

Symposium

Student Works

2015

Symposium 2015

University of Maine at Farmington

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Welcome to the Michael D. Wilson Symposium

April 29, 2015

Credit Ancient Greeks with the **symposium**, one of their many contributions to education and learning. As opportunities for debate, exchange of ideas and social interaction—fueled by ample food and drink—symposia built a social and intellectual foundation for the vibrant community the Greeks created for themselves and posterity.

UMF is pleased to follow suit with our campus-wide **Symposium** celebrating undergraduate research and creative achievement. Together with Arts Night, Symposium Day showcases what's possible when you mix student passion, ambition, perseverance, creativity and talent with faculty joy, mentorship and care. It is no surprise that many members of the UMF community count Arts Night/Symposium Day as their favorite and most uplifting time of the year.

It's possible that Greek participants of long ago discussed, as we will in the 2015 Symposium, androgynous writing and literary analysis, geometric comprehension, and, maybe, the effect of coconut water on Venus flytraps, but it's a good bet that our UMF presenters are far ahead on iPad applications as assistive devices, Israeli military failures in the 1973 Arab-Israeli War, the petrology of mixed magma on Maine's coast—although the Greeks **did** give us the etymological roots of petrology—and dozens of other fascinating topics you'll encounter in posters, presentations and installations on campus.

This beloved UMF tradition is the product of hard work, inventiveness, financial support and deep commitment. For these we offer our thanks to the University Culture Committee, our vital faculty mentors, devoted staff, generous supporters of undergraduate research, and, not least, the enterprising and intrepid students who put before us the fruits of their labor.

Feast heartily on Symposium, UMF's annual groaning board of creative and intellectual sustenance.

Kathryn A. Foster

President

The great American philosopher, Charles Peirce, famously argued that, to be successful, the pursuit of truth and the striving for wisdom needs to be a social activity. The locus of this effort needs to be what he called a “community of inquiry.”

Since arriving at UMF less than a year ago, one thing that I have become very clear about is that I have been fortunate to land in the midst of flourishing instance of just such a community.

The Michael D. Wilson Symposium makes this eminently clear by showcasing not only the rich creative and scholarly achievements of so many members of this community but by highlighting the values and commitments upon which this work rests – creative and intellectual engagement, experiential learning, collaboration, and an awareness and rootedness in place.

As we set aside our normal routines and schedules for this year’s Symposium, I want to congratulate all of the presenters and thank them for sharing their insights with the whole community. And I especially want to recognize and to thank the members of the University Culture Committee, our donors, and all those who have helped to make this year’s celebration a reality.

I have a feeling that Charles Peirce would feel right at home!

Joseph McGinn, *Provost and Vice-President for Academic Affairs*

Symposium Day provides a wonderful opportunity for students from all disciplines to share their impressive scholarly and creative work with the UMF community. The incredible array of presentations, poster sessions, readings, installations, and performances highlights the many talents of our student body and the multiple opportunities students have to engage in rich, rigorous research and learning experiences throughout their UMF education. Congratulations to all of the student presenters and faculty mentors, and many thanks to the organizers of this special event!

Kathy Yardley, *Associate Provost and Dean of the College of Education, Health, and Rehabilitation*

Education is at its best when it’s active, and there’s no better way to take charge of one’s own education than by doing one’s own research. The students presenting today come from all fields, all levels, all backgrounds, but they all have this in common – they had an idea and they pursued it on their own.

The result, for the rest of us, is a feast of knowledge. Thanks to those who, by attending, provide an audience for these students to share their work. I know you join me in giving kudos and thanks to all the presenters, of whom we are proud and from whom we are pleased to be learning.

Jonathan Cohen, *Associate Provost*

This symposium is organized by the University Culture Committee:
Marisela Funes, Chair, Paul Stancioff, Chris Bennett, Katherine Kemp, Chandra Jennings

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Special Presentation: “Last Lecture”

by

Professor of Geology, Thomas Eastler

Roberts Learning Center C-23

Wednesday, April 29th at 7:00 pm

The End of the Fossil Fuel Era and Other Resource Issues

Dr. Eastler’s presentation will bring you way back into the early 1950’s to examine the predictions of resource experts with regard to the remaining life of carbon based “fossil fuel” as the major source of energy for the United States and the world. You will travel through the first major oil embargo of OPEC (the Organization of the Petroleum Exporting Countries) in 1973, and again in 1979. Subsequently you will experience the post 1970’s denial of Peak Oil, the idea that oil supplies are running out, even in the Middle East, but will remain indefinitely as the fuel of choice by the United States and the world into the foreseeable future; all of this even though prognosticators were predicting the end of the fossil fuel era and the beginning of a post petroleum world powered by solar, wind, and biomass. Lastly you’ll find that the paucity of non-fuel mineral resources in many countries will become the next big resource concern, possibly overriding that of fossil fuels, which may result in global conflict of a type never experienced in the petroleum era. Your 60 minute trip with Dr. Eastler may cause you to think deeply about your survival in the Post- Petroleum Era.

The "Last Lecture" is a yearly event sponsored by UMF's Alpha Lambda Delta. Alpha Lambda Delta is a nationally recognized honor society for students who achieved a grade point average of 3.5 or higher in their first year at UMF. The UMF chapter focuses on community service and academic excellence through a variety of events.

"The Last Lecture" gives a retiring UMF professor one last opportunity to address the UMF community. The speaker can reflect on what she/he has learned while at UMF, and/or it gives the opportunity to teach one final life lesson to students.

This year's speaker is Professor Thomas Eastler, aka Dr. Rock. Tom is retiring this year after 41 years of dedicated service to The University of Maine at Farmington.

UMF Trustee Professorship

Symposium is a day to honor the value of scholarly and creative endeavor at UMF. Toward that end, we have chosen Symposium as an opportunity, not only to showcase the work of our students, but also to bestow the university's most prestigious award for scholarship to a faculty member. The Trustee Professorship is given each year to one UMF faculty member in recognition of her/his distinguished record of scholarly or creative work. The Trustee Professor receives a cash stipend, a professional development allowance, and a half-time reassignment for an academic year in order to focus on a scholarly or creative project.

Each year at Symposium we invite the current Trustee Professor to deliver a public lecture. This year's Scholar is Dr. Allison Hepler, Professor of History. She will speak at 11:20 in Lincoln Auditorium. All students, faculty and staff are invited.

2014-2015 Trustee Professor Allison Hepler

11:20 - 12:00 Lincoln Auditorium

Loyalty by Oath: How Quakers in the Land of Nixon Took on the California Constitution and Won

In 1952, voters in California changed the California Constitution to include oaths of loyalty and declarations against subversive advocacy in order to (a) hold a job in the public sector and (b) receive a tax exemption for which an individual or organization was otherwise entitled. Laws adopted to implement these Propositions forced public employees and tax-exempt organizations to make a choice. For Quakers and other churches that were tax-exempt under federal law, it meant either signing such an oath to the City, County, and State tax collectors, or pay the prescribed taxes. Orange Grove Quaker Meeting in Pasadena decided to instead submit its own statement against such oaths, received tax bills for its efforts, and paid them under protest. The Meeting eventually joined five other churches in the state to challenge the law in court, ultimately winning in the US Supreme Court. This presentation traces their initially reluctant journey into the realm of state politics at a time when the California Assembly was determined to enact a variety of legislation limiting civil liberties and freedom of thought. Ultimately, a combination of financial acumen, quickly acquired lobbying know-how, and an expression of Quaker values served them well, and they used the experience to later tackle other state issues, such as prison reform and the rights of farmworkers.

Past UMF Trustee Professors

Spring 1999 – Mark McPherran
1999 – 2000 – Ronald Butler
2000 – 2001 – Jennifer Reid
2001 – 2002 – Chris Magri
2002 – 2003 – Dan Gunn

2003 – 2004 – Ming-Ming Pu
2004 – 2005 – David Daniel
2005 – 2006 – Mike Muir
2006 – 2007 – Tiane Donahue
2007 – 2008 – Paul Outka

2008 – 2009 – Drew Barton
2009 – 2010 – David Gibson
2010 – 2011 – Jeffrey Thompson
2011 – 2012 – Eric Brown
2012 – 2013 – Gretchen Legler

Michael D. Wilson Research Fellows and Scholars

The Michael D. Wilson Scholars and Fellows represent some of UMF's best students from across all disciplines. The program recognizes UMF students' tremendous creativity, and expands UMF's commitment to undergraduate research and faculty mentoring. Each student was awarded funding to help underwrite an original undergraduate research or creative project. The Program has been providing single-semester support for research, scholarship and creative projects at UMF since the fall of 2006. It was expanded in the fall of 2007 to include two full-year Wilson Research Fellow awards to support even more substantive research projects. In the years since its inception, the Wilson program has supported the investigative research and creative activities of almost 200 students at UMF. During this time over 60 UMF faculty members have developed strong mentoring relationships with individual scholars, providing guidance with proposal development, research methodology and continuing pre-professional and post graduate opportunities. The awards are funded by a generous gift of Michael and Susan Angelides, in honor of their good friend, and UMF alumnus, Michael D. Wilson, class of 1976. The students were nominated by UMF faculty mentor and, after a competitive selection process, were chosen by the UMF Undergraduate Research Council.

2014 – 2015 WILSON FELLOWS

Tyler Belanger, Christopher Roberts, and Joshua Wynne - *It's a ramp! It's carrot! No it's a triangle: Helping Students Understand the Characteristics of Shapes.*

Faculty Sponsor: Shannon Larsen

Hannah Lust - *Expounding Neurodegenerative Diseases: Understanding through Creation of Model Organisms*

Faculty Sponsor: Jean Doty

FALL 2014 WILSON SCHOLARS

Kelsey O'Connor - *Spatial Trends in Stream Conductivity and Potential Sources in a Small Rural Watershed*

Faculty Sponsor: Julia Daly

Nathaniel Libby - *The Labor of Like: A Marxian Analysis of Social Media*

Faculty Sponsor: Katrazyna Randall

William Jennings - *The Book of Bill: A Brief Chronicle of 58 Years Agone*

Faculty Sponsor: Gretchen Legler

Sam Oppenheim - *Cursed Be He Who Moves My Bones: Memories of Desecrated Corpses in Early Modern Britain*

Faculty Sponsor: Eric Brown

Kiera Timme - *Progression of Multiplication in K-12 Curricula*

Faculty Sponsor: Lori Koban

Nicholas Lacasse - *The Chromatic Polynomials of Signed Graphs*

Faculty Sponsor: Lori Koban

SPRING 2015 WILSON SCHOLARS

Tyler Michaud - *The Androgynous Text: A Contemporary Gender-based Approach to Literary Theory*

Faculty Sponsor: Kristen Case

Katelynn Orcutt - *Sexting: A Sign of Assertiveness or a Risky Behavior?*

Faculty Sponsor: Natasha Lekes

Curtis Cole - *Sordid History: Heteronormative Discourse and Dialectical Affirmation in Tess of the d'Urbervilles*

Faculty Sponsor: Christine Darrohn

Kellie Sanborn - *Stop Killing the Mockingbird: Using Student-Chosen Texts to Meet Common Core Standards in the Proficiency-Based Classroom*

Faculty Sponsor: Clarissa Thompson

Darrian Church - *Composing A Collection: A Poetry Chapbook*

Faculty Sponsor: Shana Youngdahl

Austin Hayes - *No Exit by Jean Paul Sartre*

Faculty Sponsor: Jayne Decker

Philip Smith - *Observers' Evaluations of On-line Comments as a Function of Venue and Level of Anonymity of the Poster*

Faculty Sponsor: Karol Maybury

Kimberly Clark - *Breaking Borders: The Vision and Voices of Modern Bilingual Female Poets*

Faculty Sponsor: Marisela Funes

Donald Osthoff - *Petrography and Geochemistry of Mafic Dikes, Western Maine*

Faculty Sponsor: David Gibson

Shannon Mccaffrey - *Petrography, Geochemistry and Crystallization History of Late Devonian Granitic Plutons of the Piscataquis Magmatic Belt, Central Maine*

Faculty Sponsor: David Gibson

ART NIGHTS 2015

Tuesday, April 28th

5 pm

***Vocal Space* - Debra Parent - Merrill Hall Elevator**

A performance that will be broken into four segments that explore how space can be used as a tool for performance. Each space is accompanied by a painting by Debra that correspond to the work being performed.

6 pm

***Circles, Cycles, and...* - Kyle Sareyani {ÆnNē} - Emery Performance Space**

Life is a cycle. People move in rhythm, with or without each other. People act in patterns, with or without awareness. There are times when a person may piece together their puzzle just right, and times when the pieces are simply in disarray. These ideas are the foundation of the loop-based music of {ÆnNē}.

6:40 pm

***Live Punch and Judy Puppet Show* – Austin Phillips - Emery Lobby**

(With other performances around campus throughout the day)

Come see a 350 year old British traditional puppet show performed for the first time on UMF soil by Austin Phillips! Show consists of several short, fast paced entertaining skits using a variety of hand carved, wooden puppets. The show explores the relationships between "Mr. Punch" and several other characters through the usage of slapstick comedy! A truly unique opportunity to see years and years of traditional puppetry mixed with a contemporary feel. So come on down to witness some good old fashioned entertainment! Show runs approximately 15-20 minutes

7 pm

***Dealing With Loss* - Victoria MacDonald - Emery Performance Space**

This performance will consist of four monologues dealing with the loss of a loved one. Three of the monologues were written by Kellie Powell and the fourth is by Samuel French. These monologues are from the different points of view of women who are dealing with loss and the range of emotions they go through.

7:30 pm

***Vocal Space* - Debra Parent - Merrill Stairwell**

8 pm

***Restless Superbum* - Jon Osborne - Emery Performance Space**

A semi-live, multi-media performance which combines musical styles new and old in an attempt to explore sound and composition in the digital age, as well as to offer the performer an opportunity to delve into a menagerie of influences.

8:30 pm

***Silent Wolf* - Nathan Sylvester - Emery Performance Space**

This short film, entitled *Silent Wolf*, follows the adversity of life in a Dystopia as Our Hero, a woman branded as an Enemy of the State, struggles against her oppressors, putting into question the Human Condition.

8:50 pm

***Vocal Space* - Debra Parent – Merrill Nordica Stage**

Wednesday, April 29th

4 pm to 4:45 pm

***Farmington SOUP* - Emery Performance Space**

The *Power Up: Social Cooperation for Change* CoLab will present the outcomes of Farmington SOUP, a micro-granting dinner for creative projects in the greater Farmington community that students organized this semester.

5 pm to 6 pm

***Identity Theft: Penobscot Nation* – Maria Girouard and Stephanie Schulman - Emery Performance Space**

The Penobscot Nation has been involved in a three-year legal battle over the interpretation of the Maine Indian Claims Settlement Act signed in 1980. Fighting against the Attorney General of Maine, and eighteen supporting towns and industries, the nation has spent many years, and thousands of dollars, defending its ancestral rights to the Penobscot River. *Identity Theft* is a social, political, and environmental campaign compiled of print work designed by Stephanie Schulman to spread awareness about the Penobscot River Case. Penobscot community organizer and historian, Maria Girouard, will talk about the river case.

6:30 pm to 7 pm

Debra Parent - Merrill Machine Room in basement

7:30 pm to 8:30 pm

***Thom Pain* - Austin Hayes - Emery Performance Space**

One man's performance is another man's confessional. Thom Pain will spend the evening delving into the themes of fear, hate, love, childhood, etc., as he leads you deeper into the rabbit hole of the human experience. Performed by Austin Hayes, this one man show may make you laugh or cry, or I don't know...whatever.

April 28th and April 29th

A Collaborative Exhibition - Emery Flex Space

Through both days students in *ART 119A Sculpture* will have gigantic inflatable sculptures on display and the students in *ART 223A Stuff and Things* will have on display an installation that includes an ad hoc ensemble of DIY, computer generated, idiosyncratic sound instrumentation.

April 30th and May 1st

No Exit

by Jean Paul Sartre

Emery Performance Space

7:30 pm, both nights, doors open at 7:00

Directed by Wilson Scholar, Austin Hayes

What is hell? What does it mean to be a good person? What is our relationship to that stranger across the way? These are all questions asked by the existentialist philosopher Jean-Paul Sartre in his most famous play, *No Exit*. Throughout the process, four actors were asked to stretch their limits and test the boundaries of their human experience in order to pose these questions to our audience. Having studied such techniques as Stanislavski's "Method" and Viewpoints, among others, the cast has created an event of honest theater and shown what student produced work is capable of.

(Faculty sponsor: Jayne Decker)

This is the culmination of Austin's project as a Wilson Scholar. There will be time for discussion at the end of each performance.

Venue 1, Lincoln Auditorium

Wilson Scholars, Trustee Professor

9:00 - 9:20

The Androgynous Text: A Contemporary Gender-based Approach to Literary Theory

Tyler Michaud

This project examines the role that gender theory can play in literary analysis, ultimately using the medium of a digital anthology. Ideas of masculinity and femininity pervade our everyday lives, and so embracing them, but knowing how to look beyond their limitations, allows a richer understanding of the world around us. I want to ignite a conversation about androgynous writing. By looking at the evolution of gender theory and feminism, and example texts and authors, I will develop an argument for androgynous analysis, one that draws on gender theory but does not reinforce the gender binary. *(Faculty sponsor: Kristen Case)*

9:20 - 9:40

Spatial Trends in Stream Conductivity and Potential Sources in a Small Rural Watershed

Kelsey O'Connor

Road salt has negative effects on the environment and is linked to groundwater contamination. The movement and persistence of road salt from paved roads into a watershed is not fully characterized. This project investigates a small watershed in Buckfield, ME that crosses state highway 117. Conductivity and water temperature data were collected along a transect of each stream in July and August of 2014. The results of this project found highest elevated readings immediately downstream of road crossings. Generally, elevated conductivity values were more prevalent, with increased interaction and proximal location to the road. *(Faculty sponsor: Julia Daly)*

9:40 - 10:00

Sexting: A Sign of Assertiveness or a Risky Behavior?

Katelynn Orcutt

Though some scholars argue that young people use sexting as a way of increasing relationship assertiveness (Livingstone, 2008; Hasinoff, 2013), the current study is the first to examine this possibility. The study further examines whether the manner in which sexting is framed (risky or beneficial) and the gender of the person sending a sext (male or female) influences perceptions of sexting behavior. Using questionnaires that asked college students about their sexting behavior, attitudes toward sexting, sexual assertiveness, and perceptions of a student who engaged in sexting, this study aims to better understand sexting, a common yet understudied phenomenon. *(Faculty sponsor: Natasha Lekes)*

10:00 - 10:20

It's a ramp! It's carrot! No it's a triangle: Helping Students Understand the Characteristics of Shapes.

Tyler Belanger, Christopher Roberts, and Joshua Wynne

Is present mathematics instruction leading students towards geometric comprehension? Do students grow to understand the characteristics of shapes, or has their learning revolved around memorization? Researchers

have asked such questions and found that students often hold misconceptions of what shapes “should” look like. In our presentation we will share our research experience in two Kindergarten classrooms and discuss how exposing young children to diverse and non-standard shapes might challenge those misconceptions. Attendees will hear about how students in the study originally described shapes, how those descriptions changed through ongoing activities and conversations, and the implications of this work for teaching. (*Faculty sponsor: Shannon Larsen*)

10:20 - 10:40

Break

10:40 - 11:00

Sordid History: Heteronormative Discourse and Dialectical Affirmation in Tess of the d’Urbervilles

Curtis Cole

Thomas Hardy was among the most controversial and enduring novelists and poets of the Victorian period. His work dealt with many themes: industrialization, identity, gender, sex, marriage, and existential agency. However, the one facet of society which he left untouched, readers agree, was non-heteronormativity. Challenging this standard stance, my thesis argues that Hardy represented--knowingly or unknowingly--homosexuality in his writing. Offering an interpretation of Tess of the d’Urbervilles, I reveal this Queer subtext by utilizing an “affirmative dialectical” standpoint, realized via semiotics, to interrogate Hardy’s imagination and problematize the sexuality and gender performativity of his entire cast. (*Faculty sponsor: Christine Darrohn*)

11:00 - 11:20

The Labor of Like: A Marxian Analysis of Social Media

Nathaniel Libby

In our technology-based society, we are no longer limited to a mere physical presence, but one that now exists both off and online. Social media presents an entirely new system of engagement, a ritualistic distraction and system of communication built upon the base of consumption. Using Marxian philosophical analyses, I explore Internet capitalism through a critical and aesthetic lens. Through my research and body of work I attempt to reveal the ways in which these websites not only promote the ideas of consumer capitalism, but also encourage the mindset of hyper individualism through media bombardment. Taken out of their digital context, I present the viewer with physical representations of these two dimensional, digital realms. (*Faculty sponsor: Katrazyna Randall*)

11:20 - 12:00

Loyalty by Oath: How Quakers in the Land of Nixon Took on the California Constitution and Won

Allison Hepler, Trustee Professor, 2014-2015

In 1952, voters in California changed the California Constitution to include oaths of loyalty and declarations against subversive advocacy in order to (a) hold a job in the public sector and (b) receive a tax exemption for which an individual or organization was otherwise entitled. Laws adopted to implement these Propositions

forced public employees and tax-exempt organizations to make a choice. For Quakers and other churches that were tax-exempt under federal law, it meant either signing such an oath to the City, County, and State tax collectors, or pay the prescribed taxes. Orange Grove Quaker Meeting in Pasadena decided to instead submit its own statement against such oaths, received tax bills for its efforts, and paid them under protest. The Meeting eventually joined five other churches in the state to challenge the law in court, ultimately winning in the US Supreme Court. This presentation traces their initially reluctant journey into the realm of state politics at a time when the California Assembly was determined to enact a variety of legislation limiting civil liberties and freedom of thought. Ultimately, a combination of financial acumen, quickly acquired lobbying know-how, and an expression of Quaker values served them well, and they used the experience to later tackle other state issues, such as prison reform and the rights of farmworkers.

12:00 - 1:00

Lunch Break

1:00 - 1:20

Stop Killing the Mockingbird: Using Student-Chosen Texts to Meet Common Core Standards in the Proficiency-Based Classroom

Kellie Sanborn

Traditionally, in schools, students read materials which are chosen by their teacher. This study looks at what happens when students have more involvement in the decision-making around what they read. A group of ninth grade students were given a chance to work with texts of their choosing, and the results will be shared in this presentation. (*Faculty sponsor: Clarissa Thompson*)

1:20 - 1:40

Composing a Collection: A Poetry Chapbook

Darrian Church

For the past year Darrian has been writing, editing, and assembling her poems for chapbook publication. The theme of her collection centers around the mother and daughter relationship and the deeply rooted inconsistencies that come with this bond. She also examines catalysts such as mental illness, the rejection of societal expectations of family dynamics, and yearns to understand what it means to be sane in a world of Google-diagnosis. By submitting to publication, there is an incentive for high-quality work as well as the desire for reaching a wider readership. (*Faculty sponsor: Shana Youngdahl*)

1:40 - 2:00

The Book of Bill: A Brief Chronicle of 58 Years Agone

William Jennings

Multimedia communes personal exploration with readers in ways words alone cannot accomplish. The Book of Bill uses open software to create a graphical memoir, arranging images and text in innovative and insightful ways to place the reader at moments of discovery and revelation. How can we divide people into the component parts of their life, and yet be viewed as a living, breathing whole? Does multimedia better enhance this process, or does it create challenges of its own? The result of this project is a digital package, suitable for

print, online publishing, presentation before an audience, or digital playback. (*Faculty sponsor: Gretchen Legler*)

2:00 - 2:20

Cursed Be He Who Moves My Bones: Memories of Desecrated Corpses in Early Modern Britain

Sam Oppenheim

My research focuses on the desecration and disturbance of corpses in early modern plays and poems by William Shakespeare, John Donne, and Christopher Marlowe. I argue that all such acts solicit some form of memory, from the gruesome and torturous recollections of Titus Andronicus to the fearful imaginings of bodily decay in Donne's "The Funeral." I also draw on Stephen Greenblatt's Hamlet in Purgatory, arguing that experiencing the death of a loved one paradoxically brings about "the strange, irrational expectation of recovery." Effectively, the desecration and disturbance of corpses becomes a particular form of memory incitation, disclosing deep anxiety over the state of the body after death. (*Faculty sponsor: Eric Brown*)

2:20 - 2:40

Break

2:40 - 3:00

Progression of Multiplication in K-12 Curricula

Kiera Timme

The Common Core State Standards (CCSS) for mathematics represents a set of requisite skills and knowledge that students, at each grade level, are required to master. As such, teachers and curriculum designers are using these standards as a guideline for building their curriculums. We believe these standards not only influence what is being taught, but also the means of instruction. The purpose of this research is to establish whether or not there exists a consistent and conceptually valid, CCSS-aligned curriculum for teaching multiplication through the grades. Additionally, we will demonstrate how lesson plans can be modified to address these standards, connect with prior learning experiences, and honor the mathematical structures behind the multiplication topics being taught. (*Faculty sponsor: Lori Koban*)

3:00 - 3:20

The Chromatic Polynomials of Signed Graphs

Nicholas Lacasse

Chromatic polynomials are functions that determine the number of ways a graph can be colored. Coloring can be applied to signed graphs, graphs whose edges are either positive or negative. Signed graphs can be sorted into switching equivalence classes - groups whose elements have many similarities. Elements in the same switching equivalence class have the same chromatic polynomial. In 2011, Thomas Zaslavsky asked if two different equivalence classes of the same base graph could have the same chromatic polynomial. I have extended this work by proving the uniqueness of the chromatic polynomials of the graph $K_{3,3}$. (*Faculty sponsor: Lori Koban*)

3:20 - 3:40

Observers' Evaluations of On-Line Comments as a Function of Venue and Level of Anonymity of the Poster

Philip Smith

This study explores how people perceive online comments depending on both the venue (e.g., Facebook, YikYak) and the anonymity of the commenter. Much of the research regarding anonymity and the Internet has examined how anonymity shapes on-line behavior by using the frameworks of deindividuation, cyberbullying, and activism. Research exploring how people view others' online interactions is a new and growing area of psychological research, but thus far, no research has been undertaken using the theoretical framework (e.g., Johari's Window) behind my own design. This study aims to better understand anonymity and its role in the perception of online communication. *(Faculty sponsor: Karol Maybury)*

3:40 - 4:00

Uncovering Game Theory through Data Mining

Alex Stevens

Game theory and data mining have proved instrumental in describing and predicting human behavior. After a brief introduction to these topics, I will outline my research using data mining to uncover elements of game theory in an online game called Diplomacy. This will include the methods used and the progress that was made. *(Faculty Sponsor: Nic Koban)*

Venue 2, C-23, Roberts Learning Center

International Studies, Geography, Anthropology

9:00 - 9:20

The "Gender" Debate within France and Its Current Social Impact

Matthew Theriault

The introduction of "gender" as a concept, separate from sexuality, has given way to heated debates in France. The question therefore, is how has this introduction of "gender" impacted the country? By examining the debates on the topic of gender and sexuality in France, this study explores the possible political and social changes and the response to this idea of "gender" as a concept. Through personal travel, interviews, and literature review, we will see that there is a struggle on how "gender" should be perceived and defined within France. *(Faculty sponsor: Nicole Kellett)*

9:20 - 9:40

A Comparative Look at the Rights of Children in the United States and Argentina

Danielle Newman

This paper is a comparison of the rights of children focusing on the United States and Argentina, utilizing the Convention of the Rights of the Child as a standard. Looking specifically at Article 1 (definition of a child) and Article 27 (the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development), my research aims to consider governmental and non-governmental actions in addressing the questions; How does each country measure up? What efforts are being made and what barriers lay in the face of the implementation of these efforts? (*Faculty sponsor: Nicole Kellett*)

9:40 - 10:00

Rising Anti-Islamic Politics in the Netherlands and France

Shelby Jolicoeur

This presentation will examine the rise in anti-Islamic politics in France and the Netherlands. It analyzes how the anti-Islamic parties of France and the Netherlands have gained so much power in the last two decades. We will also look at differences between the parties in these countries. Finally, we will see whether Geert Wilders of the Netherland's Party for Freedom or Marine Le Pen of France's Front National can be elected to lead their countries. The growth of these European anti-Islamic parties has global implications that deserve attention. (*Faculty sponsor: Nicole Kellett*)

10:00 - 10:20

A Case Study of Hmong Immigrants to the U.S.: Hardships and Successes

Linda Viraphondeth

The Hmong are a tribal people from the mountainous areas of Laos, Thailand, China, and Vietnam. During the Vietnam War, they sided with the Americans, and were subsequently subjected to persecution by communist governments in Vietnam and Laos. Many fled to the United States and had to adapt to a very different culture. Through oral interviews, we will see what factors in the prior experience of the Hmong immigrants made it difficult to assimilate into American life. We will examine the hardships they faced and their successes within the new culture. (*Faculty sponsor: Brad Dearden*)

10:20 - 10:40

Break

10:40 - 11:00

Being "From Away": Mainers' Perceptions about People from out of State

Joseph Menyo

Maine is known as "Vacationland" for a reason. Each year, nearly 30 million people from different states visit Maine to experience its natural and cultural amenities. The tourism industry in Maine generates over \$5 billion annually and employs over 88,000 people. For the residents that live in Maine year round, this large influx of people from out of state can have a profound impact on their way of life. This research examines the

perceptions that Maine-born residents have about people “from away” and the actions or responses that these perceptions elicit or evoke. *(Faculty sponsor: Brad Dearden)*

11:00 - 11:20

Choking on Plastic: Can State and National Legislation Weaken the Threat?

Ariel Nichols

Discovered in 1997, the Pacific Ocean garbage patch now consists of two large systems - an Eastern and Western garbage patch fueled by the Pacific gyre. As the plastics thrash, synthetic materials either break down into smaller pieces - secondary microplastics - or continue to threaten marine life in their manufactured large forms - macroplastics. Of the two, microplastics are believed to be more deadly and are categorized as primary or secondary microplastics. This paper evaluates whether there is sufficient evidence to the damage of the ecosystems to warrant greater legislation action in the United States to monitor microplastic use and disposal. *(Faculty sponsor: Brad Dearden)*

11:20 - 11:40

Does geography play a role in attracting out-of-state and international students?

Conrad Ward

At a time of decreasing enrollment in Maine state universities compounded by increased competition from community colleges and private schools, attracting out-of-state and international students has never been more critical to UMF. The number of students worldwide is expected to double to 262 million between 2012 and 2025 and the number seeking to study abroad is expected to triple (University World News). This study will seek to discover the ways geography may impact out-of-state and international students’ decisions to come to UMF. *(Faculty sponsor: Brad Dearden)*

11:40 - 12:00

Evolution of the Appalachian Trail: Partnerships and growth in a public trail system.

Jeremy Vroom

Completed in 1937, the Appalachian Trail is a 2,185-mile hiking path that stretches from Springer Mountain, Georgia to Mount Katahdin, Maine. This study investigates it further by looking at co-founders Benton Mackaye and Myron Avery’s respective original plans to see how the trail has evolved from their original ideas through land trusts, land use and public and private partnerships. Through staff interviews, and analysis of trail plans and history we also see the importance of Mackaye and Avery’s original plans, whose ideas it followed, and how much they may influence the growth of the Appalachian Trail today. *(Faculty sponsor: Brad Dearden)*

12:00 - 1:00

Lunch Break

1:00 - 1:20

Recognition of 'Place' in Forested Landscapes: Personal Identity and Perceived Belonging in the Outdoors

Zain Padamsee

The United States is becoming more diverse with each new generation, a shift which has not been evident among users of the nation's outdoor resources. Natural landscapes, like the Maine woods, need sustained and expanded public interest. This research examines how an individual determines if they 'belong' or have 'place' in a forest environment. In order to gain a deeper understanding of this topic semi-structured interviews are used. The meanings of 'place' for Maine participants are also compared with responses from individuals from urban environments with varied exposure to Maine. Respondents are choosing using the snowball sampling method chose participants. *(Faculty sponsor: Brad Dearden)*

1:20 - 1:40

Slogans of Maine: Perceptions and Impacts

Cassandra Kittredge

This research examines the perceptions that residents of Farmington and students who attend the University of Maine at Farmington have on Maine's two state slogans, "Vacationland" and "The Way Life Should Be" and whether that impacts their activities or behaviors. To collect this data, questionnaires were handed out in various spots around town and on campus. Secondary data was also looked at to determine any historical record of past slogans in regards to Farmington, ME. *(Faculty sponsor: Brad Dearden)*

1:40 - 2:00

The Good the Bad the Elver

Jonathan Dale

Other than South Carolina, Maine is the only state that allows Elver fishing. The Elver is a "forgotten species" that has been abandoned for many decades. During the early years of the life cycle, the eels enter freshwater to spawn, and become economically important to the state of Maine. Something smaller than an earthworm has become Maine's second most lucrative water based resource after lobsters. With the growth of the Maine Elver fishing industry, it needs to be determined if the state is monitoring and appropriately regulating it to ensure a safe and worthwhile industry for years to come. *(Faculty sponsor: Brad Dearden)*

2:00 - 2:20

Buddhism in America and American Pop Culture

Alyssa Ladd

This research discusses Buddhism in the United States, specifically how Buddhism has adapted to American culture. There is an emergence of Buddhist symbols in American pop culture, and it is possible that this, along with other changes, is an adaptation of Buddhism in the United States. The following research was conducted through review of relevant literature, as well as through an online survey and one-on-one interviews. Plenty of research has been done on how Buddhism in Eastern countries differs from the Buddhism in America, but specific adaptations of Buddhism and how these adaptations have come about remains a gray area. *(Faculty sponsor: Nicole Kellett)*

2:20 - 2:40

Break

2:40 - 3:00

Defining Sacred: The Lasting Impacts of Colonialism in Defining and Preserving Indigenous Sacred Sites

Marina Belanger

The impacts of colonialism in the Americas can still be felt today with the dispute of indigenous sacred sites. This project looks at the lasting effects colonialism has had on the preservation of sacred sites. In my research I explore questions such as, how has colonialism and religious conversion impacted the destruction, preservation and hybridization of indigenous sacred site? How are these effects still seen in modern-day political and judicial proceedings? These questions demonstrate inherent rifts in indigenous and non-indigenous definitions of sacredness as well as ongoing impacts of colonialism with regards to preservation of sacred sites. *(Faculty sponsor: Nicole Kellett)*

3:00 - 3:20

Museums: What Does it Mean to Be Authentic?

Thomas Feeley

In today's society we are seeing more and more replicas utilized in museum settings instead of original artifacts. How do we go about recognizing these replicas within museums? This paper explores what it means to be authentic. I analyze how patrons of museums and those who work in museums conceptualize authenticity and in turn how such perceptions shape views of replicas. To answer my research question I draw from relevant literature, interviews with museum officials as well as surveys with museum patrons. *(Faculty sponsor: Nicole Kellett)*

3:20 - 3:40

Protest from the Living Room: The Internet and Activism

Amy Clifford

No matter what website you visit, there is no avoiding people arguing over one thing or another, whether it be over social or political issues. Online social networking websites such as facebook, youtube, tumblr, and reddit, have become a popular platform for discussing current events, social issues and politics. Because of the frequency of these discussions, one has to wonder, what kind of impact has the internet had on activism? During this presentation, I will discuss the information I have gathered via surveys and literature review on how the internet has impacted social and political activism. *(Faculty sponsor: Nicole Kellett)*

3:40 - 4:00

Your Furry Friends: The Role of Pets in American Society

Katrina Smith

This research examines the roles that household pets play in American society today, focusing on pets' impacts on their owners and the history of pets in America. Once the roles of pets have been identified, how society has impacted these changes will be examined, as well as why or why not people are choosing to adopt

pets, based on their perceived benefits and drawbacks. The expected outcome of this research is that pet ownership has been increasing over the years due to pets beginning to take on more roles in today's society, thus producing additional benefits for the people around them. *(Faculty sponsor: Nicole Kellett)*

Venue 3, Thomas Auditorium

Science, Political Science

9:00 - 9:20

The Effect of Aspartame on the Embryonic Development of Zebrafish

Talya Briana and Craig Gajewski

The purpose of this experiment was to understand the effect that varying amounts of aspartame had on the development of zebrafish embryos. Zebrafish exposed to aspartame show a negative effect on their survival rate, acute swimming defects, increased brain inflammation, hyperglycemia, and weight gain. Research has been conducted to identify various cancers and tumor rates in humans that are linked to aspartame. Other research includes aspartame's link to appetite, diet, increase in body weight, and mental and behavioral problems. These findings could be useful for the FDA in reevaluating the safety of consuming aspartame. *(Faculty sponsor: Jean Doty)*

9:20 - 9:40

Effects of Various Cytokines on Senescence in Venus Flytraps (*Dionaea muscipula*).

Nickolas Bray and Jordan Horrocks

The aim of this project was to evaluate the advertised benefits of coconut water. Coconut water is a source of cytokine, a class of plant hormones that promote shoot growth and prolong cellular senescence (Amasino 2005). Manufacturers of coconut water have advertised many health benefits from drinking their products, including anti-aging properties from cytokines in the liquid. To test this claim, callus from Venus flytraps were grown in media treated with various coconut products compared to positive and negative controls. To examine the effects of the different treatments, telomere lengths, a measure of aging, were analyzed for each treatment group. *(Faculty sponsor: Jean Doty)*

9:40 - 10:00

One Fish, Two Fish, Drunk Fish, Brew Fish: Effects of Caffeine versus Alcohol on Fish

Faith Purdy and Savannah Ridgley

For the average person, alcohol is often regarded as more hazardous to one's health than is caffeine; pregnant women are advised not to consume alcohol, though merely discouraged from drinking too much caffeine. Through this project, we determined whether--in equal concentrations--ethanol or caffeine is more damaging to developing zebra fish embryos. In addition, we determined if the effects of either compound could be negated by the presence of the other. *(Faculty sponsor: Jean Doty)*

10:00 - 10:20

Expounding Neurodegenerative Diseases: Understanding through Creation of Model Organisms

Hannah Lust

Both Alzheimer's and Parkinson's disease are characterized by a progression of neuronal damage and successive death. Previously the Updike Laboratory, at MDI Biological Laboratory, isolated a PQN-75 gene mutation that contains protein domains found in prions, which are particles thought to be the agents of infection in a variety of diseases of the nervous system, including Alzheimer's and Parkinson's disease (Updike et al., 2011). My examination of aggregate formation in the aforementioned mutation through the construction of plasmids allows for exploration of its role in causing various nervous system diseases. (*Faculty sponsor: Jean Doty*)

10:20 - 10:40

Harvey Aft Award for Excellence in Chemistry

Chemistry Faculty

Each year the chemistry faculty recognizes a student who has excelled in upper-level chemistry courses, has outstanding general scholarship, has demonstrated interest in chemistry, and projects a good attitude toward the field. Please join us when we announce the winner and present the award.

Break

10:40 - 11:00

In Vitro Effects of the Proton Pump Inhibitor Lansoprazole on Expression of the Virulence Factors CagA and VacA by *Helicobacter pylori*

Christa Bonney and Conor Kirby

Helicobacter pylori (HP) is associated with gastric diseases that are commonly treated with proton pump inhibitors (PPIs). PPIs inhibit H⁺/K⁺ ATPases in gastric parietal cells, reducing acid secretion. Synergistic HP virulence factors CagA and VacA disrupt host cellular functions and immunity. The effects of PPIs on expression of these proteins was examined in a range of microenvironments differing in pH (3.5-8.0). A potential mechanism of selectivity of the PPI, lansoprazole, on HP was observed via exposure of HP to the active metabolites of lansoprazole. Gene expression of CagA and VacA will be quantified via 2D SDS PAGE and fluorescent microscopy. (*Faculty sponsor: Jean Doty*)

11:00 - 11:20

The Effects of Acetaminophen vs. Ibuprofen in Embryos of *Danio rerio*

Larissa Hannan and Rebecca Young

Ibuprofen and Acetaminophen are both used to relieve pain, however they do so in different ways due to their structures. Each medicine is effective in treating certain ailments, however both have confirmed side effects. Due to embryos' fragility, Ibuprofen may react similarly to them as they would the stomach's lining, posing risk for ulcers; while Acetaminophen will theoretically be more effective because it targets the brain's prostaglandins, rather than those found throughout the whole body. The main goals of this research were to

determine differences when given an overdosage of each one, and the effect of either on embryonic development. (Faculty sponsor: Jean Doty)

11:20 - 11:40

The Effects of Aspartame on Zebrafish Development

Joshua Abrams and Dylan Lord

The effects of aspartame on the developing stages of the *Danio rerio* were observed in three groups: a control, a low dosage and a high dosage. Replacing natural sugars with artificial sweeteners has become common practice because of the idea that they are healthier, yet the chemical structures of these sweeteners look similar to the structures of some known carcinogens. While some previous studies have failed to produce any results that would point to artificial sweeteners having any negative results on the body, we hypothesize that they do impair early development, which may warrant caution for use during pregnancy. (Faculty sponsor: Jean Doty)

11:40 - 12:00

Bacterial Utilization of Pharmaceutical Compounds in Farmington, ME Wastewater through Forced Evolution

Sebastien Dumont and Grace Toles

Wastewater treatment is designed to remove organic waste so the water can be safely returned to natural sources. However, this system is not intended to remove pharmaceutical compounds that enter the wastewater due to excretion of metabolic excess and improper disposal. This project determined which pharmaceuticals were present in wastewater samples through analysis by GC/Mass Spectrometry. Specific bacterial isolates from wastewater were then cultured and used in an assay to determine if they had, or could develop, the ability to break down commonly detected pharmaceutical compounds such as ibuprofen, synthetic estrogen, and caffeine in order to remove them from wastewater. (Faculty sponsor: Jean Doty)

12:00 - 1:00

Lunch Break

1:00 - 1:20

Antibiotic Resistance Transmittance Capabilities of *Bacteroides fragilis* to Various Microbial Flora of the Human Gastrointestinal Tract

Samantha Lackeyram-Owen and Hannah Lust

The goal of this experiment was to examine conjugational resistance and quorum sensing resistance of *Bacteroides fragilis* on other bacteria in the human gut microbiome. Studies have shown that *B. fragilis* have an increasing resistance to various antibiotics such as clindamycin (Aldridge et al. 2001) and erythromycin (Shoemaker et. al. 2001). To elucidate *B. fragilis* resistance transmittance we conducted two experiments, one examining resistance through conjugation and the other through quorum sensing. This project will aid in better understanding antibiotic impact on pathogenic and resistant bacteria, as well as further detail the general impact of resistant bacteria on microbial flora. (Faculty sponsor: Jean Doty)

1:20 - 1:40

Effectiveness & Resistance of Bacteriophage Therapy as an Alternative to Antibiotics when Treating *E. coli*

Talya Briana and Molly Hinkel

The purpose of this experiment is to investigate alternative treatments of bacterial infections by treating *E. coli* B and C with various phage and antibiotics, and calculating the respective titer and susceptibility zones. Studies have shown that the availability and effectiveness of antibiotics are declining and concern about antibiotic resistance is on the rise worldwide. Abuse of antibiotics has resulted in the development of bacteria that are highly resistant to most antibacterial drugs. The findings of this experiment could lead to the development of innovative treatments for *E. coli* bacterial infections caused by resistant strains. (*Faculty sponsor: Jean Doty*)

1:40 - 2:00

The Irradiation of Food: Effects of *D. radiodurans* Ultraviolet Resistance on *E. coli*

Kanika Pathania and Sarah Pokorny

Irradiation has become a popular practice in the preservation of food within the United States. Two bacteria, *D. radiodurans* and *E. coli*, are commonly found in animal products such as beef. A transformation experiment was conducted in vitro to determine if non-resistant *E. coli* were able to incorporate plasmids from lysed *D. radiodurans*, and attain the ability of becoming resistant to UV radiation. If *E. coli* is in fact successful in incorporating *D. radiodurans* plasmids into its DNA then food irradiation processes would become useless. This may cause life-threatening *E. coli* infections to become more prominent. (*Faculty sponsor: Jean Doty*)

2:00 - 2:20

Comparison of MRSA treatment: Antibiotics vs. *Cannabis*

Allison Pease and Jesse Williams

M.R.S.A (methylcillin-resistant *Staphylococcus aureus*) is a bacterium that is responsible for several hard to treat diseases in humans. Cannabis has been proposed as a possible alternative treatment for M.R.S.A. Cannabis will be tested for its efficacy against other leading antibiotics. Cannabinoids are suspected to be the active agents in *Cannabis* capable of treating these infections. CBD (Cannabidiol) is found in high quantities in *Cannabis* preparations, and will be the leading Cannabinoid tested. Different *Cannabis* preparations will be tested of various concentrations and contents. Each preparation will be placed in its own bacterial culture in blood agar, and tested against a control and antibiotics. (*Faculty sponsor: Jean Doty*)

2:20 - 2:25

The Presentation of the Walter Sargent Undergraduate Research Mentor Award

In 2012, the Undergraduate Research Council presented the first Undergraduate Research Mentor Award. In 2013, the award was named after UMF history professor and URC member Walter Sargent. Walter was not only a council member, but a mentor of many undergraduate research projects that built a culture of undergraduate research in his discipline. We will present the Walter Sargent Undergraduate Research Mentor Award to a faculty member with a similar record of mentoring and establishing a culture of undergraduate research within the discipline.

2:25 - 2:40

Break

2:40 - 3:00

The application of DNA barcoding of the CBDAS and THCA genes in strains of *Cannabis sativa*.

Kerry Schlosser and Aaron Verrill

The purpose of this study was to examine the CBDAs and THCa genes in different strains of *Cannabis sativa*, by DNA barcoding, to compare gene sequences, identify genetic differences, and to investigate whether genetic differences observed could be associated with each of the three known chemotypes. This method of DNA barcoding may contribute to the identification of DNA markers that characterize the levels of CBD and THC found in different strains, which could improve the medicinal use of *Cannabis*. (*Faculty sponsor: Jean Doty*)

3:00 - 3:20

Policy Recommendations to Encourage the Development of Broadband Infrastructure in Maine

Charles Young

This year UMF's Maine Policy Scholar research is focused on the condition of broadband infrastructure in the state. In order to accelerate economic growth across the State of Maine while enabling access to medical services and civics in currently unserved regions, policymakers should regularly reconsider statewide efforts to expand internet access. The current model for building networks, the ConnectME Authority, is one of the original broadband agencies in the nation. Despite having expanded internet access to 40,000 homes, this great effort should be revised to support community based broadband projects in Maine. (*Faculty sponsor: James Melcher*)

3:20 - 3:40

Maine's Moderate Politics and How States Can Fight Political Polarization

Tyler Hadyniak

The State of Maine has gained a national reputation for its moderately-centered politics ever since the election of Margaret Chase Smith in the late 1940s; yet through recent decades, political polarization has consistently been on the rise in the United States. Does Maine deserve this reputation? What cultural, idiosyncratic, and structural factors are present to give Maine this reputation? This paper will answer these questions, and will establish the exportable viability of these aspects, as well as provide recommendations for what kind of structural factors states can implement if they wish to reduce political polarization. (*Faculty sponsor: James Melcher*)

Venue 4, North Dining Hall A

Psychology

9:00 - 12:00

Psychology Students Present their Individual Research Projects

Leanne Arsenault, Tyler Belanger, Nicholas Blasens, Katrina Campbell, Olivia Dow, Ian Gingras, Dylan Hadley, Jory Humphrey, Ashley Hutchinson, Erin Ingraham, Kristopher Kelley, Siu Hin Calvin Lui, Catherine Reno, Thai Sinkinson, Janelle Sweeting-Burroughs

Seventeen Psychology, Business Psychology, and Honors students will present their independent research projects in individual oral presentations. The students research presentations cover a variety of topics including: the influence of ethnicity on viewers' evaluations of celebrity chefs; how the presence of emoticons impacts text conversations; perceptions of domestic violence in straight and gay relationships; how weight impacts assessments of cheerleaders' ability; correlations between attitudes toward marijuana legalization and anti-government views; breakfast consumption and academic achievement; and other exciting social, personality, and cognitive Psychology topics. *(Faculty sponsor: Karol Maybury)*

Lunch Break

1:00 - 3:00

Psychology Students Present their Individual Research Projects

(Continued from morning session)

Continuation of the session for psychology research projects. *(Faculty sponsor: Karol Maybury)*

Venue 5, Student Center CR 123

Miscellaneous, History

9:00 - 9:20

"In Their Shoes" College Bystander Prevention Program

Leah Brown and Jaycee Jenckes

“In 2007 the National Coalition Against Domestic Violence found that 21% of college students reported having experienced dating violence by a current partner and 32% of students experienced dating violence by a previous partner. In Their Shoes: Teens and Dating Violence is an engaging way to raise awareness about dating violence and aims to help teens understand what an abusive relationship can look like, and how to help yourself if you are in one. Our goal was to create a new version of In Their Shoes from the bystander perspective of a college student here at UMF. *(Faculty sponsor: Kelly Bentley)*

9:20 - 9:40

What Should We Consider When Choosing iPad Applications as Assistive Technology?

Merlin Komenda

iPads, computers, and other technologies have become prevalent in schools. These tools can expand the learning platform and provide a means to equip students with assistive technology (AT) applications. Such applications allow students to complete tasks according to the needs of the user. To ensure that appropriate AT applications are being utilized, a rubric was developed to assist educators. The rubric evaluates the core components of AT applications and provides constructive feedback for potential use. This presentation will provide participants with an overview of diverse implementations of AT applications, along with introducing the newly designed Assistive Technology Application Rubric (ATAR). (*Faculty sponsor: Lance Neeper*)

9:40 - 10:00

William Congreve's Millamant: A Restoration Heroine "Ahead of Her Time" for a Reason

Alison Hutchins

Mirabell and Millamant, the leading couple of William Congreve's play, "The Way of the World" (1700), are often viewed as an example couple for the Restoration Era. They are equals in wits and intelligence, and their union at the end of the play seems to be a happy one. Although the couple thrives, it can be argued that Millamant does not. Viewed as a woman ahead of her time, I aim to discover what patriarchal social mores she encounters throughout the play that take her from a place of strength and agency, where she begins, to a place of submission. (*Faculty sponsor: Misty Krueger*)

10:00 - 10:20

William Congreve's Mirabell and Millamant: The Couple that Survived the Restoration

Tyler Michaud

This paper discusses William Congreve's play, *The Way of the World* (1700). It argues that the protagonists, Mirabell and Millamant, are a model couple that accept and practice a new level of equality--something that English audiences had not seen on the stage before. Although the lovers find themselves dragged down by gendered ideals and the friction between the new and old social-political systems, they use their wits to defy the odds stacked against them. In their union, they represent a superior couple that overcomes the broken morality of Restoration comedy. (*Faculty sponsor: Misty Krueger*)

10:20 - 10:40

Break

10:40 - 11:00

That Girl Is On Fire: Buffy, the Hellmouth, and Bodily Autonomy

Molly Cavanaugh

Gothic works of film and literature tease at repressed desires, acting as both outlet and source. Even within the Gothic, we rarely speak explicitly about our sexual desires. This creates the need for a new language that evokes sexual imagery while remaining symbolic. Early Gothic writers used the world around them as metaphors for the sexuality of their female protagonists. In the pop-culture juggernaut *Buffy the Vampire*

Slayer, Buffy must confront the power of one such space. In her conflict with the Hellmouth, Buffy experiences her own sexual awakening and autonomy, taking control of the feminine space and her body. *(Faculty sponsor: Michael Johnson)*

11:00 - 11:20

A Revelation of the Real Presence: Psychoanalytic Theory in the Violent Bear it Away, by Flannery O'Connor

Bree Foley

Abstract: This project considers psychoanalysis and the theological revelations provided by Flannery O'Connor in her novel, "The Violent Bear It Away." Psychoanalysis leads down a mysterious path of desire towards the Other with intrusions of the Real breaking in, articulating a pursuit of the unattainable. O'Connor reveals that this road has the potential to culminate in a revelation of the Real as the Real Presence of the God of Christianity. This project shows how she transcends the limitations of psychoanalysis through literature by demonstrating the existence of the Real consistently with Lacanian theory, ultimately unveiling a theological redefinition. *(Faculty sponsor: Michael Johnson)*

11:20 - 11:40

The Representation of Races in Novels and Films

Rachel Mas

The representation of races can differ from a novel to its film adaptation. The difference between the two works may be all the greater as the adaptation turns out to be a mainstream movie. Thus, several issues are being raised. Focusing on various works (The Color Purple, The Help...), movies as well as novels, I will tackle the following questions. How mainstream movies represent races? Do both media challenge the stereotypes linked to racial representation? Do they broach the same subjects with a similar perception and forwardness? *(Faculty sponsor: Michael Johnson)*

12:00 - 1:00

Lunch Break

1:00 - 1:20

Preserving the Zaninetti Name

Mickelle Mcafferty

The value of heritage comes from its inheritors, the living. The knowledge of our heritage is an inheritance that is priceless and we often take for granted what we know about our relatives and do not take the time to tell the younger generations. It's not only the fault of the older generation's neglect to pass the heritage on, but also due to the younger generation's failure to retrieve the information from them. Join me in my journey to preserve my maternal grandfather's story, as well as his parent's emigration from Italy before it's too late. *(Faculty sponsor: Allison Hepler)*

1:20 - 1:40

“The Israeli Military Failures of the 1973 Arab- Israeli War”

Christopher Knight

This project examines the 1973 Arab-Israeli war: a conflict which brought the latter nation to the brink of disaster. Traditional explanations of that near catastrophe have laid the blame at the feet of politicians or of the intelligence community. This paper shifts that focus to the war itself and, by examining the failures of the Israeli military on the battlefield, brings new and potentially controversial explanation of why Israel lost all of the early battles and quite nearly lost the war. *(Faculty sponsor: Christopher O'Brien)*

1:40 - 2:00

A Peaceful People and the Invisible Empire

Isaiah Spofford

At the end of 1922 the Ku Klux Klan entered Maine, spreading nativist, Anti-Catholic rhetoric and targeting French-Canadian Catholics who had migrated to the state beginning in the late 1860s. While past works have focused mostly on the Klan itself, this presentation argues that, primarily through non-violent resistance, Catholics and others in the state were able to successfully combat the Klan's ideology. The result was a united front that pushed the “Invisible Empire” out of Maine. *(Faculty sponsor: Christopher O'Brien)*

2:00 - 2:20

Against All Odds: How the OSS Eluded Enemy Forces, Allied Bickering, and Bureaucratic Red Tape to Accomplish Enormous Feats in Yugoslavia and China

Carl Langbehn

This presentation looks at two nearly simultaneous events a half world apart. In the first, operatives from the US Office of Strategic Services (OSS) conducted the airlift of hundreds of allied airmen trapped in Nazi-occupied Yugoslavia by working closely with the Nationalist Chetniks. In the second, OSS operatives worked with the Chinese Communists in Yen-an to gather information about Japanese tactics. In both places, the OSS accomplished enormous feats with minimal guidance from Washington, thus allowing them more freedom of movement. This paper argues that lack of centralized command was a critical factor in the success of both operations. *(Faculty sponsor: Christopher O'Brien)*

2:20 - 2:40

Break

2:40 - 3:00

Saving the Alewives: Damming on the St. George and the Battle to Preserve a Fishery

Wyatt Porter

Fish have always been important in Warren. This presentation examines how the citizens of that Maine community were able to maintain the alewife run on the St. George River in the 18th and 19th Centuries as industrial developments loomed. It argues the Warrenites were often unwitting, and sometimes unwilling, environmentalists in their efforts to protect that natural resource. *(Faculty sponsor: Allison Hepler)*

3:00 - 3:20

The Hessian Experience: A Transatlantic Voyage to Hardship

Timothy Roberts

This presentation looks at the American Revolution through the eyes of Hessian soldiers, using their journals, it finds that they faced three key difficulties: The pervasiveness of cultural and linguistic barriers; the ineffectiveness of their English employers in terms of military tactics and health care; and finally the devastating implications of being a German prisoner of war in American hands after the war. Underlying all of these features is the development of George Washington's reputation among German regiments, which led many to desert, join the American forces, or marry an American woman and become a citizen of the new Republic. *(Faculty sponsor: Christopher O'Brien)*

3:20 - 3:40

Turning Japanese: Land, Guilds, War and the Creation of an Identifiable Culture

Michael Diffin

Although the process seemingly unfolded over centuries, it was only with the simultaneous collapse of a land tenancy system, rise of artisan guilds, and the eventual flight of artisans from Kyoto as civil war approached in the 15th Century, that an identifiably "Japanese" culture spread. This presentation seeks to complicate the existing consensus narrative about the codification of Japanese culture. *(Faculty sponsor: Christopher O'Brien)*

3:40 - 4:00

Yhteishyvä: Taking Care of Your Own - The Swedes in the Wilds of Maine

Katherine Turpen

In 1870, a group of immigrants colonized a remote tract of Maine Woods. Recruited by the state to counter the effects of the undesirable French and Irish, their hybrid Swede-Mainer culture is uncovered in this study and their place in Maine history is solidified. This presentation fills a hole in the current literature by providing a brief communal biography of how they maintained their ancestral roots while becoming American in Maine's First Swedish Colony. *(Faculty sponsor: Christopher O'Brien)*

Venue 6, The Landing, Student Center

English, Psychology, Spanish, Women's Studies

9:00 - 9:20

Farmington Writers Congress

Rachel Anderson and Nathaniel Fritts

The Farmington Writers Congress (FWC), created by two BFA students (Rachel Anderson & Nathaniel Fritts), will begin on the 29th after Symposium day and will continue until May 1st. This presentation will serve as an introduction to the Congress itself, with the co-creators sharing some behind-the-scenes details. The Congress will serve as a complement to the UMF community and aims to bring student and faculty members together with industry professionals. The goal of the program is to create a student-focused atmosphere that encourages open discourse and an exchange of valuable information. *(Faculty sponsor: Patricia O'Donnell)*

9:20 - 10:20

Readings by Students in Advanced Fiction

Kimberly Arthurs, Audrey Blaufuss, Joshua Cardella, Victoria Luce, Elise Musicant, Sam Oppenheim, Zackary Peercy, Caleb Rea, and Jenna Silliboy

Nine students from Advanced Fiction will read short excerpts from stories they have written this semester. Each student will introduce the work, and read for about five minutes. There will be an opportunity for questions and discussion. *(Faculty sponsor: Patricia O'Donnell)*

10:20 - 10:40

Break

10:40 - 11:20

Writing Maine: Oral Histories

Samuel Carignan, Jillian Cummings, Brooke Cushing, Emma Duggan, Sasha Hampton, Braley Leadbetter, Gabrielle Severance, Jenessa Talarico, and Michaela Zelie

Students from English 100: Writing Maine will read selections from oral history essays composed after interviewing residents of The Sandy River Center a retirement and assisted living facility in Farmington. *(Faculty sponsor: Shana Youngdahl)*

11:20 - 11:40

Recommendations for Pediatric End-of-Life Care Programs

Holly Legere

When a child is diagnosed with a terminal illness, families need access to quality care and information; often this care is not available and there is little research on its necessary components. Drawing on a review of the literature and interviews with experts in the field, recommendations for creating quality pediatric end-of-life care programs will be given based on the needs of patients, their parents, siblings and their health care team. *(Faculty sponsor: Natasha Lekes)*

11:40 - 12:00

The Psychology of Haircuts: A Drastic Change

Matthew Thompson

Haircuts are a part of human life. Most of our haircuts are a simple trim, but not always. In this project I examine the occurrence of drastic haircuts. The practice of cutting off great portions of hair has popped up in religions and cultures across history, and it is common for such a drastic change to be about more than just hair. People cut their hair off to mourn, to rebel, to heal, or to mark a transition. In this talk I will present a multidisciplinary exploration of the symbolism of hair and when people are compelled to chop off their long locks. *(Faculty sponsor: Marilyn Shea)*

12:00 - 1:00

Lunch Break

1:00 - 1:20

Breaking Borders: The Vision and Voices of Modern Bilingual Female Poets

Kimberly Clark

This presentation focuses on the production of bilingual (Spanish-English) poetry in the 20th and 21st century, by female poets, examining not only the content of the works produced but the identities of the women writers. Bilingual poetry is discussed and examined in this presentation as a tool to eliminate cultural and language barriers, particularly for women of minorities. The presenter will also share her original bilingual poetry which she has written during her time as a Wilson scholar. *(Faculty sponsor: Marisela Funes)*

1:20 - 2:20

The Real and the Magical: Bilingual Readings

Samantha Lackeyram-Owen, Brigid Chapin, Gia Pilgrim, Pauline Lefevre, Love Call, Nikola Backiel, and Kimberly Clark

Seven students in Spanish Readings and Composition read their originally crafted stories that reflect an eerie and horrific overarching theme. Each of their works are inspired by Latin American magical realism which was popularized in the 1960s. Their stories dabble in aspects of magical realism through various strategies and topics including: metamorphosis, addiction, child labor, love, romance, existential angst, and phobias. From a bilingual approach, the authors explore the limits of reality and other binary oppositions. *(Faculty sponsor: Marisela Funes)*

2:20 - 2:40

Break

2:40 - 3:00

Maine through the Eyes of an Argentinean

Natalia Asis

This presentation will encompass the experiences of an Argentinean exchange student at UMF and her time spent in Maine. Special emphasis will be placed on the multicultural aspect and the negotiation of identities through discourse in social interactions. *(Faculty sponsor: Marisela Funes)*

3:00 - 4:00

Feminist Public Policy Case Studies

Katherine Drew, Hannah Forbush, Taylor Gelman, Jasmine Heckler, Rayanna Howard, Anastasia Johnson, Nicholas Lyden, Anastasia Mcfadden-foy, Vanessa Norman, Faith Norton, Faith Purdy, Sarah Stark-Petersen, Zoe Thomas, and Dylan Turner

Sally Kenney argues that a "central tenet of feminist social science calls for examining social policy from the point of view of the objects of policy, giving voice to women's experiences." Students in "Contemporary

Feminist Thought” present public policy cases that give voice to those who are subject to these policies. The cases to be presented: Stand Your Ground laws and the prosecution of Marissa Alexander; the 2010 French law prohibiting concealing of the face in public; Columbia University’s sexual assault policy and Emma Sulkowicz’s protest against the handling of her case by the administration. *(Faculty sponsor: Tanya Kennedy)*

Venue 7, Ricker 114

Computer Science

9:00 - 10:00

Data Visualizations

Nicole Adams, Patrick Bellis, Nathan Bowring, Tyler Buck, Matthew Chandler, Tyler Eustis, Taliesin Greaton, Tiffany Meryhew, Cassandra Plante, Eric Rockwell, Zachary Sylvester, and Christopher Wren

Using different techniques to answer a wide variety of questions, the students from the Data Visualization course will demonstrate the digital visualizations they have created over the course of the semester. *(Faculty sponsor: Christopher Bennett)*

Venue 9, North Dining Hall B-C

Poster Session

Please note that all poster presenters are expected to be at their posters to address questions for at least one hour, either between 10:00 and 11:00 or between 1:00 and 2:00.

Poster #1

Field Experiences in Community Health and Recreation

Michael Colella, Andrew Dickey, Dustin Dumont, Thaley Halpin, Marrison Hirsh, Julian Jackson, Jaclyn Kandler, Chelsea Lear-ward, Erin McGuigan, Kyle Mitchell, Colleen Ward, and Jenna Williams

As the culminating experience of their careers at UMF, students majoring in Community Health Education carefully select field placements which mirror professional interests and career or graduate school aspirations. For decades, students have shared these experiences with each other and program faculty members. We are excited to share with the campus community, the collective knowledge, skills and research in the areas of health and recreation program planning, implementation and evaluation. *(Faculty sponsor: Denise Boothby)*

Poster #2

Good Food at UMF: Projects from the Good Food CoLab

Students from the “Good Food Colab” (ANT 103, ECO 228, LIA 277, and GEO 304)

In this poster session, students from Good Food CoLab courses (ANT 103, ECO 228, LIA 277 and GEO 304) will present projects that investigate good food. By “good food” we mean food that is healthy, environmentally sustainable, affordable, attainable, ethical, and tastes good! Posters will explore a wide variety of topics that include: the evolutionary history of the human diet, misconceptions around fad diets, the local food supply,

mapping local food demand, sustainable and value-added agriculture, the feasibility of a UMF farm, and food insecurity on campus. *(Faculty sponsor: Wendy Harper)*

Poster #3

Shrinking UMF's Carbon Footprint: the New Biomass Plant

Students from BIO 294, Forest Ecology and Conservation

This summer, UMF will be building a central heating plant using wood chips (biomass) as the fuel. The plant will replace most of the 450,000 gallons of heating oil now used to heat the campus. How will this fundamental change in the campus heating system affect UMF's carbon dioxide emissions? You might have read that biomass is carbon neutral, but recent ecological research has suggested that it's more complicated than that. Based on this work, we (the entire Forest Ecology and Conservation class) will estimate the extent to which the new biomass plant will shrink UMF's carbon footprint. We will also describe how the biomass plant will operate and some of the opportunities for education at UMF and in the community. *(Faculty sponsor: Andrew Barton)*

Poster #4

Student Research in Social, Cognitive, and Personality Psychology

Em Audet, Julia Christie, Ashley Ferrence, Cody Garland, Hayley Hanson, Angelica Horne, Alexis Kennedy, John Kuntz, Dahir Muktar, Jessica Roberts, Taylor Sisk, Camiesha Terry, and Lindsey Whitney

Thirteen Psychology, Business Psychology, and Honors students will present their independent research projects in individual poster presentations. The students researchers examined a wide variety of topics including: gender differences in evaluations of 'selfies'; how hugs and compliments impact mood; the influence of news consumption on undergraduates' desire to have children; the impact of chewing gum on memory performance; the correlation between religiosity and forgiveness; correlations between birth order and evaluations of others' gifts; and several additional projects covering topics in social, personality, and cognitive Psychology. *(Faculty sponsor: Karol Maybury)*

Poster #5

School Health Education

Gabrielle Adam, Cacy Alexander, Shafer Archard, Kayla Dore, Jenna Lemieux, and Nathan Schultz

The School Health Concentration at UMF prepares professionally competent leaders in health promotion and disease prevention, cultivating a passion for healthy, diverse communities through classroom instruction, hands on experiences, and opportunities for research. As a result, school health educators are motivated to create dynamic and challenging classrooms that promote health literacy through culturally-sensitive, developmentally-appropriate, performance-based instruction that empowers school-aged youth and adolescents to make health-promoting decisions. A variety of current health issues in the K-12 classroom and school community will be addressed. *(Faculty sponsor: Stephanie Swan)*

Poster #6

Edible UMF: An Action Plan for a Healthy, Tasty and Sustainable Campus

Richard Card, Stark Duphiney, Isaiah Fallon, Craig Gajewski, Casey Griffin, Andrew Harmon, Robert Hollis, Charles Martin, Savannah Menard, Kayla Pingree, and Jenessa Talarico

Landscaping with edible plants is becoming an increasingly common way of promoting healthy diets, building community through civic participation and re-connecting people to their food. Our seminar has worked together to create an action plan for edible landscaping at UMF that includes: a GIS analysis of sun exposure, road salt, pedestrian flows and other important criteria for siting and designing edible landscapes across campus; identification of suitable edible plants adapted to specific sites on campus based on harvest sequence, cultivation and maintenance requirements; and a program for sustainable long-term maintenance and experiential education opportunities. This poster provides an overview of our action plan, mapping a practical way of creating an edible UMF, enabling students to snack on tasty fruit, veggies and herbs between classes by Fall 2016. *(Faculty sponsor: Matthew McCourt)*

Poster #7

An Observational Study of Infants' and Toddlers' School Readiness Skills within Parent-Child Playgroups

Samantha Gigante, Hannah Goodenow, William Robinson, and Miranda St Pierre

This poster illustrates ways facilitators of a parent-child playgroup support parents in preparing their toddlers for future school experiences. The poster will be a display of the definitions and importance of school readiness skills such as, curiosity, attention, memory, information gathering, problem solving, and persistence. It will also include examples of the skills, using data that has been gathered as part of an observational study conducted within a playgroup based on the Parents Interacting with Infants (PIWI) model. *(Faculty sponsor: Dolores Appl)*

Poster #8

The Elephant in the Gym Class: How Educators May Be the Problem

Jenna Lemieux

It is no secret that K-12 students face many challenges and pressures walking through school doors every day. One problem being pushed to the side is the increase in child obesity rates. The blame shifts from parents, to schools, even to the children themselves. However, not every overweight/obese student is being given equal chance to succeed in physical education. In this presentation we will address "The Elephant in The Gym Class" and identify why anti-fat bias is happening and how to reverse this epidemic. *(Faculty sponsor: Stephanie Swan)*

Poster #9

The Opportunities That Await

Bethany Frazier

An internship allows you endless opportunities. These opportunities allow students to learn and grow. In a critical and deep study, I will present my internship findings at Verso Corporation's Androscoggin Mill located in Jay, Maine. I will discuss the nature of my job and job description, my involvement in management decision making, and the authority delegated upon me. I will also analyze my learning and the experience I received

through my internship, and give some suggestions and advice to other students. So, join me for the opportunities that await. *(Faculty sponsor: Shahrokh Dalpour)*

Poster #10

Resources for the Food Insecure in Franklin County

Catherine Dufault

Every day, approximately one-in-seven people in Maine suffer from food insecurity, making it the 18th hungriest state in the nation. In Franklin County, this rate is slightly higher and closer to the national average, where roughly one-in-six people go hungry daily. Fortunately, there are initiatives within Farmington and surrounding communities to combat food insecurity. This poster discusses issues surrounding hunger in Maine as well as provides information about local resources available to the food insecure. *(Faculty sponsor: Wendy Harper)*

Poster #11

The Use of Reed Beds for Phytoremediation of Sewage Effluent & its Applicability to the Farmington Wastewater Treatment Plant

Mena Boyah

The use of reed beds for phytoremediation of sewage effluent is not a new practice, however it has become increasingly popular over the recent decade. This research focuses on the use of reed beds for the tertiary treatment of sewage effluent in the form of activated sludge and the creation of a reed bed at the Farmington waste water treatment facility. The creation of this reed bed would allow the waste water facility to sustainably extract chemicals and organic matter on-site instead of sending it elsewhere for treatment. *(Faculty sponsor: Matthew McCourt)*

Poster #12

Feasibility of Osmotic Power in Maine Estuaries

Timothy York

The city of Oslo is home to a brilliant natural resource technology that was recently developed over the last decade. First released by Norwegian scientists in 2009, the prototype of the first Osmotic Power Plant was placed at the mouth of the Oslo fjord and has been harnessing the power between salinity gradients using freshwater and ocean water to produce a 100%, emission-free power source capable of producing electricity to millions of people. My research was based on the implications and analyses of the estuaries in Maine to predict the probability of having Osmotic Power in local port cities. *(Faculty sponsor: Cathleen McAnney)*

Poster #13

Internally-Sourced, UMF-Sponsored Produce Production

Alexander Wulff

Many students and community members seek a more responsible and engaged connection with their food sources. Perhaps the University of Maine at Farmington should consider ways to innovate and advance towards more internally-generated food production practices. A student-run garden system could provide fresh produce for the campus community and be a step for the future of the University and its students who

would be learning valuable skills and building a connection to their food sources. This research examines prospective edible gardening and its place for our campus. It also examines the feasibility for a primarily student run garden system. (*Faculty sponsor: Brad Dearden*)

Poster #14

Urban Agriculture as a Catalyst for Change in Detroit

Joseph Leclair

This research seeks to investigate some of the economic, land use, public health, environmental and population impacts that local and urban agriculture can have on Detroit, Michigan. With over 200,000 vacant parcels of land spread over 140 square miles, Detroit has the opportunity to repurpose the landscape and create a new identity for itself. News articles, documentaries, scientific journals and interviews with key informants involved with urban agriculture in or around Detroit will provide insights to the future of Detroit and urban agriculture in the neighborhoods of Motor City. (*Faculty sponsor: Brad Dearden*)

Poster #15

Effects of Deer Browse on Vegetation in a Central Hardwood Oak Dominated Forest

Kalman Csigi

High densities of whitetail deer (*Odocoileus virginianus*) have significant impacts on their habitat due to browsing habits. In the central hardwood forest region of the U.S, deer populations have been suspected to compromise oak (*Quercus spp.*) and hickory (*Carya spp.*) regeneration, the dominant mast type in this ecoregion. This study focuses on the effects of moderate deer densities on mast regeneration a central hardwood forest in southeastern Illinois. (*Faculty sponsor: Ronald Butler*)

Poster #16

Farmington Snowfall Records Compared to Statewide Trends

Daniel Capone, Alexis Lanctot, Andrew Varney, and Brittany Wakefield

We looked at the density of snowpack over time to evaluate how it evolved from January through April. We investigated this by digging snow pits and measuring the depth and density. We also looked at the preservation of each snowfall throughout the layers inside the snow pits. It is clear that there has been increased snowpack depth as well as density changes throughout the season in response to warming temperatures. (*Faculty sponsor: Julia Daly*)

Poster #17

Frozen Farmington: Temperature Differences in our Local Climate

Madeline Boyes, Shane Cushing, John Evans, and Casey Wrigley

This project will examine data from 5 data loggers placed in the area of Mantor Green and the Mary Palmer Garden. These data loggers provide us with data about snow and air temperature and its relation to light and shade. This data will help us examine the correlation between temperature and light and how this affects our local climate. (*Faculty sponsor: Julia Daly*)

Poster #18

Got Sap?

Hannah Carlson, Emily Gray, Rayanna Howard, and Carolyn Newhouse

This project investigates the difference in sap flow from the north-facing side of the tree, to the south-facing side. We put up taps and buckets on three maple trees next to the Student Center. Each tree got two taps and buckets, one on the north side, the other on the south. We checked on the flow of sap four times a day for a week. We also placed temperature data loggers above one south tap and one north tap. How does the placement of the tap and buckets on the tree had any effect on the flow rate of sap? (*Faculty sponsor: Julia Daly*)

Poster #19

Sap Production in March

Dominick Cognata, Bridget Humphrey, Owen Prescott, and Tricia Tzikas

This project delves into sap production in March 2015, with focus on sap in relationship with air temperature. By placing three data loggers (which record temperature every 30 minutes) and six taps on three maple trees for by the student center, we were able to collect data on this year's sap tapping season. By recording sap levels at 9 AM to 5 PM every day for one week, we were able to compare this year to other sap seasons. The sap collection was limited this season due to colder than normal temperatures. (*Faculty sponsor: Julia Daly*)

Poster #20

Winter Weather: 2014-15 Compared to Historic Weather Records

Hayley Barbeau, Brent Barrows, Abigail Hanson, Donald Hutchins, and Vincent Malinauskas

This project's goal is to investigate evidence for climate change by comparing and contrasting the winters of historic significance in Farmington, Maine. We used data loggers to record temperature, conducted periodic snow pit density checks, and viewed past snowfall and temperature records to compare the winter of 2014-15 to previous years. (*Faculty sponsor: Julia Daly*)

Poster #21

Field relations and geochemistry of rocks observed in the Douglass quarry, Western Maine.

Dylan Moreau and Cree Rousseau

The Douglass quarry, located south of Bethel, Maine consists primarily of the 382 Ma, Songo granodiorite. The recent excavation has revealed several thin mafic dikes alongside of a leucocratic granite intruding within the granodiorite. This study will focus on the field relationships, petrography and geochemistry on the geochemical analysis of samples taken from the quarry. Data produced will hopefully lead to the characterization of the various rocks chemical constituents and possibly elucidate their source(s). (*Faculty sponsor: David Gibson*)

Poster #22

Petrography and Geochemistry of Mafic Dikes, Western Maine

Donald Osthoff

Mafic dikes are observed throughout western and southwestern Maine intruding igneous and metamorphic rocks. They intrude the 382 Ma Songo granodiorite, the 296 Ma Sebago granite, and are also observed intruding pegmatite bodies of this area as well as the metamorphic country rocks. It is unclear whether they comprise one suite of dikes or multiple dike series. Their source is also problematic, and therefore the focus of this study is to examine the petrography and geochemistry of these dikes to pinpoint their origin. Investigating the geochemistry of the mafic intrusions will enable a more definitive assignment towards possible source(s). *(Faculty sponsor: David Gibson)*

Poster #23

Petrography and Geochemistry of Mixed Magma Dike at Jetteau Point, Coastal Maine

Kyle Johnson and Cody Smith

The process of magma mixing is a well researched topic in igneous petrology. Much of what we know about this process is based on the study of composite dikes. Jetteau Point, part of the Gouldsboro intrusive complex of coastal Maine, is home to several such composite dikes. This study intends to analyze the petrography and geochemistry of various rocks found within the Jetteau Point suite in search of any evidence that suggests these dikes were formed due to multiple injections of varying magma compositions. We will test our hypothesis by modeling the magma mixing using geochemical data. *(Faculty sponsor: David Gibson)*

Poster #24

Petrography, Geochemistry and Crystallization History of Late Devonian Granitic Plutons of the Piscataquis Magmatic Belt, Central Maine

Shannon Mccaffrey

Granitoid plutons of the Piscataquis Magmatic belt, central Maine, span a wide spectrum of ages and composition. The plutons investigated intrude along the strike of the orogen and are, from SW to NE, the Songo granodiorite, the metaluminous phase of the Mooselookmeguntic, the North Lexington, the Dodling Hill phase of the Rome - Norridgewock, and Beaver Cove. They are all 385 - 365 Ma with typical I-type metaluminous mineralogies. Collectively these plutons represent some of the youngest intrusions associated with the Acadian orogeny, but their origin is problematic; investigation of the mineral chemistry may help to constrain their origin. *(Faculty sponsor: David Gibson)*

Poster #25

Rare Earth Element Abundance in Igneous and Metamorphic Rocks from Maine

Thomas Alexander and Laura Maust

Rare earth elements (REE) are vital to the production of many technological devices such as, headphones, screens, and circuit boards. These elements, for example cerium, lanthanum, neodymium, are known as the Lanthanide series on the periodic table. They are commonly hosted in accessory minerals, such as allanite, sphene and zircon, in igneous and metamorphic rocks. In this study we will examine the occurrence of these accessory minerals and chemical data for some igneous and metamorphic rocks from Maine. *(Faculty sponsor: David Gibson)*

Poster #26

Source of Glacial Erratics, Western Maine

O'Connor Kelsey and Michael Pakulski

A glacial erratic is a piece of rock that has been eroded from its outcrop and transported by glacial ice to a different location. Therefore they can reveal important information about the direction of ice movement over a landscape. This project will examine the petrography and geochemistry of some local erratics, which are of igneous origin, and using these “fingerprints” attempt to match them to known outcrops of actual igneous intrusions to the north and northwest. *(Faculty sponsor: David Gibson)*

Poster #27

Remote Sensing Investigation of Permafrost Signatures

Cassandra Greco

In remote areas of Alaska’s North Slope tracking permafrost changes presents a difficult challenge. In a warming, melting world it is crucial to have baseline maps for assessing the magnitude of landscape alteration. Using ArcMap and a combination of existing imagery, data and terrain analysis skills, the presenter has created a geomorphic baseline map to determine newer thaw-lake basins vs. older thaw-lake basins. The difference between the ages of the basins is a catalyst for evaluating past changes and to better predict future changes. *(Faculty sponsor: Julia Daly)*

Poster #28

The Yellow Teeth Club

Joseph Menard

Take a peek into the life of a Yellow Teeth Club member, as we share our experiences and relationships with the snowy landscape of Maine. Watch as our snowboards provide us with the stoke needed to cruise, carve and spin our way through life. This website showcases the various media forms in which we convey our message and the talent to shred that is inside us all. *(Faculty sponsor: Dawn Nye)*

A Tribute to Michael D. Wilson

Michael D. Wilson graduated from UMF in 1976. He loved teaching, helping children grow and develop. He reached out to help people whenever he could. He also had a deep love for the beauty and serenity of the wilderness where he felt a deep sense of connection.

Michael chose to live his life in a manner that was true to his beliefs. Many people remember him as a special person and a good friend. He died in a tragic accident in 1977, just as he was preparing to begin a new teaching position in a small town in Aroostook County.

Michael D. Wilson Symposium Day is made possible by a gift from Michael and Susan Angelides, who remember Michael with gratitude.

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