



Michael D. Wilson SYMPOSIUM April 17, 2024



Welcome to the Michael D. Wilson Symposium

April 17, 2024

The annual Symposium Day on the University of Maine at Farmington (UMF) campus celebrates its 26th year of highlighting the best of a UMF education, with students sharing their academic work with their campus community and beyond.

At UMF, we do not measure an education by the credits amassed or the grades obtained, but by the work produced. Don't tell me, show me. Imagine an art student who said, "I obtained a degree in art with straight As". Wouldn't you say, "show me your art"? I want to see the paintings, the sculpture, the graphic designs, and the installations. I don't want to see your report card. Show me your portfolio.

The same can be said of any field of study. Show me your creative writing, show me your scientific research, show me your political analysis, and show me your teaching plans. At UMF, we help *all* students build portfolios of their work.

Symposium day gives students an opportunity to share their work and their passion – to present on their results and their importance. I am amazed at the poise of our student presenters, but also the interest of our audiences in the work of their fellow students.

Trustee Professor Tim Breton will present his scientific research and will model the type of work done at UMF, and its relevance, as he shares insights from his research with the community.

Congratulations to all our presenters and to their faculty mentors who prepared and guided our students throughout the year in preparation for this event. A special thanks to Professor Rachel Hovel and all who worked behind the scenes to make the day such a success.

The high school students who visit the campus today will get a glimpse of where they could be a few years from now. We are ready to nurture the next generation as our current students demonstrate their capacity to move on to the next stage of their lives.

Joseph W. McDonnell, President

The Michael D. Wilson Symposium reminds us that research and creative activity are never solitary adventures. Rather, scholarship and the fine arts emerge out of our community and are shared with this very community. Symposium thus speaks to the very heart of who we are as artists and knowledge seekers. Every member of our academic community is called to participate in the *generation* of art and knowledge. As such, Symposium is a celebration of engaged citizenship and an affirmation of our collective responsibility to make meaningful contributions to our shared world.

Steve Quackenbush, Interim Co-Provost and Dean of Arts and Sciences

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, Interim Co-Provost and Dean of the College of Education, Health, and Rehabilitation

UMF Indigenous Land and Water Acknowledgement

We would like to begin by recognizing that the University of Maine at Farmington occupies the traditional homelands of the Abenaki people of Anmessokkanti, whose communities lived and sustained themselves along what we call the “Sandy River” for millennia until very recent times. We would like to honor them by sharing a short summary of this region’s significance to Abenaki people.

The Sandy River is a vital part of the food and kinship network extending throughout Abenaki or Wabanaki homelands. The river’s original name, Anmessokkanti, loosely translates to “land of the small fish,” being home to shad and alewives, and providing critical spawning habitat for Wild Atlantic Salmon. The plentiful fish populations here were a major food source for the Anmessokkanti and used as fertilizer for corn, beans, and squash cultivation. These crops, but corn in particular, were then shared with Wabanaki communities to the northeast whose soils and climates were less amenable to cultivation. This network was disrupted by colonialism and the industry, pollution, and river damming that accompanied it.

We acknowledge that UMF inherited its campus at the expense of the Abenaki community, after centuries of war, scalp bounty policies, and other tactics designed to extinguish the Abenaki from their own land. These events forced most Anmessokkanti to relocate to two Abenaki reservations in Quebec in 1704, called Wôlinak and Odanak. Many families descending from the Farmington area remain there today. We recognize that the dispossession and expulsion of the Abenaki from their homeland is an ongoing injustice upheld by settler colonialism. We pledge to bravely confront this painful reality.

We acknowledge that the Abenaki people of Odanak and Wôlinak descend from the original care-takers of this area, and maintain a sacred connection with it. We pledge to honor them by educating ourselves about their history and current struggles, and accepting our responsibility to correct ongoing injustice. We wish to also extend this acknowledgement to the Maliseet, Mi'kmaq, Penobscot and Passamaquoddy nations who, with the Abenaki, make up the Wabanaki people.

We recognize and affirm the sovereignty of the Native nations in this territory and beyond. We recognize that sovereignty means the ability to self-govern, and to govern over one’s homelands. We understand that this statement has real implications, and that decolonization is not a metaphor.

We pledge to continue our collaboration with Wabanaki people to further decolonize spaces and to transform UMF into a place that honors Wabanaki and other Indigenous peoples. We acknowledge that this is an ongoing process in which the University of Maine at Farmington promises to partake, in partnership the many Indigenous individuals who have contributed to this important cause.

(The Indigenous Land and Water Acknowledgement statement was authored by Mali Obomsawin [Odanak Abenaki First Nation, Bomazeen Land Trust] with input from Darren Ranco [Penobscot Nation, University of Maine].)

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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 to showcase the work of our students and 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. Timothy Breton, Associate Professor of Biology. All students, faculty, and staff are invited.

2023-2024 Trustee Professor Lecture

1 PM, Thomas Auditorium

Shining lights on genes and making maps with a microscope

Timothy Breton, 2023-24 Trustee Professor

Many genes in us are poorly understood, despite decades of research and potential in medicine or commercial applications. One such gene family, termed SREB, comprises a few members that are present at high levels in the brain and gonads and are associated with several disorders. There may also be some potential to leverage these genes as a reproductive aid. However, very little is known about SREB functions and where inside each organ the genes are produced. Since SREBs are highly similar between fish and humans, our research group is using a variety of fish species as a model to better understand them. Armed with modern research techniques such as confocal microscopy and color-tagged molecules, we are mapping precisely where SREBs are located inside the gonads of pufferfish. This information provides new insights into the gene family that can be used to aid future research and commercial applications. Detailed images showing genes in fluorescent colors will be highlighted, along with work on the project being done by UMF student researchers and local high school students and teachers. This work is conducted in collaboration with the University of Florida, University of Liège, and the University of Tübingen, and funding is provided by the National Science Foundation Physiological Mechanisms and Biomechanics Program and EPSCoR (#2307614).

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
2014 – 2015 – Allison Hepler
2015 – 2016 – Patricia O'Donnell
2016 – 2017 – Nic Koban

2017 – 2018 – Jonathan Cohen
2018 – 2019 – Michael Johnson
2019 – 2020 – Steven Pane
2020 – 2021 – Kristen Case
2021 – 2022 – Nicole Kellett
2022 – 2023 – Cara Furman

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 is 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 more than 250 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 honor UMF alumnus Michael D. Wilson, class of 1976, an avid environmentalist, aspiring teacher, and dear friend whose untimely death in 1977 deeply saddened the UMF community. The students are nominated by a UMF faculty mentor and, after a competitive selection process, are chosen by the UMF Undergraduate Research Council.

2023-24 Wilson Fellow

Sadie Gray - *Zooplankton sensitivity to climate-driven conditions in high-elevation lakes*

Faculty Advisor: Rachel Hovel

Fall 2023 Wilson Scholars

Katherine Berube - *Rise of the Wolf Queen: An Academic and Creative Exploration of the Monstrous Feminine in Contemporary Speculative Fiction*

Faculty Advisor: Noelle Dubay

Riley Boucher - *Using eDNA to assess the distribution of the smallmouth bass (*Micropterus dolomieu*), an invasive species, in Maine*

Faculty Advisor: Donelle Schwalm

Shaina Fusco - *Adventures in Signification: An Exploration of Graphic Musical Notation*

Faculty Advisor: Aaron Wyanski

Gillean Hamilton - *Continuation of Stream Geochemical Analysis near the Plumbago North Lithium Deposit, West-central Maine*

Faculty Advisor: Doug Reusch

Juila Holcomb - *Burning Sage: a collection of lullabies*

Faculty Advisor: Aaron Wyanski

Fall 2023 Wilson Scholars, continued

Rain Smith - *Persephone and Hades Through a Modern Lens*

Faculty Advisor: Noelle Dubay

Seán Tenney - *Art, Artist and Audience: An Interdisciplinary Investigation*

Faculty Advisors: Steve Quackenbush and Dawn Nye

Spring 2024 Wilson Scholars

Alden Hallett - *The Great Count Out: Maine's Stolen Election During the Gilded Age*

Faculty Advisor: Michael Schoeppner

Aidan Mulrooney - *Where does Entente Come From? The Ambiguities of the Entente Cordiale and the Outbreak of the First World War*

Faculty Advisor: Michael Schoeppner

Grayson Havens - *Beyond the Binary: A Gender Memoir*

Faculty Advisor: Misty Krueger

Grayson Koelbl - *Dough Boy: Being Trans in the Arts*

Faculty Advisor: Melissa Thompson

Kelly Gentilo - *Lucid Dream: A Multimedia Installation*

Faculty Advisor: Melissa Thompson

Manu Ritchie - *Adaptation: The Fanfiction of Academia?*

Faculty Advisor: Michael Johnson

Natalka Harris – *A Circumnavigation*

Faculty Advisor: Noelle Dubay

Shaylynn Koban - *Cross-Cultural Perceptions of Text Message Senders due to Emoji Usage*

Faculty Advisor: Karol Maybury

Sargent Undergraduate Research Mentor Award

In 2012, the Undergraduate Research Council (URC) presented the first Undergraduate Research Mentor Award. In 2013, the award was named to honor the late Walter Sargent, a UMF history professor and URC member. 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 2024 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.

Past awardees

2023 – Dr. Julia Daly, Associate Professor of Geology

2022 – Dr. Rachel Hovel, Assistant Professor of Biology

2021 – Shana Youngdahl, Assistant Professor of English

2020 – Dr. Timothy Breton, Assistant Professor of Biology

2019 – Dr. Kathryn Will, Assistant Professor Literacy Education

2018 – Dr. David Gibson, Professor of Geology

2017 – Dr. Karol Maybury, Associate Professor of Psychology

2016 – Dr. Nicholas Koban, Professor of Mathematics

2015 – Dr. Jean Doty, Professor of Biology

2014 – Dr. Matt McCourt, Associate Professor of Geography

2013 – Awarded posthumously to Dr. Walter Sargent, Associate Professor of History

2012 – Dr. Ron Butler, Professor of Biology

Arts Week 2024

Performing Arts senior presentations will take place on Tuesday and Thursday evenings of Symposium Week. All events are held in Emery Arts Center.

Tuesday, April 16, 5 PM: Reception

Senior presentations and performances for Music and Theatre. Senior Abby Towne is the Producer for the event.

Kelly Gentilo

Dorothy Anne Giroux-Pare

Nicole Lund

Theo Moore

Aidan Mulrooney

Justin Reid

Grayson Koelbl

Thursday, April 18, 7pm: Performed Monologues from Advanced Acting

Cooper Davis

Eva Tebbutt

Wilson Krause

Zoo Story: one act play by Edward Albee Directed by Aidan Mulrooney, performed by AJ Booth and Jo LeMahieu

Session A: Wilson Scholars, Honors, Research

Lincoln Auditorium and The Landing

All events are in Lincoln Auditorium unless noted

9:30 - 9:50

A Circumnavigation

Natalka Harris

This presentation will focus on the process of translating my research on space, architecture, and design into a gallery installation, which will be exhibited this summer at the MonsonArts gallery in Monson, ME. *(Faculty sponsor: Noelle Dubay)*

9:50 - 10:10

Beyond Binary: A Gender Memoir

Grayson Havens

This presentation debuts a series of autobiographical poems that delve into the role the audience plays in an individual's gender performance and how that can be helpful and harmful to identity depending on the person performing and the people watching the performance. I am basing my discussion of gender as a theatrical performance on the work of gender and queer theorists Judith Butler and Jack Halberstam. Additionally, these poems take inspiration from the works of creative writers Stacey Waite and Maia Kobabe and build on their work, which dissects and deconstructs gender as a social construct. *(Faculty sponsor: Misty Krueger)*

10:10 - 10:30

Thematic Shifts in Greek Mythology

Rain Smith

My project is an academic essay examining modern depictions of the Greek myth of Hades and Persephone and how they change the narrative of the story to frame more around the empowerment of traditionally passive characters. *(Faculty sponsor: Noelle Dubay)*

10:30 - 10:50

Rise of the Wolf Queen: An Academic and Creative Exploration of the Monstrous Feminine in Contemporary Speculative Fiction

Katherine Berube

I am exploring the concepts of the monstrous feminine through creative expression and academic application. Rise of the Wolf Queen is my novel in progress and I am exploring the idea of the werewolf, fusing understandings from both Animal Studies as well as Monster Studies about the uncanny and the monstrous double. Not only am I fostering my own creative writing and art, but I am applying an analysis to three other monstrous feminine protagonists from contemporary speculative fiction; Elspeth Spindle from One Dark Window by Rachel Gillig, Circe from Circe by Madeline Miller, and Artemisia from Vespertine by Margaret Rogerson. *(Faculty sponsor: Noelle Dubay)*

10:50 - 11:10

“I’m Not Here to Make Friends”: Genre Conventions, Literary Meaning, and Narrative Potentiality in American Reality Television

Autumn Koors Foltz

The oft-maligned genre of reality television has long been overlooked for its narrative and theoretical potentialities. Using various established theoretical frameworks such as poststructuralism and archetypal criticism, this honors thesis posits the unique tenets of reality television as a genre. Resisting the stigma that reality television is “turn off your brain TV,” the project considers the unique triangulation of viewer, subject, and production. The project asserts how the existence of meta-narrative approaches distinctive story-telling attributes throughout the genre; whether through dating shows, competition shows, or even Here Comes Honey Boo Boo. This project was completed as a HON 499 course through a series of essays, each of which explores a single aspect of literary and cultural meaning in reality television. *(Faculty sponsor: Stephen Grandchamp)*

11:10 - 11:30

The Art of Writing a Future Banned Book

Leo Goddard

Over the past 6 years, Leo Goddard has been working on a YA fiction novel that discusses the intersectionality of mental illness and gender identity while also theorizing about life after death. Many books that explore these topics have been banned across the country. It is for this reason that Leo predicts that upon publication, his book will be banned. During his presentation, he will explain why the publication of this book is necessary despite the looming threat of censorship. In other words: why he hasn’t given up. *(Faculty sponsor: Lewis Robinson)*

11:30 - 11:50

Adaptation: the Fanfiction of Academia

Manu Ritchie

In Adaptation: The Fanfiction of Academia, Manu Ritchie will present three concepts that play a key role in media expansion--adaptation, transmedia storytelling and transfictionality--and discuss how fanfiction fits into all three, using examples from her own writing endeavors with Charles Dickens’ novel Our Mutual Friend. *(Faculty sponsor: Michael Johnson)*

11:50 - 12:10

Dough Boy: On Being Trans in the Arts

Grayson Koelbl

Dough Boy: On Being Trans in the Arts explores Grayson Koelbl’s experiences and discoveries as a trans man in the theatre world from childhood to today. Filled with personal essays he’s written as well as sheet music and monologues that he’s found to be meaningful during his journey, this is a project he hopes to continue post graduation. *(Faculty sponsor: Melissa Thompson)*

12:10 - 12:30

The Dream is a Place On Earth: Bringing the Dream World to Reality

Kelly Gentilo

"Inside the dream, there is nowhere to hide. Inside the dream, everything is real."

This project is an interactive installation and performance art piece made to transport one to the distorted dream world. A place that could not exist outside of the confines of one's mind until now. The piece follows the Dreamer, trapped inside his own mind by the Dream Monster. The sinister plot of the Dream Monster is pieced together through visual art, sculpture, sound art and live performance that immerses one completely. *(Faculty sponsor: Melissa Thompson)*

12:30 – 2:00

Break

2:00 - 2:20

Cross-Cultural Perceptions of Emojis

Shaylynn Koban

Imagine you are texting with a fellow student or coworker in another country, such as Italy or France, about a project you are working on together. In one of your messages, the person you are texting sends a heart emoji. To you, the message comes off as flirty and unprofessional, when in reality your international peer intended to be heartfelt and appreciative. This presentation looks at the different ways three countries (America, Italy, and France) perceive emojis in order to learn about and avoid this type of faux pas and miscommunication in international conversation. *(Faculty sponsor: Karol Maybury)*

2:20 - 2:40

Looking at Art, Artist and Audience: an Interdisciplinary Investigation

Seán Tenney

This project explores the relationships among artists, works of art, and the artistic audience. As I will be using my own art as the centerpiece of this project, I'll be in a unique position to consider these relationships from the vantage point of a working artist. Specifically, I will be reporting on (a) quantitative and qualitative analyses of 46 participants' reactions to one of my own paintings, and (b) poems composed as I processed these reactions. To translate these results, I will share a narrative interpretation of the role played by the audience in my development as a poet and artist. *(Faculty sponsors: Steve Quackenbush, Dawn Nye)*

2:40 - 3:00

The Great Count Out: A stolen election during the Gilded Age

Alden Hallett

The 'Great Count-Out', sometimes called the 'Maine State Steal', was a political conflict that took place during the 1879/1880 elections. After the gubernatorial race and several other key offices were supposedly stolen. This caused a crisis involving some of Maine's most famous people including Joshua Chamberlain, Alonzo Garcelon, and James G. Blaine. The conflict sent the state capital into chaos for 12 days as armed militias patrolled the streets. All while the Maine Supreme Court hurriedly attempted to solve the crisis. Throughout the state, people felt that "the plainly declared will of the people," had been disregarded, while a fight for the state's future took place. *(Faculty sponsors: Michael Schoeppner)*

3:00 - 3:20

Understanding the needs of New Teachers and Mentors

Dongmei Yuan and Samantha Michelson

This presentation examines the challenges experienced by new teachers and their mentors. Using data from a survey administered to 47 mentors/mentor coordinators and 42 new teachers as they started to be involved with a project called the New Teacher Academy (NTA), this presentation will examine the strengths and needs of both groups. The NTA is a school-year long project to support mentors so they can develop new teachers so that they are confident, capable, and retained in the field. This presentation will provide insights on their needs prior to participation in the program. *(Faculty sponsors: Patty Williams)*

3:20 - 3:40

Adventures in Signification: An Exploration of Graphic Musical Notation

Shaina Fusco

Graphic notation is any form of writing music that does not follow the standardized conventions of western notation. While this standardization is useful in many instances, as music developed through the 20th century, it became necessary to explore other options. This project included researching existing works to evaluate their strengths and weaknesses. The culmination of this project is an original composition, titled *Lost in Circles*, which synthesizes and expands upon a variety of non-traditional notation elements. This work focuses on the physicality and meditative nature of music and music practice and utilizes box notation to create repetition within the score. *(Faculty sponsors: Aaron Wyanski)*

3:40 - 4:00

Honors Thesis: The Future of Higher Education With and Without AI

Paloma Shelton

My thesis examines the evolving role of higher education in the AI era, highlighting the importance of soft skills and humanities. As AI reshapes industries, the demand for critical thinking, creativity, and emotional intelligence—skills deeply rooted in humanistic studies—increases. This work argues for a balanced educational approach that integrates AI advancements while preserving and emphasizing human-centric disciplines. By exploring the connection between technological proficiency and humanistic knowledge, the thesis presents a vision for future education that prepares individuals not only to coexist with AI but to thrive, ensuring a well-rounded, adaptable, and ethically grounded workforce. *(Faculty sponsors: Steve Pane)*

4:00 - 4:20

A Tenor Solo in a Boiler Shop: The Ambiguities of the Entente Cordiale and the Outbreak of the First World War

A.P. Mulrooney

The Outbreak of the First World War is a famously multifaceted event. One of those facets is an unusual development in High European diplomacy, not an alliance, but an Entente Cordiale, or in English ‘a friendly understanding’ between historical rivals Great Britain and France. Why did this happen, and how does it play into the broader story of Europe as David Lloyd George described it “slithering” into war. *(Faculty sponsors: Michael Schoeppner)*

Session B: Geography, math, linguistics

Thomas Auditorium

9:30 - 9:50

The Environmental and Economic Impacts of Cigarette Butt Litter

Caeden R. Bross

The presence of cigarette butts on the ground is a common and ugly sight. The harmful effects these discarded items have on the surrounding environments and regional economies have been well documented. This paper explores those impacts with a focus on cigarette butt litter within the northeastern United States. Interviews and surveys were conducted to assess people's thoughts and concerns about the potential costs of eliminating cigarette butt litter from the environment. Psychological theories behind why people choose to litter and possible solutions to the littering problem will also be briefly discussed in this paper. *(Faculty sponsor: Brad Dearden)*

9:50 - 10:10

Climate Change Impacts on Ski Industries in Western Maine

Maya Deming

The state of Maine is widely known for its unique attractions that contribute to the tourism industry bringing notable economic value. The winter season is exceptional with high rates of snow activities generating substantial profit and employment for residents, especially in Western Maine where sizable ski mountains are located. However, the state of Maine has been experiencing warming winters that have been increasing since the 1900s. This study will investigate potential factors of climate change that may impact the ski industry in Western Maine, with reference to past adaptations and future plans. *(Faculty sponsor: Brad Dearden)*

10:10 - 10:30

Deforestation in Tanzania

Riley Samson

This research project focuses on the issue of deforestation in Eastern Africa and how that contributes to other environmental impacts and also the wellbeing of people. It looks at landscape, wildlife, and people's reactions to how deforestation affects them. The most likely explanation of what is causing deforestation is a rise in the number of croplands being developed in existing stands of forests. *(Faculty sponsor: Brad Dearden)*

10:30 - 10:50

Effects of Climate Change in The Seeding Industry

Maria West

In today's society climate change can be seen around the globe. These changes are putting pressure on our agricultural systems. To examine any such impacts it is important to focus on the essential element in agriculture - the seeds! This study examines the possible consequences climate change may be having on Maine's seeding industry. This study will examine local seed companies and small farms in Maine to develop how climate change is impacting Maine's agricultural systems. *(Faculty sponsor: Brad Dearden)*

10:50 - 11:10

Effects of sea level rise and the impacts on residents of Coastal Regions

Anna Flannagan

The world has experienced significant weather variations in recent years, which resulted in significant changes to the amount of flooding that can occur in coastal regions such as Florida and Biddeford Maine. Those individuals live near or on the ocean, and those residents in such a major way that some of their homes have been taken by the ocean. The purpose of this paper is to examine the environmental impacts of sea level rise and the long-lasting impacts on the lives of residents living near or on the ocean. *(Faculty sponsor: Matt McCourt)*

11:10 - 11:30

Financial Implications of PCP Performing Dental Care

Ethan Rodrigue and Jimmy Reel

Limited oral healthcare in Maine has been an existing problem exacerbated by the COVID-19 pandemic. In 2022, less than half of Maine children were able to access a basic routine dental exam and cleaning, and for all children with MaineCare it was less than 1 out of 4. We are aiding in the process of creating structures that make preventative oral care accessible for all children in Maine. We will create a tool that can be used by primary care physicians to understand the financial implications of including preventative oral health care as part of pediatric well visits. *(Faculty sponsor: Lori Koban)*

11:30 - 11:50

Accent Differences and Some Origins

August Tartamella

There are many different accents, ranging from your stereotypical ones, to the ones that come from country to country, state to state, town to town, perhaps even neighbourhood to neighbourhood. This research looks into what makes up these accents from the native languages of several foreign participants to their childhood environments and English education. *(Faculty sponsor: Denisa Cundick)*

Session C: Psychology Research Methods (PSY 400)

Ricker Addition 217

9:30 - 12:30

Psychology Research Methods class presentations

Emma Bourget, Holly Cutler, Sydney Booth, Jaddyn Daniel, Rachel Foster, Shaina Fusco, Hanna Hallundbaek, Shelby Iversen, Klaus Jacobs, Benjamin Kern, Ky Morris, Josh Pena, Lyss Pratt, Anghy Tehuitzil Corral, Sophie Therrien, Hadley Whitlock, Christian Doucette

Seventeen Psychology and Business Psychology students will present their independent research projects in oral presentations. Some of the students' projects include how romantic relationship anxiety is impacted by childhood stress; how relaxing music impacts mathematical performance; perceptions of expensive clothing labels; the chilly climate: how PWI (predominantly white institutions) impact students of color; how hair anxiety impacts job interviews; social media saturation and academic performance; how music impacts mood; how college friendships are impacted by family; how memory is impacted by subject material; the impact of online support groups for men; how parents who live in the city navigate outdoor play of their children; how much makeup is perceived to be "too much" in professional settings; how one's ability to visualize words correlates with personality; and other exciting topics. *(Faculty sponsor: Karol Maybury)*

Session D: Structures of Children's Literature (EDU 303)

Kalikow Education Center Lobby

9:30 - 10:30

Book Arts: An exploration of the structures of children's literature

Brittany Bailey, Jordan Blanche, Meggie Boislard, Jackson Boudreau, Kellette Boynton, Bryann Bradley, Grace Campbell, Eli Canales, Mia Carmichael, Angle Crocker, Nate Doane, Paris Howes, Emily Keniston, Trinity Marshall, Anna Paine, Sara Peinado, Lilly Richards, Alice Skiff, Grace Sommer

In this collective gallery of the book arts artifacts, a variety of structures and forms were crafted with consideration of the essential components of children's literature, as well as the text structure and artistic design choices that impact the content of a children's book. *(Faculty sponsor: Kathryn Will)*

Session E: Inclusive Strategies for the Classroom (ECS 281)

Education Center 114

11:00 - 12:30

How does UMF score on UDL?

Mellisa Clawson's ECS 281 Class

Universal Design for Learning (UDL) is about creating learning spaces that are usable to the greatest extent possible by all students. We have applied our understanding of UDL to evaluate our own learning environment, the UMF campus, on accessibility of buildings, walkways, and resources to those who use this space and who represent a wide range of abilities. *(Faculty sponsor: Mellisa Clawson)*

Session F: AI Past, Present, Future (LIA 277)

Roberts 023

11:00 - 12:30

AI Past, Present, Future

Morgan Folsom, Lauren Girouard, Erica Johnson, Jackson Leach, Alex Mangini, Jacob R Sutter, Kyle Thrace, Abby Towne, Paloma Shelton, teaching assistant

In LIA 277 Seminar on Artificial Intelligence (AI) we studied the implications and outcomes of AI across various fields such as visual art, business, psychology, and video games. Our presentation presents our finding as it also explores how AI is also breaking down barriers between disciplines in ways that are both exciting and concerning. *(Faculty sponsor: Steve Pane)*

Session G: Video Game Studies and Cultural Theory (ENG 430)

Roberts 023

1:30 - 4:00

“You will have a choice, you will have no choice”: Applying Cultural Theory to Narrative Video Games

Katherine Berube, Sam Box, Caylum Campbell, Dylan Charlton, Cooper Davis, Emily Farrington, Adrienne Foss, Autumn Koors Foltz, Dex LaFrance, Blue Lagoda, Aidan Lucas, Emma Marsh, Manu Ritchie, Sarah Sanford, Michaela Terlizzi, Cali Turner, Grace Turner

While the current popularity of video games as a storytelling medium is self-evident, less obvious are the complex methods by which their narratives are constructed. This panel will apply cultural theories such as Marxism, postcolonialism, feminism, and disability studies to popular (like Minecraft, Baldur’s Gate 3, and the Pokémon series) and independent (like Unpacking, Hollow Knight, and Depression Quest) games. Not only will panelists examine the experimental ways that video games create immersive stories, they will also analyze how these tales intervene into crucial cultural and political discourses. *(Faculty sponsor: Stephen Grandchamp)*

Session H: Anthropology Senior Capstone (ANT 480)

Roberts 101

2:00 - 3:20

Fitness Views Through the Generations

Kinkade Fee

Fitness means something different to everyone. This study explores how the generations view fitness in Farmington, Maine. A survey was conducted at the University of Maine Farmington Fitness and Recreation Center as well as interviews and participant observations. The surveys revealed physical and mental health were the two major goals across the four generations. Exercise has been shown to improve mental, physical, and cognitive well-being, yet most people do not participate in enough physical activity. Understanding the perceived benefits, goals, barriers, and facilitators of exercise can help to create systems that increase participation in physical activity.

Perspectives on Health & Body Size: Medical Fatphobia

Gray Paradis

What does “good health” mean to you? What does it mean to your doctor? How does your body size and your relationship with your body affect your health? Drawing from a broad literature review and research data from medical professionals and laypeople alike, this research investigates medical fatphobia and different views of health and body size, asking how those views can impact clinical decision-making and patient health outcomes. Personal experiences of study participants, the role of cultural bias, general views on health, and doctor-patient relationships will also be examined in this presentation.

Echoes of Change: Understanding Europe’s Populist Surge

Kyle Weinand

This research attempts to unravel the enigmatic web of economic, social, and political forces propelling the surge of populism and anti-establishment sentiment across the continent, with a focus on the United Kingdom, France, Germany, and Sweden. Through meticulous research and analysis, we dissect the root causes, trace the manifestations, and unveil the repercussions for democratic governance. From economic inequality and social fragmentation to identity politics and technological disruption, join us as we navigate the challenges confronting 21st-century liberal democracies.

Diversity Matters: What Does “Diversity in College” Actually Mean?

Anghy Tehuitzil Corral

Diversity surrounds us, but we do not always find someone who shares our identities, circumstances, and lived experiences. The study explores changing diversity within higher education. I examine the role of admission policies in the diversity of student bodies, students' sense of belonging and discrimination, and administrative challenges in promoting DEI on college campuses through analyzing changing admission policies, in-depth interviews, focus groups, and a survey. The research provides insight into systemic issues in higher education, as well as the desires of college faculty, staff, and students in building a more equitable and inclusive campus for all.

(Faculty sponsor: Nicole Kellett)

Session I: Mathematical Modeling (MAT 160)

Ricker Addition 217

2:00 - 3:00

Mathematical Modeling

Mar Byrd, Tommy Clark, Caitlyn Cross, Kathy DeGruttola, Nico Germani, Abby Lebel, Liam Maher, Jordyn Poulin, Jada Richard, Meghan Rose, Nicholas Sabatino, Alex Sheran, and Abigail Trefsgar

Explore the world of mathematical modeling through the eyes of MAT 160 students. They discuss their investigations across diverse fields, from Environmental Science and Public Health to Personal Finance and Popular Culture. By leveraging AI, analytics, and Agile project management, these students have harnessed the power of mathematics to decipher and shape our understanding of the world around us. Come explore with us! *(Faculty sponsor: Daniel Jackson)*

Session J: Advanced Fiction student reading (ENG 310)

The Landing

4:00 - 5:00

A Reading by the Students of Advanced Fiction

Cooper Davis, Ev Dearborn, Milo Gaudette, Dorothy Anne Giroux-Pare, Sylvie Haslam, Anna Heneise, Wilson Krause, Dex LaFrance, Gwen Lombard, Jed Malinowski, Jacob Piechowski, Manu Ritchie, August Tartamella, Michaela Terlizzi, Niko Wilson, Venus Wright

The students in the current semester of ENG310-Advanced Fiction Writing will each read a three-minute excerpt from a work-in-progress. Throughout April, the students have crafted a “Portrait of the Artist” presentation in which they describe their personal aesthetic and sources of inspiration. For this Symposium event, each student will choose a projected image to accompany their reading. *(Faculty sponsor: Lewis Robinson)*

Session K: Visual Arts senior exhibition

Emery Arts Center Flex Space

2:00 - 4:00

By Any Means Necessary: The 2024 Visual Art BA Senior Exhibition

Etienne Desrosiers, Apollo Donovan, Kimlie Gillespie, Elayne Gustafson, Stanley Keach, Sean Maher, Jed Malinowski, Shown Morin, Grace Pimenta and Trinity Smith

Etienne Desrosiers, Apollo Donovan, Kimlie Gillespie, Elayne Gustafson, Stanley Keach, Sean Maher, Jed Malinowski, Shown Morin, Grace Pimenta and Trinity Smith present their capstone projects with artist taks for the 2024 senior exhibition, By Any Means Necessary. This year's senior show spans a vibrant landscape of storytelling modalities: graphic novels, hijacked bible tracts, experiments in handmade cinema, a tarot deck, trading cards and charmingly absurd pen and ink drawings. Each artist brings their own distinctive style and vision along with a few surprises. *(Faculty sponsor: Dawn Nye)*

Session L: Poster Session

North Dining Hall

Please note that all poster presenters are expected to be at their posters to address questions for at least one hour, either between 11:00 and 12:00 or between 2:30 and 3:30. Poster presenters must set up between 8:30 and 9:30 am. The poster session will be open from 9:30 am until 3:30. The poster presenters will remove their posters between 3:30 and 4:30.

1

UMF Ghost Stories

Martha Burt

This digital-oral history highlights the experiences of UMF students, faculty, staff, and alumni with the paranormal. When historians contemplate the history of an institution, they all too quickly turn to curricula, faculty and staff, and campus institutions. All too often, campus culture - and the stories on which they are built and sustained - go missing. However, it's important to highlight campus culture because people are intrinsically connected to place and those who share these experiences are an integral part of the social fabric of the university. Ghost stories offer one avenue to explore how people at UMF are connected across time. *(Faculty sponsor: Michael Schoeppner)*

2

Field Notes: Landscape Stories in literature and ecology

Shaylene Abraham, Alexa Marie Cressey, Joelle Daigneault, Oscar Joseph Davis, Nabella Celeste Erskine, Emmet Alder Lani-Caputo, Alyssa LoCicero, Zachary Douglas Myers, Lilly E Johnson Roy, Reilly Russell, Hayden Richard Triance, Abby Elizabeth Wrinn

Whether one is a scientist or a poet, "making sense" of the world calls upon a common set of practices: observation and inquiry, inference and connection. When we encounter the wondrous or new in our environments, we seek methods to describe and explain. Using these tools, students in the first-year Honors sequence "Field Notes" have investigated the many elements of the theme of "place", and will share their final projects: a set of Story Maps each telling a landscape story. *(Rachel Hovel and Noelle Dubay)*

3

Kahoot! In an English Classroom

Alexis Ramee

I will be presenting on a technological system called "Kahoot!" and how it can be used effectively within an English class. I will show that "Kahoot!" can be a fun and innovative way to showcase latin roots, and what those are, and how to identify them. The lesson presents collaborative learning as well as giving the students a healthy competition with each other as a form of engagement. This presentation is intended for teachers and/or future teachers so that they can think about how to use technology to increase engagement with students. *(Dr. Potter-Nelson)*

4

BLS Occupational Outlook in a Middle School Classroom

Soren Hatfield

This poster presentation will look at the Occupational Outlook Handbook (OOH) as a valuable career exploration tool in middle school classrooms. The OOH offers comprehensive information on various occupations including job outlook, educational requirements, and salary information. I will share an overview of this tool that teachers could integrate into their classrooms and present it in the context of a lesson plan. The presentation's intent is to share a potential resource with current and future teachers which could help them empower students to explore diverse career paths and make informed decisions about their futures. *(Dr. Liz Potter-Nelson)*

5

Spreadsheets in a Math Classroom

Joshua Doring

I will share how teachers can use these spreadsheets and present it in the context of a lesson plan. I will share how teachers will use the spreadsheets, how students will learn to use the spreadsheets, and provide information about the lesson in which the spreadsheet is used. This presentation is intended for teachers and/or future teachers so that they can think about how to use spreadsheets to increase engagement with students. There will be sample work from students shown. *(Dr. Liz Potter-Nelson)*

6

Common lit in the English Classroom: Resources for Fahrenheit 451

Ky Terroni

In this presentation, I will present a lesson plan structured around Ray Bradbury's 'Fahrenheit 451'. The session will emphasize the integration of CommonLit, an online resource platform for teachers, to enhance student engagement and comprehension. Through class discussions, textual analysis, and formative writing facilitated by CommonLit's curated materials, students will explore the dystopian themes of censorship and conformity. Attendees will discover how CommonLit provides diverse resources, including texts, assessments, and multimedia, to support differentiated instruction and critical thinking skills. By using digital tools like CommonLit, educators have the opportunity to grow students' literary understanding while promoting digital literacy in the classroom. *(Dr. Liz Potter-Nelson)*

7

Using Geographic Information Systems to Teach History

Hunter Bosse

I will be presenting on how to integrate geographic information systems (GIS) into lessons. I will share an example lesson, using it to demonstrate the integration of GIS into a United States History class. I will show how the GIS is navigated, both for Educator use and for student use. This presentation will show active and pre-service teachers how to better incorporate technology in their curriculum to increase student engagement and maximize learning potential. Sample work will be shown to illustrate what students would be expected to create as a part of the lesson. *(Dr. Liz Potter-Nelson)*

8

Exploring Projectile Motion: Unveiling Dynamics with PASCO Capstone Physics Engine

Spencer Soiett

During this Poster Session, I aim to showcase an array of strategies available to both Students and Teachers for leveraging the innovative apparatus crafted by PASCO Scientific, alongside their sophisticated Capstone software, to facilitate immersive physics instruction. Specifically, I will spotlight the integration of photogates, mini launchers, and a time-of-flight tracking device in various configurations, elucidating their role in validating equations and constants pertinent to projectile motion calculations. This pedagogical approach is versatile, serving as an effective tool for fortifying students' understanding either at the outset or culmination of a projectile motion unit, thereby enriching their conceptual grasp of the subject matter. *(Dr. Liz Potter-Nelson)*

9

Jeopardy in the Mathematics Classroom

Taegan Heath

This poster presentation looks at the intersection between technology resources and teaching. I will focus on Jeopardy, a game that can be played as a review before the end of a unit. Games can be a good way to engage students in mathematics, increasing participation and retention of content. I will share this in the context of a lesson plan that is applicable to a real classroom. With this presentation, teachers and future teachers can utilize Jeopardy in their own classrooms. Samples of work will be included as an opportunity to see how the game is designed for suitable student interaction. *(Dr. Liz Potter-Nelson)*

10

Technology in English Classroom

M Karnes (they/them)

This poster presentation will look at the intersection of literary analysis and the assimilation of technology. I will share differing tools of technology that aid in the English Classroom and present in the lesson plan. I will share how teachers will use the technology, how students will interface with the technology, and provide information about the lesson/unit in which the technology is used. This presentation is intended for educators/future educators to expand their technologies and techniques within the English Classroom. Sample pieces of student work will be shared so viewers can understand what the students will create. *(Dr. Potter Nelson)*

11

Blooket in a high school classroom

Katelyn Wheldon

This poster presentation will look at the use of Blooket in the classroom. I will share how teachers will use Blooket, how students will engage with and learn from the website, and provide information about how Blooket can be integrated into a lesson plan. This presentation is intended for teachers and/or future teachers so that they can think about how to use Blooket to increase engagement with students. Sample work will be shared so that people can see how teachers can work with Blooket and what the students will see from their end. *(Dr. Liz Potter Nelson)*

12

iCivics in the Social Studies Classroom

Zackary Morrell

This poster presentation will look at the intersection of technology and teaching. I will be presenting iCivics as a technology used to facilitate lessons in the classroom. I will share how teachers can use iCivics in their lessons, how students will use it, and give an example of a lesson that uses iCivics. This presentation is intended for teachers and/or future teachers so that they can think about how to use technology and games to increase engagement with students. Samples from iCivics will be provided to demonstrate how students will interact with the website. *(Dr. Liz Potter-Nelson)*

13

Educational Technology in the English Classroom

Ally Phair

This poster presentation will focus on the intersection of technology and teaching. As our students grow and change, so does the world around them. Technology is advancing everyday, and it is essential for us to incorporate it into our classrooms to better prepare not only ourselves, but our students as well. Through this lesson, students will further their understanding of technology both new and old, while simultaneously participating in insightful, engaging, and informative educational content. Sample work will be shared so that people can see what students would actually create. *(Dr. Liz Potter-Nelson)*

14

The Function of Hyperlinks in Education

Zoe Lawler

This slideshow presentation will go over one form of how technology functions to benefit teaching. I will share how adding hyperlinks, specifically in slideshows, could be beneficial for teachers to use in their classroom and present it in the context of a lesson plan. I will share how teachers will use this, how students will interact with it, and provide information about the lesson in which this could be used. Within this will be a Google Slideshow adapted with hyperlinks to function as a Jeopardy game website as an example. This presentation is intended for teachers so that they can think about how to use technology to increase student engagement. *(Dr. Liz Potter-Nelson)*

15

Padlet

Jillian Gamage

Students need to be able to think for themselves rather than take information for granted. My students will research different perspectives of President Thomas Jefferson and create a pros and cons list of his actions throughout his life using Padlet. This Padlet will be shared with the class and students will then work in two randomly assigned groups to argue either “Pro Thomas” or “No Thomas”. We will hold a mock election to decide if we should elect him into office for a new term. There will be a class vote at the end of the lesson. *(Dr. Liz Potter-Nelson)*

16

Technology in the English Classroom

Ally Phair

This poster presentation will look at the intersection of technology and teaching. I will share a technology tool that teachers could use in their classroom and present it in the context of a lesson plan. I will share how teachers will use the technology, how students will interface with the technology, and provide information about the lesson/unit in which the technology is used. This presentation is intended for teachers and/or future teachers so that they can think about how to use technology to increase engagement with students. Sample work will be shared so that people can see what students would actually create. *(Dr. Liz Potter-Nelson)*

17

Exploring AI in the Classroom

Jamie Richardson

My presentation, Exploring AI in the Classroom, will allow students to explore the intersection of Artificial Intelligence and education. I will share how ChatGPT can be used to supplement learning for both teachers and students in their classroom and present it in the context of a lesson plan. I will share how teachers can use AI, how students can interact with AI, specifically ChatGPT, and provide information about the lesson in which AI is used. This presentation is intended for teachers and/or future teachers so that they can think about how to use AI to increase engagement with students. Sample work will be shared so that people can see what students can do using Artificial Intelligence. *(Dr. Liz Potter-Nelson)*

18

Education in the Social Studies Classroom

Abby Blair

This poster presentation will look at the intersection of technology and teaching. I will share a technology tool that teachers could use in their classroom and present it in the context of a lesson plan. I will share how teachers will use the technology, how students will interface with the technology, and provide information about the lesson/unit in which the technology is used. This presentation is intended for teachers and/or future teachers so that they can think about how to use technology to increase engagement with students. Sample work will be shared so that people can see what students would actually create. *(Dr. Liz Potter-Nelson)*

19

Microbiology of Decomposition

Sammy Dupuis

A decomposition study was carried out to identify factors that influence decomposition in nature. Previously frozen adult rats sold as reptile food were allowed to decompose under varying conditions to determine what factors most influenced the decomposition rate. Rats were either buried in soil, covered in leaf litter, buried in snow, or left on the soil surface. The carcasses were weighed weekly and swabbed for microorganisms. Microbial cultures were assessed for total numbers of different types of bacteria and their relative abundance. *(Jean Doty)*

Mapping the mRNA distribution of SREB receptor family in Pufferfish (*Dichotomyctere nigroviridis*) testis and brain

Maria Oliveira, Truly Chillemi, Emma Bourget

SREBs (Super-conserved Receptors Expressed in Brain) are a newly discovered vertebrate receptor family, with three members in mammals and a unique fourth in fishes. This research focuses on mapping SREB expression in pufferfish testis and brain. Multiplex RNAScope and confocal microscopy was used to map the genes. Early testes show abundant *sreb2* levels, while later stages exhibit a decline. Brain analysis reveals *sreb2* in the optic tectum and hypothalamus. Future research will explore SREB roles in these areas of the two organs. (*Timothy Breton*)

Mapping the mRNA distribution of the SREB receptor family in pufferfish (*Dichotomyctere nigroviridis*) ovary

Eme Saverese, Will Harriman, Joanna Korasadowicz

SREBs (Super conserved Receptors in Brain) are a family of receptors that are highly understudied and are found in vertebrates. It's still not known the location of these receptors. However, it is known that they are associated with a variety of conditions including reproductive disorders. Early and late stage pufferfish ovaries were sectioned, used in multiplex RNAScope, and imaged with a confocal microscope. SREB-3B was found with diffuse patterns throughout the oocyte. These discoveries may indicate that SREBs exhibit functional differences within the vertebrate ovary that warrant further research. (*Timothy Breton*)

Zooplankton Sensitivity to Climate Driven Conditions in High-Elevation Lakes in Maine

Sadie Gray

High elevation ponds provide us with unique information on our changing climate as isolated ecosystems which have been observing changes in water geochemistry that have not been observed in lower elevation ponds. Zooplankton are highly affected by changing temperatures and shifting nutrient compositions, and they play a crucial role in the aquatic food web by transferring nutrients from primary producers to tertiary consumers such as fish and birds. We aimed to determine if responses to environmental stressors in high elevation zooplankton communities differ at smaller taxonomic levels such as order, family, genus, or species. Samples of zooplankton, water temperature, dissolved oxygen, chlorophyll, ice-out, and secchi were collected from mountain ponds across Maine for six years. Zooplankton samples were identified and counted to estimate the pond density of each species, which was used to calculate significant patterns in each species with respect to the aquatic data we collected. We discovered significant results showing that there are different responses to factors such as DO depending on the order and family of zooplankton. (*Rachel Hovel*)

Regional Differences of Climate Change in Maine: Flow rates, Precipitation, and Snowpack Winters

Eme Saverese, Caitlyn Daigle, Alex Debo, Jason Moore, Lucky Mourredes, Cara Perry, Kennedy Todd, Sophia

Maine's geography spans gradients of elevation, latitude, and coastal proximity, resulting in multiple climatic zones throughout the state. Watersheds in different regions of the state reflect these varied climate conditions, particularly in response to precipitation, snowpack, and ice duration. Additionally, different regions of the state, and their watersheds, may exhibit differing trends in climate change signals over time. In this study, our team investigated trends in precipitation, snowpack, river ice, and river flow in four different regions of Maine, (north, central, west, and south) with a focus on winter as a season with identified rapid change in New England. We utilized the Maine Geological Survey (MGS), the Community Collaborative Rain, Hail, and Snow Network (CoCoRaHS), and the United States Geological Survey (USGS) National Water Information System to collect datasets spanning from 10+ years (precipitation) to 35+ years (river flow). We used quantile regression to identify trends over time in median or extreme values for precipitation, snowpack, and river flow in each of the four regions. Direction and magnitude of trends varied by parameter, geographic region, and dataset quantile, and strongest trends were observed in the north and south regions of the state. These results illustrate spatial heterogeneity in climate conditions and trends, emphasizing the need for comprehensive data collection across regions. *(Rachel Hovel)*

Seasonal Variability in Peak Flow of Maine Rivers

Christopher Houdeshell, Salfa Hendrix, Briann, Wyeth Purkissa Benson, Kaylee Perron

Rivers are integral components of Maine's ecological and human communities and are susceptible to climate change and direct anthropogenic impacts. River hydrology and flow regimes are affected by the surrounding landscape, precipitation patterns, and local impacts from dams and watershed development. Many rivers are experiencing hydrological changes, including changes in maximum flow, flow variability, and flow timing, and documenting these changes is important to understanding future trends. In this study, we analyzed four decades of historic flow data from the USGS National Water Information System at four Maine rivers: two free-flowing rivers in western Maine and two coastal rivers with dam impacts. We identified changes in maximum flow and flow variability (coefficient of variation) at different times of year, and additionally evaluated changes in the timing of peak flow in spring and fall. We found different trends in flow variability between spring and fall, with stabilizing patterns in the spring and more variable flows in the fall and winter. The timing of maximum spring flow does not exhibit significant trends, and the timing of fall peak flow is trending generally later. Phenological differences in max flow and variability occurred between inland and coastal watersheds. These changes to river hydrology have implications for wildlife habitat, water supply, and human infrastructure. Anticipating future conditions, such as the frequency of maximum flows, can assist in developing flood resilience and mitigating ecological and economic damage. *(Rachel Hovel)*

Surveying for Invasive Smallmouth Bass Using eDNA

Riley Boucher

Smallmouth bass (SMB) are an invasive species in Maine. The project objective was to test ponds for the presence of SMB using environmental DNA (eDNA). Ponds with known and unknown presence were tested, with the prior serving as a positive control. Ponds were selected in consultation with the Maine Department of Inland Fisheries and Wildlife. DNA was extracted and amplified at the University of Maine-Farmington and metabarcoding sequencing was completed at the University of New Hampshire to determine if SMB DNA was present. Knowledge of SMB occupancy aid state agencies in slowing the spread of this invasive species. *(Donelle Schwalm)*

26

Post-dam removal sediment characteristics in Temple Stream, western Maine

Carson Theriault

In July 2022, a dam that created a mile-long impoundment in Temple Stream was removed, improving access for Atlantic salmon to spawning habitat. Several high-flow events in 2023 rapidly transferred sediment into, through, and downstream of the former mill pond, resulting in rapid change of sediment sizes present. Sediment samples were collected in the formerly impounded area every few weeks May-October 2023. Samples were collected representing sediments from the top of the bank to the streambed. Sand stored near the head of the former impoundment has been moving rapidly downstream, transforming the formerly muddy embayment. (*Julia Daly*)

27

Stream water geochemistry near the Plumbago North lithium-bearing pegmatite, west-central Maine

Gilleen Hamilton

The Plumbago North pegmatite, located in west-central Maine, hosts spodumene crystals exceeding 11 m in length. Preliminary drilling suggests that it contains >400,000 tons of Li_2O worth approximately 1.5 billion USD (enough for 16 million EVs). To establish a geochemical baseline, we collected samples seasonally from seven locations to document spatial and temporal variability. All samples have been analyzed at UAA's ASET lab for major and trace cations and anions. Our data set, which reveals slightly higher Li concentrations proximal to the quarry and order-of-magnitude seasonal variability attributed to dilution effects, should serve to guide future development and environmental monitoring. (*Doug Reusch*)

28

A transformative carbon sink in the ocean?

Kayleigh A. Brisard, Emma Meagan Foss, Jessica Lea MacDonald, Carson Theriault

Two years ago, we demonstrated that the dissolution of olivine, $(\text{Mg, Fe})_2\text{SiO}_4$, is fast enough to be measured on a week-long time scale. The Mg-rich component is an antacid with potential for carbon dioxide removal (CDR). This concept was published in [Eos](#) (newsletter of the American Geophysical Union) on 2023.12.12. Here, we explore the potential of the iron component to produce hydrogen, a source of clean energy. (*Doug Reusch*)

29

Patellofemoral Syndrome in Athletes: A Literature Review

Anna MacDonald

The present review investigates the treatment, symptoms, and prevention of Patellofemoral Syndrome, which is common in many athletes. Using Google Scholar and the University of Maine's Library One Search engine, the keywords "Patellofemoral syndrome," "runners," and "rehab" were searched. After an advanced search, six articles were identified for further review. The six articles discuss injury prevention, different kinds of treatments, some being Osteopathic manipulation and eccentric exercises, decreasing weekly mileage, and the effect of the pain. This review allows for a greater understanding of the injury as a whole and effective treatment measures. (*Mick Kaminsky*)

Adherence to Honor Culture Among Secondary Students with Disabilities in Rural New England **Scott McDaniel**

The purpose of this quantitative comparative study was to investigate adherence to honor culture, which values personal reputation and defense of such, as well as traits of callousness among students in three different placements of high school English (advanced placement/college prep, general, and special education resource). Two existing instruments were combined into a single self-report survey designed to indicate adherence to each of the two traits among the groups of students in a rural and low-socioeconomic New England high school. Analysis of variance indicated that the groups did not differ significantly on measures of honor culture but did so on indicators of callousness. (*Brianna Grumstrup*)

Psychology Research Methods class (PSY 400)

Angel Bracket, Evan Burnell, Zach Chaisson, Grace Dwyer, Andrea Harmon, Alanha Ladd, Donna Massarella, Peter Lawton, Megan Rackliff, Seamus Reeve, Rae Sawyer, Mariah St. Clair.

Twelve Psychology and Business Psychology students will present their independent research projects in poster form on the following topics: Social media saturation and academic performance; the role of music on recollection; how alcohol consumption impacts memory; the role of tattoos on perceptions of law enforcement officers; how parents impact college socializing; how pets impact our well-being; the role of collegiate coaches on satisfaction with a sport season and other exciting topics in Psychology. (*Karol Maybury*)

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.

