as an intern in Chile. I worked for a non-profit organization called Servicios Para El Desarrollo de los Jovenes (SEDEJ). SEDEJ is made up of several programs and I had the privilege to be part of the program called Programa de Intervencion Breve Montesol, which is located outside of Santiago in a rural town called El Monte. This program works directly with children and adolescents between the ages of zero to 17 who suffer from some kind of psychological issue. My specific duties were very informal but I really enjoyed what I did.

1:45 – 2 p.m., WUC Columbia Room Discussion

## **TEACHER EDUCATION**

Session chairs: Susan Griffin and Katie Willey Session title: College of Education – Division of Teacher Education Location: Education (ED)

#### Presentations

9:30 – 9:45 a.m., ED 217 **Penny McDermott** *Faculty sponsor:* Rachel Harrington

Title: Effective Use of Calculators in the Classroom

*Abstract:* Does a calculator hinder or enrich mathematical learning? Students using calculators were able to practice more problems and had fewer errors. Teachers struggle with how to give kids immediate feedback, which we know speeds the learning process. So, another use for calculators is allowing students to use them to check the answers they have come up with by themselves, giving them immediate feedback and more time for practice.

10 – 10:30 a.m., ED 217

#### Ken McChesney

Faculty sponsor: Tracy Smiles

*Title:* Teacher Research Exploring Teaching Long Smooth Underline in Reading

*Abstract:* This presentation focuses on a teacher's study of a five-step method for improving reading skills at the middle school level. Through the course of a semester, the teacher recorded data, conducted student interviews, and journaled observations for ways to teach long smooth underline, an integral part of the five step method, more effectively.

### 10:45 – 11 a.m., ED 217 Hind Alghanmi

Faculty sponsor: Mary Bucy

*Title:* The Principles of Communication Theory and their Application to the Use of Technology in the Classroom

*Abstract:* There are many different rules for creating an effective PowerPoint presentation. Applying communication theory is one of them. In this study, three theories were observed: Schema Theory, Dual Coding Theory, and Cognitive Load Theory. Three questions were answered: (1) Do teachers apply communication theory to the creation of effective PowerPoint presentations? (2) How do teachers apply communication theory to PowerPoint presentations? And (3) How can classroom PowerPoint presentations be improved by the application of communication theory? These questions were answered by observing classes, interviewing teachers, and completing checklists for both the PowerPoint presentations and for students.

11:10 - 11:25 a.m., ED 217

Julia Jones Faculty sponsors: Tracy Smiles and Sue Dauer

*Title:* An Author Study in Kindergarten Exploring Authentic Literacy Instruction

Abstract: This teacher research study was to examine an author study of Leo Lionni in a kindergarten classroom. Inquiries were explored pertaining to: Will students accurately use literacy language? Will they articulate their connections? Will they develop greater understanding of the author's intent as we read many of his stories? Will the students grow academically through this author study? I strongly believe a child's learning is impacted by their interactions with teachers, peers, and their environment. When reading to young children they become encompassed in a story and have many connections but do not always have the tools or language to express their thoughts. I conducted a study in equipping students with language tools to express themselves when experiencing literature as well as opportunities to share their connections.

1 – 1:15 p.m., ED 217 **Shilo Brownson** *Faculty sponsor:* Judi Mar-Zaleski

Title: My Community

*Abstract:* My presentation will be an overview of how to incorporate your own community into geography lessons and create a lesson that students will enjoy. My lesson incorporates the use of photos, technology, brochures, and a 3-D map. The picture illustrates one of the three lessons that students will do during the "My Community Unit".



1:20 – 1:40 p.m., ED 217 **Sarah Geddie** *Faculty sponsor:* Judi Mar-Zaleski

Title: The Plants Among Us!

*Abstract:* The three lesson unit was taught to a first grade class at Heritage Elementary School in Woodburn, Oregon. The lesson focuses on plant needs, parts, and functions where students engaged in letter writing, word games, creating diagrams and posters, and hands-on demonstrations. The lessons were created and implemented to bring awareness of students' natural environment and to foster a care for living things. 1:45 – 2 p.m., ED 217 **Brendon Fisher** *Faculty sponsor:* Brynn Carter

Title: P.E. Today, Healthy Tomorrow

*Abstract:* My project is just a short presentation on why physical education is so important. I give a brief history of PE in the United States in the last 20 years and show the strides of improvement that have happened and continue to happen. I also talk about how teachers can incorporate more movement in the classroom. I have a fun lesson plan that gets kids up and moving. I also share about how brain breaks are an important part of learning and how you can add them into your lessons.

2:15 – 2:25 p.m., ED 217 Asia Richardson Faculty sponsor: Brynn Carter

Title: Tenure vs. Merit Pay

*Abstract:* A look at the pros and cons surrounding tenure and merit based pay for educators. Also shows how merit based pay could work in schools.

2:30 – 2:45 p.m., ED 217 Christina Cain Faculty sponsor: Marie LeJeune

Title: Mentor Texts from A-Z

*Abstract:* Teachers know that they must teach writing but they have to answer one important question first: how will it be taught? Mentor Texts from A-Z explores one approach—the use of mentors—for teaching 26 different elements of writing.

### 2:50 – 3:05 p.m., ED 217

Christa Brandenburg Faculty sponsor: Hank Bersani

*Title:* When Substance Abuse Meets Intellectual Disability: Considerations for Rehabilitation Counselors

*Abstract:* This presentation provides an overview of intellectual disability (ID) (formerly mental retardation) and considerations for Rehabilitation Counselors regarding substance use and abuse. Policy changes in the last 30 years have led to greater community integration for people with ID. A brief historical perspective of the relationship between increased autonomy and risks associated with substance use is outlined. Research, while limited, on the implications of substance use is reviewed. General findings and recommendations for the assessment of social network and of substance use is emphasized for the rehabilitation counselor. 4:30 – 4:45 p.m., ED 217 **Kimberlee Schrock** *Faculty sponsor:* Tracy Smiles

Title: Improving Reading Fluency Through Sight Words

*Abstract:* This study explores the effects of learning sight words and reading fluency. The students are third through fifth grade set in small guided reading groups of two to three students. Each lesson focuses on concentrated practice on sight words, and then reading those words in context. Student data has led to a three phase cycle of learning to read. One of the phases within the cycle is broken down into five patterns of learning. The results of this study has indicated confirmation for regarding the importance of sight word learning with reading fluency, and has also brought in other educational insights to aid struggling readers.

4:50 - 5:05 p.m., ED 217

#### Kris Haley

Faculty sponsor: Gwenda Rice

*Title:* The Effect of Literacy Based After-School Programs on Increasing Reading Achievement on Standardized Tests

*Abstract:* The study examines reading tutoring in three literacy based after-school programs in Central School District 13J and its effect on increasing reading achievement on standardized reading tests. It looks at the standardized reading test scores of students in the spring of their third (2007) and fourth (2008) grade years and compares the scores of students who had high (60> days) and low (59< days) after-school program participation to the scores of students who did not attend the after-school program. The goal is to determine if there is a statistical difference in achievement between those who attended and those who did not.

5:15 – 5:30 p.m., ED 217 **Amanda Vinson** *Faculty sponsor:* Karie Mize

#### Title: A Closer Look

*Abstract:* I will present the conclusions drawn during a case study of a second grade English Language Learner whose academic performance dramatically shifted when his mother temporarily returned to Mexico in hopes of becoming a documented US citizen. Interviews with his mother, teacher(s), and observations and conversations with the learner in class offered insight into his family history, classroom behavior, peer interactions, motivation, and his greatest fears. Most importantly, I was reminded of the importance dialogues have in validating a child's history and establishing the trusting and respectful relationship needed between teacher and student to ensure academic success in the classroom.

5:55 – 6:10 p.m., ED 217 **Sam Cornelius** *Faculty sponsor:* Marie LeJeune

Title: Mentor Text Project

*Abstract:* A series of high school level mentor text projects created as part of an assignment for Dr. Marie LeJeune's Content Pedagogy class.

6:15 – 6:30 p.m., ED 217 **Mark Simmons** *Faculty sponsor:* Gwenda Rice

Title: Exploring Basic Electricity using Mathematics

Abstract: We have to find a way to teach lower level students math and give them a place to be successful while attempting it. By the time many students get to the middle and high school levels they have faced so much failure related to math that they will not even attempt it. In pre school and kindergarten we start kids off with varying types of manipulatives and colorful flash cards (we make it fun) and by high school we are down to a math book, paper, pencil, and a calculator. For some kids the latter is all they need, but for many they need more to develop a conceptual understanding of mathematics. Using math within Career and Technical Education (CTE) and specifically within this basic electrics unit gives students a chance to apply and practice what they have learned. The "hands-on" environment created in this unit of study is a crucial piece for conceptual understanding of both electrics and mathematics.

6:35 – 6:50 p.m., ED 217 Suzanne Stansberry Faculty sponsor: Katherine Schmidt

Title: A Bee Talk

*Abstract:* Readings from my essays on teaching and using therapeutic writing in the middle school classroom.

## **TEACHER EDUCATION/ENGLISH**

Session chairs: Tracy Smiles, Marie LeJeune and Cornelia Paraskevas

Session title: Crediting Spaces for Meaningful + Effective Literacy Instruction + Assessment: Capstone Research Projects from the University/School Partnership Grants Location: Education (Ed)

### Posters

4:00 – 6 p.m., Education 2nd Floor Hallway Karen Ramirez, Michelle Doring, Megan Adams, Debra Swogger and Erica Manzo Faculty sponsor: Cornelia Paraskevas

Title: Empowering Writers through the Use of Mentor Texts

4 – 6 p.m., Education 2nd Floor Hallway Jessica Hanslovan, Brian Wakefield , Krysia Bliss and Michelle Sparks *Faculty sponsors:* Tracy Smiles and Marie LeJeune *Title:* Authentic Poetry for Kids

4 – 6 p.m., Education 2nd Floor Hallway **Mary Gabaldon**  *Faculty sponsor:* Tracy Smiles *Title:* Small Moments in their Lives: Teaching Beginning Writers How to Talk and Write

4 – 6 p.m., Education 2nd Floor Hallway **Terri Chappell and Charlotte Stewart** *Faculty sponsor:* Cornelia Paraskevas

*Title:* Using Children's books as Mentor Texts in the High School Language Arts Classroom

4 – 6 p.m., Education 2nd Floor Hallway **Sharon Buermann**  *Faculty sponsor:* Tracy Smiles *Title* Middle School Literature Circles

Title: Middle School Literature Circles

4 – 6 p.m., Education 2nd Floor Hallway **Arend Hall and Terriy Wright**  *Faculty sponsor:* Marie LeJeune *Title:* Literature Circles

4 – 6 p.m., Education 2nd Floor Hallway **Lori Ilg**  *Faculty sponsor:* Tracy Smiles *Title:* Writing about Reading

4 – 6 p.m., Education 2nd Floor Hallway **Mandy Olsen**  *Faculty sponsor:* Tracy Smiles *Title:* Critical Literacy: Slavery and Civil Rights

4 – 6 p.m., Education 2nd Floor Hallway Mary Anne Hill, Kelli Fink and Lisa Wittbrodt Faculty sponsor: Cornelia Paraskevas

Title: Expert Books in Middle School Science Class

4 – 6 p.m., Education 2nd Floor Hallway **Prindi Flug**  *Faculty sponsor:* Marie LeJeune *Title:* Voices for Child Soldiers 4 – 6 p.m., Education 2nd Floor Hallway **Ben Gorman** *Faculty sponsor:* Cornelia Paraskevas *Title:* Using Mentor Texts to Teach the Manipulation of Verb Tenses in Fiction Writing

4 – 6 p.m., Education 2nd Floor Hallway **Tom Patton** *Faculty sponsor:* Marie LeJeune *Title:* Using Our Resources

4 – 6 p.m., Education 2nd Floor Hallway **Melissa Gooderhan**  *Faculty sponsor:* Tracy Smiles *Title:* Through the Eyes of a First/Second Grader

4 – 6 p.m., Education 2nd Floor Hallway **Carolyn Lowery** *Faculty sponsor:* Marie LeJeune *Title:* Finding a Common Vocabulary

4 – 6 p.m., Education 2nd Floor Hallway Nina Fuller Faculty sponsor: Tracy Smiles Title: Comprehension Strategies in a 6th Grade Classroom

4 – 6 p.m., Education 2nd Floor Hallway **Roseanna Larson**  *Faculty sponsor:* Tracy Smiles *Title:* Using High Interest literature to Engage Readers of Diverse Backgrounds

4 – 6 p.m., Education 2nd Floor Hallway Holly Sims Faculty sponsor: Tracy Smiles Title: Reading as Writers: Using Mentor Texts in Primary Grades

4 – 6 p.m., Education 2nd Floor Hallway **Chrissy Eichelberger and Penny Adolf**  *Faculty sponsor:* Tracy Smiles *Title:* Books with H.E.A.R.T. for Primary Kids

4 – 6 p.m., Education 2nd Floor Hallway **Cheryl Peterson**  *Faculty sponsor:* Marie LeJeune *Title:* Kids Discovery Books: Exploring the Wetlands 4 – 6 p.m., Education 2nd Floor Hallway **Michael Thissell**  *Faculty sponsor:* Marie LeJeune *Title:* Communicative Literacy; Purposeful Talk

4 – 6 p.m., Education 2nd Floor Hallway **Melody Sickles and Deborah Swogger** *Faculty sponsor*: Marie LeJeune *Title*: Birds, Beaks, Feathers, and Feet

### THEATRE

Session chair: Ted deChatelet Session title: Behind the Scenes of The Taming of the Shrew Location: Rice Auditorium (RA)

### **Performance / Discussion**

2 – 3 p.m., Rice Auditorium Tom Slater, Colton Ruscheinsky, Sarah Wilson, Rebekah Wagner, Sierra Durfee and Gavin Christensen *Faculty sponsor:* Ted deChatelet

Title: Behind the Scenes of The Taming of the Shrew

*Abstract:* A presentation of two scenes from WOU Theatre Department's current production of The Taming of the Shrew followed by a discussion with the audience.

### THEATRE

Session chair: David Janoviak Session title: Student Intern Contributions to Salem Repertory Theatre's To Kill A Mockingbird. Location: Rice Auditorium (RA)

### Presentation

3 – 4 p.m., RA 113 Brooke Lawson, Natasha Berger, Sam Benedict and Katrina Elliott Faculty sponsor: David Janoviak

*Title:* Student Intern Contributions to Salem Repertory Theatre's To Kill A Mockingbird.

*Abstract:* Students will discuss their role as interns and employees for the Salem Repertory Theatre Production of *To Kill A Mockingbird.* Each of the students will discuss their experience and demonstrate their approach in the specific area they contributed to the show, including props and puppet making, acting and stage management.

## THEATRE

Session chairs: Sandra Hedgepeth and Scott Grim Session title: Technical Theatre Design Projects Location: Rice Auditorium (RA)

### Exhibit

8:30 a.m. - 5 p.m., RA Lobby

Brooke Lawson, Shihang Huang (Aeon), Sierra Handley-Merk, Jenny Harris, McKenna Twedt, Joseph Baker, Shaunia Banks. Sarah Bockelman, Michael Chapman, Sierra Durfee, Drew Ellis, Steve Emerson, Leah Grosulak, Christina Lydy, George Mitchell, Edgar Sotelo Vidrio and Joshua Wilson

Faculty sponsor: Sandra Hedgepeth and Scott Grim

Title: Technical Theatre Design Projects

*Abstract:* A no-host exhibit of student design work throughout the past year. Stop by anytime during to day to see the exhibit in the Rice Auditorium lobby.

## THEATRE

Session chair: Sandra Hedgepeth Session title: Costume Design Poster Location: Werner University Center (WUC)

### Poster

11:30 a.m. -- 1:30 p.m., WUC Pacific Room Christa Keim Faculty sponsor: Sandra Hedgepeth

Title: Costume Design Poster

Abstract: Costume Design Poster for design of Someone Who'll Watch Over Me

## THEATRE

Session chair: Sandra Hedgepeth Session title: Dancing Dinosaurs Location: Rice Auditorium (RA)

### **Presentation / Discussion**

1 – 2 p.m., RA 113 Brooke Lawson, Shihang Huang (Aeon) and Andee Martin *Faculty sponsor:* Sandra Hedgepeth

Title: Dancing Dinosaurs

*Abstract:* A presentation and discussion about the process of making dinosaurs for the Spring Dance Concert. Students will discuss sculptural techniques and innovative materials in the production of the dinosaur costumes.

## THEATRE

Session chair: Michael Phillips Session title: Theatre History Projects and Papers Location: Rice Auditorium (RA)

### **Panel Discussion**

10:30 – 10:50 a.m., RA 113 Sarah Wilson Faculty sponsor: Michael Phillips

*Title:* The Oppression of Theatre and its use in Propaganda in the Early 20th Century

*Abstract:* In the early part of the 20th Century, Europe was in the grips of Fascism and Communism. The rulers of these regimes used many different forms of propaganda to control their people, including theatre. Theatre was used effectively by both members of the resistance and members of the ruling parties. In Germany, theatre was used to stir up fervor for Nazism, in Russia, theatre was suppressed and controlled, and in Czechoslovakia it was used as a means of peaceful protest.

10:50 – 11:10 a.m., RA 113 Margaret Fitzgibbon Faculty sponsor: Michael Phillips

*Title:* Dramaturgical Protocol for Bertolt Brecht's The Caucasian Chalk Circle

*Abstract:* Bertolt Brecht's play, The Caucasian Chalk Circle, is the subject of a dramaturgical protocol which covers all areas of research leading up to a production of the play. From text analysis to program materials, the dramaturgical protocol assists the director, cast, designers, and audience to understand the relevant background and history of a particular play.

11:10 – 11:30 a.m., RA 113 **Evan Christopher** *Faculty sponsor:* Michael Phillips

Title: Clowns Hired by Gamblers: Public Funding of the Arts

*Abstract:* Unlike most other Western countries, the United States has never had a robust public funding of the arts. This presentation takes the form of a letter to Oregon's elected officials advocating for, and explaining the necessity of, public funding of the arts.

## ACKNOWLEDGEMENTS

The Academic Excellence Showcase Planning Committee gratefully acknowledges the generous support of this program provided by President John Minahan and Provost Kent Neely. 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. We greatly appreciate Nan Lehto and the Werner University Center staff for graciously accommodating all of our needs at the WUC and Bill Kernan and his staff at University Computing Servies for providing exceptional technologic support for the Showcase. A special thank you is given to Lisa Catto, Betty Orwick, and Denise Visuaño from the Office of Public Relations for their hard work, dedication and amazing talents in graphic arts design. We are especially indebted to the session chairs and faculty sponsors, listed below, who are crucial to the success of this event.

#### **Session Chairs and Faculty Sponsors**

Alexander, Joel Alves, Sherry Artman, Margaret Baxter, Diane Beaver, Cheryl Bersani, Hank Braa, Dean Braza, Jerry Bruce, Eric Bucy, Mary Callero, Peter Campbell, John Carter, Brynn Coolev, Eric Courtney, Arlene Daniel, Susan Dauer, Sue deChatelet, Ted Dello Stritto, Mary-Ellen Doellinger, David

Dolan, Maureen Farrell, Katherine Flatt, Patricia Foster, David Gibbons, Stephen Griffin, Susan Grim, Scott Hall, Jamie Harchanko, Joseph Harrington, Rachel Hautala, Robert Hedgepeth, Sandra Helppie, Kevin Henderson, Jessica Holmquist, Solveig Hughes, Henry Janoviak, David Jennings, Dunja Jones, Deborah Kelly, Tom Lange, Marjory

LeJeune, Marie Lobnibe, Isidore Lopez-Cevallos, Daniel Mar-Zalesky, Judi Mize, Karie Myers, Jeff Oberst, Sharon Ni, Chung-Fan Paraskevas, Cornelia Pardew, Mickey Pettenger, Mary Phillips, Michael Price, Michele Raborn, Jodie Rector, John Rice, Gwenda Roscoe, Lauren Savage, Jon Scarlato, Mary Schmidt, Katherine

Shrestha, Uma Smiles, Tracy Smith, Robin Smith, William Snyder, Jeff Stonecipher, Linda Strapp, Chehalis Taylor, Steve Templeton, Jeffrey Thomas, Darryl Thomas, Daryl Thompson, Kathryn Toray, Tamina Trinh, Tina Wade, Philip Waite, Jason Ward, Michael Willey, Katie Winningham, Robert Yang, Jennifer Yehnert, Curtis

#### The 2009 Academic Excellence Showcase Planning Committee

Lisa Catto Jeanne Deane Bryan Dutton Elisa Maroney Jeffrey Templeton, Chair Rob Winningham

Finally, from the Planning Committee, we extend a special and heartfelt thank you to Ms. Jeanne Deane for her untiring energy, patience and support.

Adams, Brad16
Adams, Megan44
Adolf, Penny45
Aguirre, Marco40
Aird, Kayla10, 11
Alexander, Jesse
Alghanmi, Hind22, 42
Allen, Ronda Sue40
Alves, Sherry+27
Anderson, Debra29
Anderson, Derrick
Anderson, Kenneth21
Andrew, Brittnie13, 19
Anzalone, Janelle14, 18
Arellano, Marcus29
Arrington, Adonal35
Asbury, Chelsey31
Babbitt, Kristina33
Baker, Joseph46
Bangert, Kandace24
Banks, Shaunia46
Bansen, Meghan8
Bauld, Kaitlin11, 12
Bauman, M. Catherine34
Baxter, Diane*27
Beaver, Cheryl*+25, 26
Benedict, Sam45
Bennett, Stacey
Berger, Natasha21, 45
Bersani, Hank*40, 43
Bjarnson, Todd30
Bliss, Krysia44
Bockelman, Sarah46
Boles, Zach19
Bowman, Chelsea12
Boyden, Allie12
Boyer, Gretchen17

Braa, Dean*+@40
Brandenburg, Christa40, 43
Braza, Jerry*24
Broberg, Mia30
Brodkorb, Katina19
Brown, Laura
Brownson, Shilo42
Bruce, Eric+23
Buche, Matt17, 18
Bucy, Mary*+22, 42
Buermann, Sharon44
Burge, Ryan10, 11
Burlison, Tasha24
Butler, Dennis21
Button, Brandon17
Cain, Christina43
Callero, Peter*40
Campbell, John*21, 22
Carey, Shannon23
Carrillo, Mayra Colin41
Carter, Brynn*42
Caster, Garret23
Catto, Lisa7
Chadd, Rebecca12
Chapman, Michael46
Chappell, Terri44
Charron, Joy7
Chen, Jin8
Christensen, Gavin45
Christopher, Evan22, 46
Christoson, Maegan L
Chritton, Aaron11
Circle, Casey
Clarkson, Krista11
Compton, Wendy35
Cook, Becky8
Cooley, Eric*

Corliss, Danny2	6
Cornelius, Sam4	4
Courtney, Arlene*+@ 10, 11, 19, 20, 2	1
Cramer, Alexzandra3	7
Crockett, Chenise1	2
Culliton, Betsey2	8
Danaher, Bryan2	1
Daniel, Susan*+2	8
Daniels, David2	6
Dauer, Sue*4	2
Davila, Mat	7
Davis, Alicia4	0
deChatelet, Ted *+4	5
DeGraw, Jacquelyn2	9
Dello Stritto, Mary Ellen*2	9
Denton, Gillian2	7
Doellinger, David *2	2
Dolan, Maureen*@4	0
Doring, Michelle4	4
Dumas, Jhamilla	3
Dunkel, Samantha J	6
Dunlap, Colin2	7
Dunning, James1	0
Durfee, Sierra45, 4	6
Earle, Courtney M	5
East, Jennifer1	1
Eichelberger, Chrissy4	5
Elliott, Jeff2	1
Elliott, Katrina4	5
Ellis, Drew4	6
Elston, Jenne2	5
Emerson, Steve4	6
Espeland, Nicole2	7
Ewing, Lucas2	8
Ewing, Sydney2	4
Farrell, Katherine*2	3
Feldmann, William J. W	0

Fenison, Benjamin C32
Ferrari, Patrick
Fink, Kelli
Fink, Laura
Fisher, Brendon
Fitzgibbon, Margaret
Flatt, Patricia*+11
Flug, Prindi44
Follis, Kristina27
Foster, David*+
Fulks, Dustin17
Fuller, Nina45
Furr, Sarah28
Gabaldon, Mary44
Geddie, Sarah42
Gibbons, Stephen*22
Gilbert, Laura24
Gilles, Andrew
Gimzewski, Jennifer9
Gingerich, Julia11, 12
Glasscock, Allison20
Glasscock, Bethany27
Goll, Corey25, 26
Gonzales, Mark41
Gooderhan, Melissa45
Goodwin, Samantha6, 31
Gordon, Ryan
Gorman, Ben45
Gould, Brandon20
Grabow, Jessica9
Granov, Irina
Griffin, Susan+42
Griffith, Katrina23, 24
Grim, Scott*+
Grosulak, Leah
Haag, Austin
Haley Kris
1 ancy 101545

Hall, Arend44
Hall, Erica27
Hall, Jamie*27
Hamilton, Chris29
Hampton, Stephanie W22, 41
Handley-Merk, Sierra46
Hanslovan, Jessica44
Harchanko, Joseph+27
Harmon, Sarah8
Harrington, Rachel*42
Harris, Brandon27
Harris, Jenny46
Harrison, Shannon27
Harvey, Christine*22
Hautala, Robert*23
Hedgepeth, Sandra*+46
Heintz, Sadie9
Helppie, Kevin*27
Henderson, Jessica*25
Henderson, Sara20
Hernandez, Justin
Herrick, Karley22
Hill, Mary Anne44
Holmes, Andrew17
Holmquist, Solveig+27
Hori, Emiko27
Hossner, Kady20
Houglum, Tara8
Huang, Shihang (Aeon)9, 46
Hufstader, Marissa24
Hughes, Andrea21
Hughes, Caleb29
Hughes, Henry*21, 22
Hughes, Kyle
Humphrey, Brittany12
Ikeda, Masaki26
Ilg, Lori44

Jacinto, Cassie-Ann	26
Jackson, Julie E	36, 38
Jaeger, DJ	16
Janoviak, David *+	45
Jennings, Dunja*	27
Jepsen, Karen	27
Johnson, Katrina	36
Johnson, Rachel	17
Johnson, Sarah	16
Jones, Deborah*	11, 12
Jones, John P	30, 34
Jones, Julia	42
Karr, Justin	20, 29
Kasper, Donnie	18
Kehl, Tiffany	8
Keim, Christa	9, 46
Kelly, Rebecca	24
Kelly, Tom*	24
Kelso, Robert	18
Kester, Andrea	23
Keyser Jr., Herbert Louis	19
Kobzeff, Joel Jacob	20
Krom, Joseph	17
Kunze, Kendra	29, 34
La Mar, Wm Glen	28
Lacer, Jenilyn	24
Lalack, Melissa	22
Lalack, Tyler	35
Lange, Marjory*	21
Langwell, Whitney	25
Larson, Roseanna	45
Laughlin, Tyler	22
Lawson, Brooke	45, 46
Lee, Melissa	27
LeJeune, Marie*+43	8, 44, 45
Lobnibe, Isidore*	6, 41
Lopez, Jaime	40

Lopez-Cevallos, Daniel*24
Lowery, Carolyn45
Lydy, Christina46
Magill, Krista
Manzo, Erica44
Marquez, Alyssa17
Martin, Andee46
Martin, Sarah
Martinak, Adam28
Martinez, Leslie20
Martinez, Vanessa E
Maruame, Olivia
Mar-Zaleski, Judi*42
Mattiazzi, Alisa30
McAfee, Tabitha20
McChesney, Ken42
McCoy, Jason28
McDermott, Penny42
McDill, Peter28
McFarland, Dani
McFetridge, Christopher19
McLeod, James15, 19
McMillan, Annika
McMurran, Kailee12
McNeill, Lindsay22
McWilliams, Tammy22
Meduri, Tianna35
Medvedeva, Anna
Menjivar, Roxana24
Meyer, Christopher17
Mill, Jennifer6, 30, 33
Miller, Nicole20
Mitchell, George46
Mitchell, Samantha31
Mitts, Kimberly40
Mize, Karie*43
Mock, Chris25, 28

Moore, Matt14
Moore, Robert
Morales, Dania26
Moser, Jenna11
Mosher, Brian21
Murashko, Natasha24
Mutschler, Daniel W30, 32
Myers, Jeff*+12, 13
Nakagawa, Chie22, 27
Nerz, Andrew25
Ni, Chung-Fan*22, 41
Nordstrom, Annalyse23
Nowickas, Kurleen27
Oberst, Sharon*+11, 12
Oeffner, Scott
Oldenburg, Jenn24
Olds, Sarah41
Olsen, Mandy44
Palmrose, Christina27
Pankey, Brad24
Paraskevas, Cornelia*+21, 44, 45
Pardew, Mickey*22, 41
Parker, Alysse21
Parker, Wesley25, 26
Pastorino, Jennifer
Patton, Tom45
Pearson, Ben21
Perez, Raquel
Perkins, Corey10
Peters, Rachel
Peterson, Cheryl45
Pettenger, Mary*+27-29
Phillips, Michael*+46
Pineda, Diana L
Pizano, Noe6
Pommersheim, James#26
Powells, Heather11

Pratt, Alyssa16
Price, Michele*41
Probst, Kattie8
Raborn, Jodie*+8, 9
Ramirez, Karen44
Rector, John+41
Reed, Vivian
Rementeria, Julie6
Renner, Marketa12
Rice, Gwenda*43, 44
Richardson, Ashlee24
Richardson, Asia43
Rios, Roberto17
Rivera, Erick
Rivers, Michael25
Roberts, Amanda
Roberts, Greg
Robinson, Miles21
Rodd, Jennifer9
Rogers, Christian8
Roscoe, Lauren*
Rule, Chris11
Rulla, Emily
Ruscheinsky, Colton45
Sams, Amber
Sanders, Anne26
Savage, Jon*27
Saville, Kimber29
Sawyer, Jeffrey27
Scarlato, Mary+40, 41
Schildan, Hollee21
Schmaltz, Phil23
Schmidgall, Matt25, 26
Schmidt, Katherine*44
Schoebel, Jacob
Schoen-Clark, Joshann9
Schopp, Haley9

Schrock, Kimberlee43
Schultz, Sarah8
Selby, Katie34
Sermon, Chris26
Severson, Jacob8
Sexton, Ashley7
Sheets, Amy Justine32
Shivers, Ben13
Shrestha, Uma*21
Sickles, Melody45
Sigrist, Jeff10, 11
Simmons, Mark44
Sims, Holly45
Slater, Tom45
Smiles, Tracy*+42-45
Smith, Robin*+6, 7
Smith, William*6, 7
Snyder, Jeff*+9
Snyder, Sarah40
Spalding, Anne37
Sparks, Michelle44
Staehle, Mitch26
Stanley, Ryan12, 14, 17
Stansberry, Suzanne44
Steckler, Roseanne22, 41
Stephenson, Pat13, 19
Stewart, Charlotte44
Stobie, Katie8
Stonecipher, Linda+22
Strapp, Chehalis*31-40
Strickland, Angelica20
Summers, Caitlin32
Summers, Sam22
Summers, Sam
Susee, Brenna17
Susee, Brenna17 Sutherland, Tyler24

Talbot, Kevin
Taylor, Steve*+@13-17
Temple, Kristal26
Templeton, Jeffrey*+@17, 18, 19
Thissell, Michael45
Thoman, Hannah17
Thomas, Darryl*12
Thomas, Daryl*+23
Thompson, Alicia17, 18
Thompson, Kathryn*29, 30
Thompson, Sam10
Timm, Aaron22
Tipton, Alexander R37
Tipton, Jon22
Todd IV, Ermine12, 20
Tondreau, Amanda15, 17
Toray, Tamina*
Townsend, Kate23
Tremont, Katherine7
Trigg, Emily26
Trinh, Tina*+6
Truelove, Sara27
Tvrdy, Katie22
Twedt, McKenna46
Udosenata, Ekaette6, 27
Ushijima-Mwesigwa, Keiko31
Valdez, Noreen
Van Nice, Thomas14, 17
Van Slochteren, Nathen
Vanderplaat, Megan24
Vidrio, Edgar Sotelo46
Vincent, Gerritt
Vinson, Amanda43
Vreeland, William17
Wade, Philip*+@19, 20, 21
Wagner, Nichole
Wagner, Rebekah
- agrici, recenturi

Waight, Laura26
Waite, Jason*+21
Wakefield, Brian44
Walczyk, Kevin *22
Walker, Kellen23
Walker, Lauren29
Ward, Michael*+25, 26
Webb, Seth17
Welch, JD23
West, Kerri A
West, Misty Rose35
Wiegand, Valerie21
Willey, Katie+42
Willhite, Kayla31
Wilson, Joshua46
Wilson, Sarah45, 46
Winningham, Robert*
Withee, Shelley27
Wittbrodt, Lisa44
Wong, Keoni15
Worley, Sheena12
Wright, Mary7
Wright, Terriy44
Yang, Jennifer*+10
Yang, Pang
Yehnert, Curtis*21
Yitref, Mikhael22, 28
Young, Chris28
Zacarias, Nastassia12
Zentz, Amanda30
Zuniga, Ashley37

# PRESENTATION AND POSTER GUIDE

Loca	ation	CH 101	ED 217	ED Lob	HL 107	HS 112	HS 237	HS 336	MH	NS 101	NS 103	NS 218	RA 113	RA Aud	RA Lob	SM 121	WC Cal	WC Col	WC Ore	WC San	WC Wil	WC Pac Posters
Time	8:00																					
F	8:30										try											
	9:00									Business	Earth Science/ Chemistry				-					reak Health and Physical Education	Mathematics	Biology Psychology
	9:30		uo							Chemistry Bu		Earth Science						-				
	10:00		ducati		Psychology	Model UN	ogy	ophy	Dance									English				
	10:30		Teacher Education				Sociology	Philosophy			Eart		itre									
	11:00	Art	Teac								Earth Science		Theatre					-				
	11:30														Theatre Exhibit							d)
	12:00															Music						Earth Science Mathematics Political Science Theatre
	12:30															2						Earth Science Mathematics olitical Scienco Theatre
	1:00							Philosophy					ire					ad				Pol
	1:30		ation										Theatre					Study Abroad				
	2:00		Teacher Education											tre			Anthropology				Mathematics	Chemistry Psychology
	2:30													Theatre					ε			
	3:00		Ĕ		-			Phil					tre				throp		Graduate Program Alternative Break			
	3:30												Theatre		-		Ar			itive B	Σ	<u> </u>
	4:00			sh															Grad	lterna		
	4:30			Teacher Ed./English																		
	5:00		ation	ner Ed.																		
	5:30		Teacher Education	Teach																		
	6:00																					<b>й.</b> 3
	6:30		ц Ч																			c Roo Nts <b>30 p.</b>
	7:00																					acific Imer Ind <b>2::</b>
	7:30																					Join us in the Pacific Room for refreshments at <b>9:30 a.m.</b> and <b>2:30 p.m.</b>
	8:00															Music						us in for re <b>30 a.</b> .
	8:30																					Join at <b>9:</b> 3
	9:00																					, v

## **CAMPUS MAP**

