GENESEO

NEW YORK'S PUBLIC HONORS COLLEGE

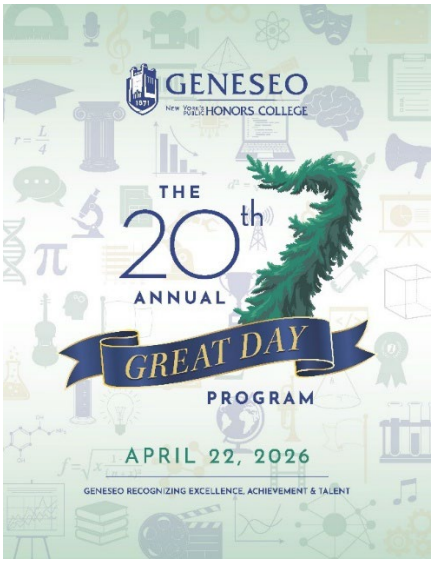
THE 20th ANNUAL GREAT DAY PROGRAM

APRIL 22, 2026

GENESEO RECOGNIZING EXCELLENCE, ACHIEVEMENT & TALENT

Welcome to SUNY Geneseo's Twentieth Annual GREAT Day!

Geneseo Recognizing Excellence, Achievement and Talent Day is a college-wide symposium celebrating the creative and scholarly endeavors of our students. In addition to recognizing the achievements of our students, the purpose of GREAT Day is to help foster academic excellence, encourage professional development, and build connections within the community.



This program lists the abstracts for all submissions for GREAT Day 2026, which will be held on Wednesday, April 22, 2026.

The GREAT Day 2026 program cover artwork was created by **Zachary Mogavero**, a student in the SUNY Geneseo LIVES Program.

GREAT Day utilizes Oxford Abstracts for its conference platform. Complete conference information is available in the Virtual Program. PDFs of some posters are available within the on-line program's Poster Gallery. The GREAT Day webpage is: ***https://www.geneseo.edu/great_day/***

Don't forget to check out our campus digital repository, KnightScholar. KnightScholar makes faculty and student work freely available in support of our Open Access Policy. It's where you can find posters from past GREAT Days as well as *The Proceedings of GREAT Day* and many other quality publications.

The **keynote address by Dr. Jennifer D. Roberts** will be held on Wednesday, April 22, 2026, 1:15-2:15 pm in Wadsworth Auditorium.

GREAT Day often falls on or near **Earth Day**, which is held on April 22nd each year. In recognition of this, presentations related to the environment and/or sustainability are designated by a leaf symbol - 🌿 - in this program.

Presentations related to this year's Ideas that Matter: Climate Change and the Individual and previous years' Ideas that Matter topics are designated with a lightbulb - 💡 - in this program.

KnightScholar

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GREAT DAY 2026 SCHEDULE AT A GLANCE

"Joe & Go" Kick-Off Coffee	8:30 - 9:15 AM	Erwin Hall Lobby
Meet Myko, GREAT Day Therapy Dog!	8:45 - 10:30 AM	Milne Library Main Floor Lobby
Concurrent Session 1	8:45 - 10:00 AM	
1A: Research in Astrophysics		Bailey 101
1B: Anthropology of the Borderlands		Bailey 102
1C: Choreography and Connection: An Intersection of Creativity, Individuality, and Cohesion		Bailey 103
1D: Climate Change and Cultural Change		Bailey 104
1E: Edgar Fellows Capstones Panel		Bailey 105
1F: Edgar Fellows Capstones Panel		Bailey 201
1G: Edgar Fellows Capstones Panel		Bailey 202
1H: Espacios lingüísticos y literarios en la Hispanofonía		Bailey 203
1I: Better Together: Geneseo's Peer Support Programs		Bailey 204
1J: History 267		Milne 301
1K: Political Science & International Relations Honors Capstones		Milne 302
1L: Religious Experiences		Welles 128
1M: Great Canadian Novels		Milne 319
1N: Rethinking Nationalism: Africa and the United States		Welles 115
1P: Gender, Sexuality, and Women's Studies Research - Panel #1		Welles 119
1Q: Research in Biology and Chemistry		Welles 121
Chamber Singers	10:00 - 10:15 AM	Milne Library Main Floor Lobby
GREAT Day Honors and Presentation of the 2025 Proceedings of GREAT Day	10:00 - 10:40 AM	Milne Library Main Floor Lobby
Poster Viewing Opens	10:00 AM - 4:15 PM	MacVittie College Union Ballroom
Poster Viewing Opens	10:00 AM - 4:15 PM	Milne Library Multipurpose Room
Visual Art & Culture Exhibit Viewing Opens	10:00 AM - 4:15 PM	MacVittie College Union Ballroom Lounge Gallery
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2A: Canadian Shorts		Bailey 101
2B: Data Analytics Capstone 1		Bailey 102
2C: Geneseo Changemakers: Student Ambassador Presentations Part One		Bailey 103
2D: History Graduate Student Panel # 1		Bailey 104
2E: Idea 2 Venture Business Presentations		Bailey 105
2F: Edgar Fellows Capstones Panel		Bailey 201
2G: Edgar Fellows Capstones Panel		Bailey 202
2H: Edgar Fellows Capstones Panel		Bailey 203
2I: Research in Media and Cultural Studies		Bailey 204
2J: Representing and Speaking Freedom: Decolonizing Misrepresentations of Global Black people within Film, AI, Education, Foreign Aid, and Identity		Milne 301
2K: Theory and Practice of Philosophy: Morality, Education, and Advocacy		Milne 302
2L: Strange Experience: Music, Tattoos, and the Mystery of Being In Between		Welles 128
2M: Research in Mathematics		Milne 319
2N: Business Management Presentations		Welles 115

2O: Correcting Congress Part One: Perspectives of the Next Generation		Welles 117
2P: Gender, Sexuality, and Women's Studies Research - Panel #2		Welles 119
2Q: Research in Biology		Welles 121
2R: Many Shocks, One System: the Macroeconomy, Oil Prices, and Artificial Intelligence		Welles 123
Meet Myko, GREAT Day Therapy Dog!	10:45 AM - 1:15 PM	Bailey Atrium
Meet Willow, GREAT Day Therapy Dog!	11:00 AM - 1:00 PM	MacVittie College Union Lobby
Musical Theatre Showcase	12:00 - 1:00 PM	Doty Recital Hall
Concurrent Session 3	12:00 - 1:10 PM	
3A: Adapting Louisa May Alcott's Little Women		Bailey 101
3B: Data Analytics Capstone 2		Bailey 102
3C: Geneseo Changemakers: Student Ambassador Presentations Part 2		Bailey 103
3D: History Graduate Student Panel #2		Bailey 104
3E: Idea 2 Venture Business Presentations		Bailey 105
3F: Edgar Fellows Capstones Panel		Bailey 201
3G: Edgar Fellows Capstones Panel		Bailey 202
3H: The Choices We Make & How They Make Us		Bailey 203
3I: Learning From the Student Centered Civil Rights Movement		Bailey 204
3J: Nations and Justice		Welles 210
3K: Research in Psychology		Milne 302
3L: Equity and Inequity in Geneseo's Past and Present (papers from WRTG 105)		Milne 303
3M: Research in the Sociomedical Sciences		Milne 319
3N: Inside LIVES: More Alike Than Different		Newton 202
3O: Correcting Congress Part Two: Perspectives of the Next Generation		Welles 117
3P: Gender, Sexuality, and Women's Studies & Black Studies Research Panel		Welles 119
3Q: The Stories Numbers Tell of the World We Live In		Welles 121
3R: Nonviolent Pedagogy from Philosophy to the Writing Classroom		Welles 123
Keynote: Dr. Jennifer D. Roberts - Jack '76 and Carol '76 Kramer Endowed Lectureship	1:15 - 2:15 PM	Wadsworth Auditorium
Meet Peggy, GREAT Day Therapy Dog!	2:15 PM - 4:00 PM	Milne Library Main Floor Lobby
Wind Ensemble	2:30 - 3:15 PM	Wadsworth Auditorium
Meet Sammy & Myko, GREAT Day Therapy Dogs!	2:30 - 4:15 PM	MacVittie College Union Lobby
Poster Presentations	2:30 - 4:15 PM	Milne Library Multipurpose Room
Poster Presentations	2:30 - 4:15 PM	MacVittie College Union Ballroom
Visual Art & Culture Exhibit Presentations	2:30 - 4:15 PM	MacVittie College Union Ballroom Lounge Gallery
President's Closing Remarks & Cake Cutting	4:30 - 5:00 PM	MacVittie College Union Ballroom
A Cappella Hour	5:00 - 6:00 PM	Multicultural Center Blake Hall
GIFF: Geneseo Insomnia Film Festival & Awards Ceremony	6:00 - 7:00 PM	Wadsworth Auditorium

GREAT DAY HONORS AND PRESENTATION OF THE 2025 PROCEEDINGS OF GREAT DAY

Wednesday, April 22, 2026, 10:00-10:40 am, Milne Library Main Lobby

With Chamber Singers performance at 10:00 am and Welcome from Provost Mary Toale

GREAT DAY HONORS

Each year on GREAT Day we acknowledge the work of so many whose support and dedication make GREAT Day the special program that it has become. Thank you sponsors and GREAT Day Proceedings participants.

NEW TWENTY-YEAR, FIFTEEN-YEAR AND TEN-YEAR SPONSORS

GREAT Day would not be possible without the dedicated faculty and staff who work with students throughout the year on the projects that are presented annually. As we observe the 20th Annual GREAT Day, we would like to acknowledge the following faculty and staff who, as of this year, have served as a sponsor for 20, 15, or 10 GREAT Days:

NEW 20-YEAR SPONSORS

Jennifer Apple, Biology
Graham Drake, English and Creative Writing
Charles Freeman, Physics and Astronomy
Scott Giorgis, Geological, Environmental, and Planetary Sciences
Jani Lewis, Biology
Kevin Militello, Biology
D. Jeffrey Over, Geological, Environmental, and Planetary Sciences
Stephen Padalino, Physics and Astronomy
Monica Schneider, Psychology and Neuroscience

NEW 15-YEAR SPONSORS

James Kimball, Performing Arts
Steve Derne, Sociology
Barnabas Gikonyo, Chemistry and Biochemistry
Ruel McKnight, Chemistry and Biochemistry

NEW 10-YEAR SPONSORS

Sara Burch, Biology
Josephine Reinhardt, Biology
Suann Yang, Biology

FIRST-TIME SPONSORS

This is the first year the following faculty and staff have served as a sponsor for GREAT Day – Welcome!

Jyothsna Harithsa, School of Business
Sara Hébert, Office of Diversity and Equity
Claire Jackson, English and Creative Writing
Taylor Kessner, School of Education
Don Kot, Performing Arts
Nathan Morris, Biology
Alana Nuth, Milne Library
Max Sparkman, Milne Library

FOUR-YEAR STUDENT PRESENTERS

Congratulations to the following students who have presented at four GREAT Days in a row!

Arielle Beckman
Andrew Bellotti
William Carmen
Michaela Cawley
Morgan Comstock
Regina Cucchiara
Sarah Dean
Anastasia Dejesus
Courtney Duggan
Shaun Fitzgerald
Megan Howard
Mina Klentos
Riley Martin
Lauren Murphy
Aidan Nichols
Morgan Olsen
Cadence Panol
Justin Ronzoni
Audrey Ryan
Logan Sargent
Anna Tessier

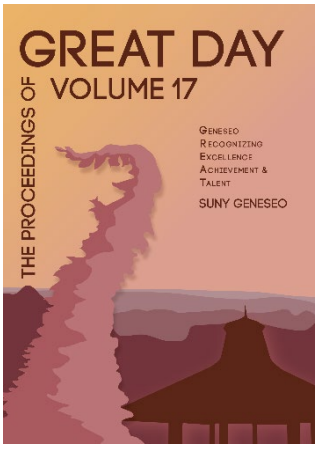
CERTIFICATE OF APPRECIATION

We're pleased to recognize **Zachary Mogavero** for his contributions to GREAT Day logos and program cover designs. Zachary is a talented artist and graphic designer and is a graduating student in the SUNY Geneseo LIVES Program.

PROCEEDINGS OF GREAT DAY 2025

Established in 2009, *Proceedings of GREAT Day* compiles and publishes promising student work presented at SUNY Geneseo's GREAT Day symposium. The projects, presentations, and research included here represent the academic rigor, multidisciplinary study, and creativity of the students taking part in the SUNY Geneseo GREAT Day symposium. The *Proceedings of GREAT Day 2025* is now available!

Staff: Allison Brown, Max Sparkman, and Daniel Ross
Student Editors: **Liam Berger and Ella Singer**
Student Production Assistant: **Gabrielle Houde**



Students and Faculty Mentors Published in the Proceedings of GREAT Day 2025

The Role of Actuarial Discretion in Automotive Insurance Discrimination
Michael Abrams
Sponsored by William Lofquist, Ph.D.

What is the Sociology of Diversity: Examining Literature in an Emerging Subfield
Guadalupe Alicea and Julia Carter
Sponsored by Reece Torres, Ph.D.

Vestiges of Geneseo's Past: Narratives of Local Identity
Hailey Bernet
Sponsored by Weston Kennison, M.A.

The role of black seed oil (Thymoquinone) on repetitive behavior and neuroinflammation in spinning mice
Ashley Biondi
Sponsored by Allison Bechard, Ph.D.

Knot Your Average Math Class: Exploring Curves and Curiosities
Jocelyn Bunster
Sponsored by Aaron Heap, Ph.D.

Evaluating Social Vulnerability in Livingston County, NY
Charles Canero and Daniel Noone
Sponsored by Li Lu, Ph.D.

Senegalese Community Through Media
Genesis Flores
Sponsored by Olaocha Nwadiuto Nwabara, Ph.D.

Unity Decomposition to Simplify Challenging Integrals: A Crossover Between the Real and Complex Domains
Gavin George
Sponsored by: Caroline Haddad, Ph.D. and Jeff Johannes, Ph.D.

"What a Mensch Does is Fight for Justice:" Judaism, Activism, and Agency in the Civil Rights Movement
Ethan Harris
Sponsored by Emilye Crosby, Ph.D.

Rochester Elementary Schools: Progress, Challenges, and the Path to Equity
Aimee Maoriello
Sponsored by James Oigara, Ed.D.

Cholera, Community, and Commiseration: A Social Historical Look At The 1854 London Cholera Epidemic
Emily Meisenzahl
Sponsored by Jovana Babović, Ph.D.

Why Won't My Parlays Hit? An Analysis of the American Sports Betting Industry
Ian Palmieri
Sponsored by Atsushi Tajima, Ph.D.

The Gospel of Resistance: How the Exodus Narrative Undermined Pro-Slavery Christianity
Lauren Reilly
Sponsored by Justin Behrend, Ph.D.

KEYNOTE:
THE JACK ’76 AND CAROL ’76 KRAMER ENDOWED LECTURESHIP

DR. JENNIFER D. ROBERTS

ENVIRONMENTAL RACISM: THE INTERSECTING INEQUITIES OF OUR PEOPLE

Wednesday, 22 April, 2026, 1:15-2:15 pm, Wadsworth Auditorium

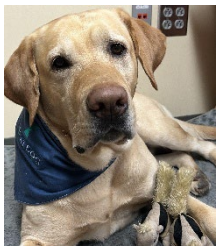
About Jennifer D. Roberts, Dr.PH.

Jennifer D. Roberts is an Associate Professor in the Department of Kinesiology, School of Public Health at the University of Maryland College Park (UMD). She is the newly appointed Chair of the Nature and Health Alliance, an interdisciplinary group of researchers and practitioners who work to raise awareness of the health benefits from nature engagement. Dr. Roberts is also the Founder and Director of the Public Health Outcomes and Effects of the Built Environment (PHOEBE) Laboratory as well as the Co-Founder and Co-Director of NatureRx@UMD, an initiative that emphasizes the greenspace benefits interspersed throughout and around the UMD campus and acknowledges the ancestral lands of the Piscataway People as well as the historical slave trade legacies of the UMD campus land. In recognition of her NatureRx@UMD accomplishments, Dr. Roberts was awarded an REI Cooperative Action Fund to create and establish the Wekesa Earth Center, a collaborative effort of scholarship and recognition across multiple disciplines to promote equity, reconciliation, and healing in nature. She serves as Executive Founding Director of the Wekesa Earth Center and oversees the four center arms: (1) research; (2) recognition; (3) programs; and (4) dissemination.

Dr. Roberts defines herself as an “active living, health equity, and truth telling scholar who draws on history to expose, understand and dismantle the health disparities and social injustices that marginalized and minoritized communities have endured over generations and presently.” Her scholarship focuses on the impacts of built and natural environments, including the institutional and structural inequities of these environments, on public health outcomes.

GREAT DAY THERAPY DOGS

MEET MYKO THE THERAPY DOG



Wednesday, 22 April, 2026, 8:45-10:30 am, Milne Library

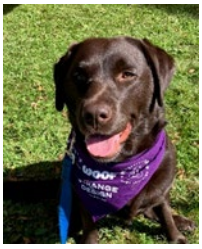
MEET MYKO THE THERAPY DOG

Wednesday, 22 April, 2026, 10:45 am-1:15 pm, Bailey Hall

MEET WILLOW THE THERAPY DOG

Wednesday, 22 April, 2026, 11:00 am-1:00 pm, MacVittie College Union Lobby

MEET PEGGY THE THERAPY DOG



Wednesday, 22 April, 2026, 2:15-4:00 pm, Milne Library

MEET SAMMY & MYKO THE THERAPY DOGS

Wednesday, April 22, 2026, 2:30-4:15 pm, MacVittie College Union Lobby

FESTIVAL OF THE ARTS

CHAMBER SINGERS

Wednesday, 22 April, 2026, 10:00-10:15 am, Milne Library Main Lobby

407 • Geneseo Chamber Singers

Gerard Floriano, Emma Grabowski, Emma Schwarzkopf, Abigail Prichard, Hannah Lieberman, Mollie Scarisbrick, Angelina Nelson, Regina Cucchiara, Jana Johnson, Arielle Beckman, Elizabeth Thomas, Julia Burger, Anna Ferrero, Sophie Vanstrom, Sara Singer, Sarah Leberman, Jena Balzano, Jacquelyn Conlon, Gabriel Agnello, Luke Carlson, Elijah Harris, Adrian Duran, Damian Butera, Jack Marra, Colton Lamb, Gabriel Lindsay, James Cortes, Edward Barr-Forget, Trevor Donlon, Max Worden, Liam Facklam, Matthew Wood, Evan Burmeister, Max Hall, Beau Stephenson, Frank Stephenson, Sean Kuder, Joshua Hemmings, Andrew Bellotti, Angel Henriquez

Abstract

The Geneseo Chamber Singers are presenting the pieces: Leonardo Dreams of His Flying Machine by Eric Whitacre, The Road Home by Stephen Paulus, and the Battle of Jericho by Moses Hogan. Conductor Dr. Gerard Floriano selected these songs to represent some stylistic contrast and to express the beautiful blend of this special group of musicians. This upcoming May, the Chamber Singers will be taking their repertoire to Europe, where they will perform in various churches and historical landmarks. Their fully memorized, final pre tour concert will be in Doty Recital Hall on Sunday, May 3rd, at 3:00 p.m. You can keep up with the group on the Instagram @geneseochambersingers, where they will provide information on upcoming performances, auditions, and exciting updates from Europe!

Faculty/Staff Sponsor

Gerard Floriano

Faculty/Staff Sponsor Department/Office

Music and Musical Theatre

This presentation will also be presented at:

Geneseo Chamber Singers Europe trip

VISUAL ART AND CULTURE EXHIBITS

Wednesday, 22 April, 2026, 10:00 am-4:25 pm, MacVittie College Union Ballroom Lounge Gallery

Exhibits will be available for viewing from 10:00 am-4:15 pm. Authors will be present from 2:30-4:15 pm.

47 • Forgotten Hands: Rediscovering 1930s American Art

Rose Theel, Kenna Donalty, Ryan Seubert, Ava White, Emma Derrell, Savannah Wyatt-Saylor

Abstract

The Great Depression is often referred to as one of the darkest periods in American history, a continuous, grueling quest to find employment and nourishment. However, when President Franklin D. Roosevelt took office, a glimmer of hope grew in the hearts of the American people. Roosevelt immediately implemented the New Deal, a wave of programs that focused on alleviating the crises that America was enduring. The Federal Art Project (FAP) was among the projects and was formed under the Works Progress Administration. This rotating slideshow aims to showcase how the FAP not only functioned as a practical solution to unemployment, but also served as a lasting testament to the culture of that time, created from firsthand experience. Upon historical analysis, the artworks have become a valuable window into the past, offering unique insight into how art was used to heal the indisposed soul through imagined thresholds. They also reveal the importance of viewing artists not only as creative vessels but as laborers; while highlighting both the solo and collective journey of hardship, how contrasting environments affect one's experience with the world. Over 200,000

artworks were produced through FAP's efforts; however, like most art history, over the years many were lost, stolen, or forgotten. This presentation grew out of a partnership with the New Deal Museum in Mount Morris, New York. Last year, the museum received 183 paintings and prints from the U.S. General Services Administration. Students from SUNY Geneseo have helped to uncover dozens of long-neglected artists and their masterpieces.

Faculty/Staff Sponsor

Ken Cooper

Faculty/Staff Sponsor Department/Office

English and Creative Writing

58 • Stitching Language: The Cyrillic Alphabet and Slavic Identity

Samuel Scamardo, Isabella Pijanowski

Abstract

This project explores the cultural and historical significance of the Cyrillic alphabet in the Slavic world through embroidery. Rather than viewing Cyrillic as simply a system of written communication, this project shows how it functions as a symbol of cultural and linguistic identity. Developed in the 9th century, the alphabet helped shape a distinct Slavic cultural sphere, still present today in Eastern Europe. Using embroidery, this project depicts selected poetry in Cyrillic letters into visual and material form. Each piece reflects its phonetic value and symbolic meaning, using color, pattern, and texture to convey deeper cultural understanding. This process highlights how alphabets can prove to be a unifying factor for memory and identity beyond language itself. By combining reading knowledge of Russian with artistic interpretation, the project demonstrates how meaning can be portrayed across different mediums. Ultimately, the Cyrillic alphabet represents continuity and tradition in the Slavic world, and embroidery provides a way to make that identity visible and tangible.

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Global Languages and Cultures

60 • Stitching the Russian Soul: Embroidery as a Visual Expression of Russian Poetry

Ayden Link, Addie Balogun

Abstract

This project examines how the themes and emotional depth of Russian poetry can be translated into visual and tactile form through embroidery. By combining textual analysis with artistic interpretation, the project explores how the "Russian soul" (*русская душа*)—often expressed through poetry—can also be represented through traditional craft. The goal is to demonstrate that both poetry and embroidery serve as parallel modes of cultural expression, preserving memory, identity, and emotion. We have chosen poems that directly influenced our work and we hope have captured an essence of meaning that can be expressed using thread and cloth. Poetry often relies on repetition of sounds, words, themes, or rhythmic structure that reinforces meaning. In Russian culture, this repetition can reflect: cycles of suffering and endurance and the persistence of cultural identity. Likewise, embroidery also relies on repetition, with stitches repeated over and over and patterns built through careful, deliberate labor. This repetition becomes an act of memory-making. Just as poetry preserves language under repression, embroidery preserves tradition through physical practice. Both become archives of survival.

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Global Languages and Cultures

63 • Vyshyvanka and Poetry: Expression in Art Form

Owen Hatala, David Broadwell

Abstract
Slavic cultural traditions have long expressed identity, memory, and emotion through both literary and material forms. Poetry communicates storytelling, cultural values, and lived experiences, while traditional embroidery—particularly the *vyshyvanka*—translates symbolic meaning into visual patterns, colors, and stitches. This poster presentation explores the relationship between poetry and embroidery as complementary forms of cultural storytelling within Slavic traditions. The project highlights student work from RUSS 205: Russian for Reading Knowledge, in which participants created embroidered pieces inspired by selected poems or lines of prose by Russian authors. Each piece visually interprets literary themes through deliberate choices of design, color, and materials. Students paired their stitched works with brief written reflections explaining how the imagery, symbolism, and composition of their embroidery connect to the meaning and emotional tone of the selected texts. In addition to presenting these student-created works, the poster provides brief contextual information on the history and symbolism of vyshyvanka, the role of the Cyrillic alphabet in Slavic literary culture, and the cultural significance of poetry as a form of expression. By pairing literary analysis with textile art, this project demonstrates how poetry and handcraft function as interconnected modes of storytelling. Through this interdisciplinary approach, the project aims to deepen appreciation for Slavic cultural traditions while illustrating how language, literature, and visual art can collaboratively communicate cultural identity and emotional experience.

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Global Languages and Cultures

MUSICAL THEATRE SHOWCASE

Wednesday, 22 April, 2026, 12:00 pm-1:00 pm, Doty Recital Hall

137 • Musical Theatre Scenes

Alex Abraham, Annamarie Lyman, Ava Eckert, Beau Stephenson, Frank Stephenson, Gabriel Lindsay, Jack Marra, Jena Balzano, Lily Strattman, Marissa Weaver, Maxwell Hall, Nina Keenan

Abstract
Please join our musical theatre artists as they continue to integrate and strengthen musical and dramatic skills in scenes and songs with multiple characters and collaborators. Come see our musical scene study go from "the page" to "the stage!"

Faculty/Staff Sponsor
Don Kot
Faculty/Staff Sponsor Department/Office
Music and Musical Theatre

288 • *Importance of Being Earnest,* by Oscar Wilde, Act 2 Pages 68-71

Joshua Hemmings, Angelina Nelson

Abstract
The Importance of Being Earnest is one of author Oscar Wilde's most famous works. One infamous scene from the play is the "muffin scene", in which lead characters Jack Worthing and Algernon Moncrieff have an increasingly absurd argument over muffins and tea. At this point of the play, Jack has been living under an alter ego named Ernest, and Algernon has just impersonated "Ernest" traveling to Jack's Estate. Both men are now in romantic deception regarding the characters each of them fancy over the fact they met their correspondent lovers using the same name, leading to one of many moments of petty bickering and aggressive politeness.

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Music and Musical Theatre

293 • *The Importance of Being Earnest*, Act 2, Pages 58-64

Sophia Vanstrom, Marissa Weaver
Abstract
In connection with the Music and Musical Theatre department's Comedy and Styles acting class, we are presenting a Comedy of Manners scene from *The Importance of Being Earnest* by Oscar Wilde. In this scene, Gwendolen Fairfax is welcomed by Cecily Cardew at her country manor after her unexpected arrival. Their new friendship quickly falls into an intense rivalry when it is revealed that they are both engaged to Mr. Earnest Worthing. They don't know that two men are posing as Earnest, who isn't even a real person. The fight includes tea, cake, and mocks social etiquette and Victorian polite manners.
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Music and Musical Theatre

319 • *Hay Fever*, Act Two, Pages 63-67

Evan Burmeister, Jacquelyn Conlon
Abstract
In connection with the Music and Musical Theatre department's Comedy and Styles acting class, we are presenting a Comedy of Manners scene from *Hay Fever* by Noël Coward. In this scene, Judith, the mother of the Bliss estate finds herself alone in a room with Richard Greatham, a diplomat who was invited to the home by Judith's daughter Sorel Bliss.
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Rachel Solomon
Faculty/Staff Sponsor Department/Office
Music and Musical Theatre

359 • *Blithe Spirit*, Act 2, Scene 1

Sara Singer, Jonathan Swannie
Abstract
In connection with the Music and Musical Theatre department's Comedy and Styles acting class, we are presenting a Comedy of Manners scene from Blithe Spirit by Noel Coward. In this scene, my character Elvira who is a ghost that was summoned back to Earth by her ex husband Charles, are at the woman's house who led the seance. They are asking her to do something that will send Elvira back to wherever she came from. They eventually end up reminiscing over their old dramas and squabbles that they dealt with when they had first gotten married.
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Music and Musical Theatre

389 • *The Importance of Being Earnest*, Act 1, Scene 2

Kaley Sumeriski, Sean Kuder

Abstract

In connection with the Music and Musical Theatre department's Comedy and Styles acting class, we are presenting a Comedy of Manners scene from *The Importance of Being Earnest* by Oscar Wilde. In this scene, Lady Bracknell is looking for a male suitor for her daughter, Gwendolen, to marry off to. Jack is very enamored with her daughter, but is also trying to remain poised and honest as he gives credentials for being the pick for the role of Gwendolen's husband.

Faculty/Staff Sponsor

Rachel Solomon

Faculty/Staff Sponsor Department/Office

Music and Musical Theatre

WIND ENSEMBLE

Wednesday, 22 April, 2026, 2:30-3:15 pm, Wadsworth Auditorium

116 • Geneseo Wind Ensemble, a Concert Snapshot

Ryan Hyzy, Bethany LaVere, Nathan Dambra, Samuel Parker, Parker Lawton, Stella Manning, Ian Pritchard, Shaun Fitzgerald, Andrew Herman, Kahlan Moran, Justin Weisberg, Katherine Penna, Stella Fratti, Mark Ames, Ace Bodkin, Isabella Amato, Myah Lafave, Tyler Knapp, Julian Delisle, Florence Pallotta, Sara Hulbert, Zara Kushner, Adreanna McMurray, Owen Karlson, Kaylin Todd, Colleen Stuart, Jacob David, Nathan Healy, Caroline Burse, Connor Lorenzo, Lauren Levatino, Graham North, Alexander Stoker, Julia Burger, Gabrielle Watson, Jackson Ritger, Emmanuel Adeyemi, Anna Baldes, Kaitlyn Cole, David Hansen, Bill Tiberio

Abstract

Mini performance of some of our music from the repertoire we've explored this year.

Faculty/Staff Sponsor

Bill Tiberio

Faculty/Staff Sponsor Department/Office

Music and Musical Theatre

A CAPPELLA HOUR

Wednesday, 22 April, 2026, 5:00-6:00 pm, Multicultural Center

397 • Between the Lines, Acapella Performance

Abigail Wheeler, Alexandra Leiva, Anna Hansen, Arielle Beckman, Beck Fox, Cadence Butler, Courtney Duggan, Hannah Doles, Juli Mora, Julianna Marino, June Bucci, Katie Tothero, Liam Berger, Lila Donohue, Liz Orlep, Ma'ayan Baranes, Paige Moscicki, Percy Davis, Sam Olson, Sonia Horowitz, Willow Bertram

Abstract

Between the Lines, one of the acapella at SUNY Geneseo will perform some their repertoire from the semester.

Faculty/Staff Sponsor

Kara Cornell

Faculty/Staff Sponsor Department/Office

Music and Musical Theatre

270 • Hips 'N Harmony Performance

Natalie Casey, Payton Clark, Maddie DeGraeve, Caroline Fruck, Elise Kalbfus, Mina Klentos, Joanna Meskos, Cecilia Minnuto, Kira Painter, Savannah Piatkowski, Mina Pine, Mykenzie Prevost, Arwen Reddick, Josie Reding, Rebecca San George, Mary Saporito, Erin Schulz, Lucia Soliman, Diana Sorensen, Ella Sosnowski, Nina Suszynski, Gia Timian, Emma Ward, Norah Wertheimer, Dylan Wong

Abstract

Hips 'N Harmony is an all female (but not exclusive to) acapella group!

Faculty/Staff Sponsor

Joan Floriano

Faculty/Staff Sponsor Department/Office

Music and Musical Theatre

401 • Emmelodics Acapella Performance

Riley Martin, Amanda Louis, Amanda Lozy-Lester, Anna Ferrero, Anthony Tyler, Ashlee Brison, Ella Singer, Emily Kline, Eric Brogcinski, Gabbee Guido, Haylie Smith, Jacey Kleotzer, James Hunter, Jane Konieczny, Jordan Rosscup, Jude Lofton, Katie Lamberson, Lauren Hickok, Lauren Murphy, Lexi Eichinger, Oliver Rayburn, Madilyn Pawlak, Maya Powell, Mollie Scarisbrick, Morgan Olsen, Nick Andrews, Robert LaDuca, Rylie Wallace, Sarah Dean, Xavier Canaple

Abstract

Emmelodics is an all gender acapella group at Geneseo performing three songs at GREAT Day.

Faculty/Staff Sponsor

Kara Cornell

Faculty/Staff Sponsor Department/Office

Music and Musical Theatre

GIFF: GENESEO INSOMNIA FILM FESTIVAL & AWARDS CEREMONY

Wednesday, 22 April, 2026, 6:00-7:00 pm, Wadsworth Auditorium

Session Chair

Sarah Brookes, Communication

In the Geneseo Insomnia Film Festival, teams of up to four students have 24 hours to write, record, and edit a three-minute movie. These movies may be any genre - comedy, drama, horror, etc. - so long as they include at least three elements from a list of 20 provided by the GIFF staff. The 2026 filming event took place from March 27 to March 28, and the resulting videos were evaluated by a panel of five faculty and staff. Now we invite you to our GREAT Day event, during which we will screen all films and award prizes to the teams with the top three films. The event is open to all Geneseo community members, and we encourage you to bring family, friends, and colleagues as we recognize the excellence, achievements, and talent of our 2026 Insomniacs!

395 • Red Robin (Yum)

Courtney Duggan, Anna Hansen, Allison Montrois, Tori Webster

Abstract

Two spies have to gather info about a case that have to crack... they learn about each other... hijinks ensue <3

Faculty/Staff Sponsor

Sarah Brookes

Faculty/Staff Sponsor Department/Office

Communication

398 • The Barn

Daniel Maurer

Abstract

The Barn is a short horror film about the club baseball house, which we call the barn.

399 • A&M GIFF: “Unwanted Message”

Annabella Bushnell, Michaela Lewis-Hardies

Abstract

This short film titled “Unwanted Message” is our submission for the Geneseo Insomnia Film Festival. The focus of this project is to portray how C-PTSD can present itself when triggered by a seemingly insignificant event, as well as unconventional coping mechanisms through methods such as revisiting nostalgic television shows that comforted the individual in childhood.

Faculty/Staff Sponsor

Sarah Brookes

Faculty/Staff Sponsor Department/Office

Communication

405 • Wait

Cadence Panol, Bridget Schafer, Muhtady Ahmed, Bee Shaik

Abstract

A story of drama and intrigue as a mysterious man chases after his love. But he soon discovers that they were not as prepared to wait for him as anticipated...

Faculty/Staff Sponsor

Sarah Brookes

Faculty/Staff Sponsor Department/Office

Communication

CONCURRENT SESSIONS

CONCURRENT SESSION 1

Wednesday, 22 April, 2026, 8:45-10:00 am

1A (BAILEY 101): RESEARCH IN ASTROPHYSICS

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 101
Session Chair
Aaron Steinhauer, Physics and Astronomy
Track
Science and Mathematics Categories: Physics

77 • Developing a Novel Method to Calculate Gravitational Waves Emitted by Highly Eccentric Black Hole Binaries

Zachary Boice
Abstract
We seek to calculate the energy flux emitted by an eccentric extreme mass-ratio inspiral. To do this, we solve the Regge-Wheeler equation using the method of lines and numerically integrating; a fourth-order finite difference method is used to increase accuracy. We represent the source by enforcing a jump condition across an internal boundary. We also make use of a hyperboloidal slicing and compactification scheme, based on the work of Thornburg and Wardell (2017). We seek to create a coordinate transformation that shifts the space around an effectively stationary source, which will greatly simplify calculations. With a fourth-order finite difference method and exact compactified boundary conditions, we hope to achieve results among the most accurate time domain calculations.
Faculty/Staff Sponsor
Thomas Osburn
Faculty/Staff Sponsor Department/Office
Physics and Astronomy
Funding Sources
National Science Foundation Grant Number 2309020

313 • Variability Analysis of TeV Blazar Markarian 421 with Simulated CTAO Data

Owen Coffey
Abstract
The Cherenkov Telescope Array Observatory (CTAO) is the next-generation ground-based Very High Energy gamma-ray observatory and is currently under construction. While it is being built, the collaboration has released an internal Science Data Challenge (SDC), which includes a simulated dataset from CTAO. This data is intended to be analyzed with Gammapy, a Python package for gamma-ray astronomy, to develop analysis pipelines and test the simulated dataset for public release. Blazars are a class of jetted Active Galactic Nuclei that make up the majority of known extragalactic TeV gamma-ray sources. Minute-timescale variability has been observed in a variety of blazars but lacks a concrete explanation. Markarian 421 is a nearby blazar that has exhibited such variability. I analyzed one year of simulated CTAO data from the SDC to assess the variability of the source on a variety of timescales and search for short-timescale variability. Light curves were generated using Gammapy and variability was assessed using a statistical test, and the average variability probability was found to decrease over smaller time intervals. Unfortunately, the dataset was too sparse to determine a threshold timescale for the average variability probability to be significant. However, a conclusion can be made that CTAO should observe Markarian 421 for more than 30 minutes per week to reliably detect short-timescale variability.

Faculty/Staff Sponsor
Aaron Steinhauer
Faculty/Staff Sponsor Department/Office
Physics and Astronomy
Funding Sources
NSF grant PHY-2349438

283 • Determining Standard Parameters for Open Cluster NGC 6811

Carson Harth, Marisa Mazzacco, Christopher Desiderio
Abstract
Using a combined dataset from two consecutive photometric nights of data on the WIYN 0.9m Telescope at Kitt Peak National Observatory in Arizona (see poster 35), an analysis was conducted to determine parameters for the Open Cluster NGC 6811. Eliminating non-cluster members and multiple-star systems, a color-color plot was made, and the zero-reddened Hyades cluster fiducial was adjusted for metallicity and reddening until they match the cluster data at the point of sensitivity, allowing us to determine those parameters. These values were then used to generate isochrones of different ages that were compared to color-magnitude plots of NGC 6811. Vertically shifting the isochrons to match the main sequence fiducial allowed us to determine the distance modulus, and the best-fit isochrone was used to determine an approximate age.
Faculty/Staff Sponsor
Aaron Steinhauer
Faculty/Staff Sponsor Department/Office
Physics and Astronomy
This presentation will also be presented at:
American Astronomical Society
Funding Sources
NY Space Grant Consortium, Geneseo Office of Sponsored Research

213 • Warping Spacetime for Gravitational Wave Modeling: Coordinate Transformations and Orbital Dynamics in Extreme Mass-Ratio Inspiral Systems

Gavin George
Abstract
Extreme mass-ratio inspirals (EMRIs) are a type of gravitational-wave source formed when a small compact object orbits a supermassive black hole. Modeling these systems requires numerical tools that can track both the motion of a small compact object orbiting a massive black hole and the gravitational disturbances it produces as they travel through curved spacetime. This work develops a computational framework that combines equations describing relativistic orbital motion with coordinate transformations that reshape spacetime into a form suitable for stable numerical simulation. The analysis begins with the Regge–Wheeler equation, a wave equation used to describe small gravitational perturbations around a non-rotating black hole. Finite-difference methods in the time domain are employed, together with absorption boundary conditions, to prevent artificial reflections at the edges of the computational grid. The study also derives and solves a set of coupled equations that describe how an object moves along an eccentric orbit in strong gravitational fields, producing realistic trajectories for EMRI systems. A key component of the work is constructing a coordinate transformation that compresses the infinite extent of spacetime into a finite numerical domain. Analysis of the transformation's mathematical structure shows how it stretches the grid near the boundaries and how a technique known as hyperboloidal slicing prevents numerical instabilities that would otherwise arise. Visualizations of transformed test functions and orbital paths demonstrate how these coordinates reshape the computational domain to support stable wave propagation. Together, these methods provide a foundation for future EMRI waveform modeling.
Faculty/Staff Sponsor
Thomas Osburn
Faculty/Staff Sponsor Department/Office
Physics and Astronomy

Funding Sources
NSF 2309020

1B (BAILEY 102): ANTHROPOLOGY OF THE BORDERLANDS

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 102
Session Chair
Bruno Renero-Hannan, Anthropology
Track
Social Science Categories: Anthropology

350 • Walls Isolate, People Unify

Avery Jordan Banas, Natalie Bentley
Abstract
We want to bring attention to the ongoing and arising problems, both legally and socially, regarding unjustly-detained people and what's really going on. We want to share our researched information rather than allowing harmful misinformation to continue to spread. We hope to spread awareness about what's really going on along the border wall, the dangers it poses, and the inhumanity practiced in detention centers/facilities. In addition, we want to also bring attention to action projects that anybody and everybody can engage in to make a difference. We also hope to connect people who want to get involved with organizations that have that goal, both locally here in Geneseo and closer to the border like our friends in Tucson, Arizona. Our hope is to unite people with the same motivation to help people in need, those who faced injustice and need a shoulder to lean on or the resources to return to reality.
Faculty/Staff Sponsor
Bruno Renero-Hannan
Faculty/Staff Sponsor Department/Office
Anthropology

374 • Environmentalism on the Border

Dante Herbel, Diego Guzman, Antonio Reinehr Souza, Mikaya Carney, Allison Pfeffer, Will Ramsey
Abstract
The intention of this project is to shed light on the negative impacts that the southern border wall has on the migration of species. It also intends to research the impacts that Indigenous communities have taken on. This project will also show how the border wall has become militarized. We will also examine how the hydrology of the Borderlands has been impacted. Lastly, we will examine how Trichloroethylene (TCE) has negatively impacted Indigenous communities and the impacts on the Southern side of Tucson.
Faculty/Staff Sponsor
Bruno Renero-Hannan
Faculty/Staff Sponsor Department/Office
Anthropology

334 • Support for Detained Migrants

Alyssa Kocher, Isabella Pijanowski, Anya Abrams, Stella Karaptian
Group Session Name
Abstract
Our group will be putting together a comprehensive presentation explaining possible support and resources available to those in immigration detention centers. There will be a focus on the role of clinical psychologists as a necessity for those in detention. The emotional and traumatic nature of detention makes this a form of emergency care. It’s also important in the Batavia facility in particular because of its use of solitary confinement as a punishment. We want to talk about the

overpopulation of detention facilities. Connecting detainees with outside support, such as letter writing and visits. We would like to discuss the treatment and experience of women in detention centers and connect them with support.

Faculty/Staff Sponsor

Bruno Renero-Hannan

Faculty/Staff Sponsor Department/Office

Anthropology

336 • Systemic Health Inequities in Disadvantaged Communities

Shannon Lacy, Kimya Hayes, Dante Herbel

Abstract

In this presentation we will be talking about systemic health inequities that we learned about on our study away trip to Arizona. Three case studies that we will address are the impact of chemicals produced by a local corporation in the area and the health impacts on already disadvantaged communities living near the waste site. A second case study will focus on issues related to reproductive health for migrants impacted by punitive immigration policies in the Borderlands. And a third case study that addresses the depletion of water resources by data centers specifically in marginalized communities. We will address the importance of environmental and reproductive justice as it pertains to health and immigration.

Faculty/Staff Sponsor

Bruno Renero-Hannan

Faculty/Staff Sponsor Department/Office

Anthropology

353 • US Policy on Foreign Countries and Impact on Migration from Latin Countries. As well as talking about the impact has in other foreign policies and legislation and what policy now is being implemented that is affecting our borders.

Damaris Mani-Munoz, Ben Bisbal-Rodriguez, Asher Hartjen, Antonio Reinehr Souza

Abstract

Short timeline of US policy and how it affects immigration from Latin countries.

Faculty/Staff Sponsor

Bruno Renero-Hannan

Faculty/Staff Sponsor Department/Office

Anthropology

333 • Exhibiting Untold Stories

Maya Marcyan, Sinead Devaney, Abigail Millen, Natalya Privitera-Reynolds, Lindsy Entzminger

Group Session Name

Anthropology of the Borderlands

Group Session Chair

Bruno Renero-Hannan

Abstract

This presentation will convey the untold stories of those who are impacted by systems of oppression. Telling the stories through public exhibition and media. This presentation explains how the vulnerable communities around the US-Mexico Border have been impacted by the sociopolitical climate and historical context.

Faculty/Staff Sponsor

Bruno Renero-Hannan

Faculty/Staff Sponsor Department/Office

Anthropology

1C (BAILEY 103): CHOREOGRAPHY AND CONNECTION: AN INTERSECTION OF CREATIVITY, INDIVIDUALITY, AND COHESION

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 103

Session Chair

Jonette Lancos, Theatre and Dance

Track

Arts and Humanities Categories: Dance

289 • Dance as a Vessel for Communication: Exploring Movement and Meaning

Morgan Comstock

Abstract

Choreographing a dance can be a deeply personal process, where artists can creatively share messages with those around them. During the fall of 2025 I choreographed a piece for the Geneseo Dance Ensemble, entitled *The Thief of Joy.* The creation of my piece will be evaluated from both an academic and personal perspective. Although the choreographic process is highly individualized, there are consistent lines of thought that have been shared by famous dancers, such as Doris Humphrey in her book, The Art of Making Dances. From a technical standpoint, I will consider the design, dynamics, rhythm, and motivation of my piece. Additionally, I will present images and video clips from the performance to highlight the motifs embedded throughout. *The Thief of Joy* portrayed the internal conflict a person can have between their actual and ideal self. Through navigating life experiences and one's thoughts, a person can begin to realize their true and imagined selves are more alike than different. I believe that although sharing sensitive topics can be challenging, it is also essential in order to find inner peace and reduce feelings of isolation among communities of people. Art has been, and always will be, a crucial part of self expression and global communication.

Faculty/Staff Sponsor

Jonette Lancos

Faculty/Staff Sponsor Department/Office

Theatre and Dance

348 • Turning Ideas into Motion

Sabrina LaRosa

Abstract

The choreographic process involves transforming an initial idea into a movement study that goes through a cycle of critique, refinement, and exploration. It starts with the initial idea, which can then unfold into a story filled with motifs and meaning that guide the viewer on a journey. Creating art not only comes from the artist's personal expectations but also from what the artist expects the viewer to receive from their art. Choreographing "Where Memories Lead," the Fall 2025 concert for the Geneseo Dance Ensemble, allowed me to explore these ideas. In this presentation, I will explore my journey through the choreographic process. Firstly, explaining the courses I have taken to get to this point and how they aided me in my knowledge in the field of dance. Then I will explore the ideas of my piece and how I turned them into movement through improvisation and experimentation to discover the heart of the piece. From these explorations, recurring themes and motifs emerged, which were then shaped into phrases that underwent a cycle of revision and critique. Finally, I will discuss the process as a whole and how each stage of creation contributed to my growth as both a choreographer and a dancer. The journey of creating "Where Memeories Lead" was an opportunity the dance department gifted me, and this presentation will hopefully inspire others to get involved with the arts at SUNY Geneseo.

Faculty/Staff Sponsor

Jonette Lancos

Faculty/Staff Sponsor Department/Office

Theatre and Dance

299 • "Anorexia Nervosa": Choreography and Creative Cohesion

Cadence Panol

Abstract

This presentation will be an in depth conversation about the choreographic process for creation for Geneseo Dance Ensemble Fall Student Works. The Geneseo Dance Ensemble invited student choreographers to choreograph, cast, and produce a 4-6 minute piece for the dance concert, all of which are performed for the show. In order to create a cohesive ensemble performance, specific parameters regarding music selection, number of dancers, and subjectivity of perspectives, however largely the creative process was unique to each choreographer. Throughout the presentation, the various choreographic and technical elements which contributed to "Anorexia Nervosa," one of the individual choreographer pieces, will be discussed in order to determine their efficacy in developing a cohesive performance.

Faculty/Staff Sponsor

Jonette Lancos

Faculty/Staff Sponsor Department/Office

Theatre and Dance

1D (BAILEY 104): CLIMATE CHANGE AND CULTURAL CHANGE

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 104

Track

Interdisciplinary and Other Categories: Other

Session Chair

Melanie Medeiros, Anthropology

40 • Climate Change, Food Insecurity, and Women's Health 💡

Caroline Menon, Jillian Walleshauser, Julia Burger, Georgia Ross

Abstract

The rise of climate change related issues have shown a disproportionate effect on women’s health globally. Climate change exacerbates socioeconomic inequalities and increases vulnerability to food insecurity. There is a gender gap in food insecurity, and women are far more vulnerable and prone to experience global hunger. Climate change disrupts the global food system through a number of factors such as extreme weather, rising food prices, and food quality. In countries economically reliant upon agriculture, their lifestyles are significantly affected by the intersection of environmental change and socioeconomic disparities. Oftentimes in these communities, responsibility of both working land and caring for families rests on women - frequently without a safe work environment, pay, or ability to own land. In this presentation, we aim to highlight how women face increasing work burdens due to climate change. Disparities like further travels to get water and having to take on many jobs due to pay gaps leave women economically vulnerable to food insecurity. The linkage between HIV/AIDS in women and food insecurity will also be explored, for this disproportionately affects women in poorer areas more vulnerable to food insecurity and subsequent HIV. Structural and social reform is necessary to address climate change on a macro level and target gendered oppression. Our presentation will explore possible new systems of agriculture that promote a fairer labor distribution, structural reforms to empower female autonomy, and climate-oriented policies and efforts that could improve women’s health outcomes.

Faculty/Staff Sponsor

Melanie Medeiros

Faculty/Staff Sponsor Department/Office

Anthropology

Special Topics

Ideas That Matter: Climate Change & the Individual

41 • Climate Change and Women's Reproductive Health 💡

Lauren Savage, Gianna Hughes, Dennis Cargill, Lauren Bieniek

Abstract
An important and often overlooked outcome of climate change is how it affects women and women's reproductive health. In our presentation, we will take a closer look at how reproductive health in general is affected by climate change and how women are left with adverse health outcomes during each stage of pregnancy, childbirth, and postpartum. Climate change leads to outcomes including preterm births, low birth weight, and congenital anomalies. In lower-income countries, especially, climate change tends to be an issue because it is associated with the difficulties in being able to access health care during pregnancy. Several studies show the effects of climate change on pregnant women's health due to extreme heat, air pollution, extreme weather events, and increasing adverse obstetric outcomes. In our presentation, we will expand on and explain the long-term effects. Our presentation will focus on gaining a strong understanding of the topic, presenting the information we find, and making it digestible for our audience.

Faculty/Staff Sponsor
Melanie Medeiros
Faculty/Staff Sponsor Department/Office
Anthropology
Special Topics
Ideas That Matter: Climate Change & the Individual

384 • The Rise and Fall of Griffith John College: The Role of the Boy Scout Movement in Shaping Student Relations at a British Missionary School in China, 1913-1925

Jason Strickland

Abstract
This essay seeks to scrutinize traditional historical interpretations of western education in early twentieth century China by examining the role of the scouting movement at the Griffith John College. Previous scholarship viewed scouting in China as a tool of cultural imperialism and social reform at the college. However, a more nuanced interpretation of the school can be developed by recognizing the role that scouting played in developing trust and connection between the missionaries and the boys and in emphasizing discipline and obedience among the boys. These factors contributed to the growth of the school in size and reputation, which consequently resulted in the missionaries becoming less connected with the boys and scouting as they were pulled away to other duties. Without established trust and connection between the boys and British staff, only discipline and obedience were emphasized and therefore highlighted to the boys the contradictions in the school's civilizing mission to the boys. This essay forms a part of a larger thesis on the scouting movement in historically underrepresented regions of scholarship, including Republican China and Malaya, to develop conclusions about the role of scouting in nation building and imperial relations.

Faculty/Staff Sponsor
Ryan Jones
Faculty/Staff Sponsor Department/Office
History
This presentation will also be presented at:
Phi Alpha Theta Regional Western New York Conference
Funding Sources
Charles Randy and Susan Bailey Student Fellowship Endowment

1 • Heavenly Bodies 2018 MET Gala: The Integration of Fashion and Art

Ava White

Abstract
Heavenly Bodies: Fashion and the Catholic Imagination showcases the blend between fashion and art. The exploration of how Catholic visual culture has inspired the world's most influential designers. Originally shown at the Metropolitan

Museum of Art in 2018, the exhibition became one of the most visited in the museum's history. This really demonstrated the power of religious imagery and its ability to influence creative conversations beyond its usual contexts. This class exhibition explores these themes on a smaller scale, inviting viewers to consider how garments can function as both material objects and works of art that connect some of the most iconic Catholic works of art to today's world and how they've been reimagined. By placing these designs in a museum exhibition, it separates what most think of as art from fashion and shows how fashion, and the way it can be created, is art by its ability to embody cultural narratives with the same depth and intentionality as painting or sculpture. *The Heavenly Bodies* exhibition also encourages reflection on the complex relationship between the Church and modern creativity. The inner twine between sacred tradition and secular interpretation raises questions about reverence, cultural borrowing, and artistic freedom. This exhibition aims to give visitors insight into these intersections by presenting selected garments, paintings of the past, and themes from the original gala. Viewers will learn how designers reinterpret sacred symbols and why museums frame fashion as art.

Faculty/Staff Sponsor
Alla Myzelev

1E (BAILEY 105): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 105

Session Chair
David Levy, Philosophy

Track
Interdisciplinary and Other Categories: Edgar Fellows

382 • The Economic Impact of Professional Sports on Local Economies

Levi Allen

Abstract
With new professional sports stadiums being built around the country at record setting costs, most of which are paid by the public, many researchers are curious if the benefits to the public for these stadiums are worth the costs. My research uses econometric analysis to determine whether the presence of professional sports teams and stadiums contribute to economic growth.

Faculty/Staff Sponsor
Christopher Annala

Faculty/Staff Sponsor Department/Office
Business

Special Topics
Edgar Fellows

152 • Game Theory in Accounting

Aimee Clum

Abstract
This project examines how accounting choices, specifically depreciation and inventory valuation, can be modeled as strategic decisions using game theory. While accounting standards provide technical rules, firms often have flexibility in choosing methods, creating incentives that go beyond compliance. For depreciation, firms choose between straight-line, sum-of-the-years digits, and double-declining balance. As a result, they face trade-offs between reported earnings and tax savings. Applying a game theoretic framework shows that firms' decisions are interdependent. When firms maximize net income, straight-line is the best strategy, whereas when firms minimize taxes, accelerated depreciation methods are ideal. Similarly, inventory valuation also can demonstrate strategic behavior. Firms have a choice between FIFO and LIFO and must balance tax deferral, earnings stability, and investor perception when making their decision. LIFO reduces taxes, but increases earnings volatility, while FIFO produces smoother earnings but higher tax costs. Overall, the project

illustrates that accounting decisions are not purely mechanical but inherently strategic. Game theory provides a framework to understand how firms anticipate competitors' actions, weigh multiple choices and objectives, and reach equilibrium outcomes. By integrating mathematics and accounting, this study demonstrates that method choices can be analyzed as rational, interactive decisions with measurable financial and managerial consequences.

Faculty/Staff Sponsor
Elizabeth Felski
Faculty/Staff Sponsor Department/Office
Business
Special Topics
Edgar Fellows

368 • From Hype to Growth: Evaluating the Real Impact of YouTube's Creator Visibility Feature

Hayden Mikula
Abstract
In August 2025, YouTube introduced an experimental mobile-only feature, "Hype," across a limited set of countries, including the United States. Designed to amplify the visibility of smaller creators, Hype employs a per-video point system that emphasizes individual viewer impact while accounting for differences in channel size along with a public leaderboard. This capstone evaluates the effectiveness of Hype points within the U.S. by analyzing its relationship with changes in key video- and channel-level performance metrics, including views, likes, and subscriber growth over a two-week observation period. Data was primarily gathered directly from YouTube's hyped video leaderboard, with additional observations sampled via the YouTube Data API v3 for the purposes of comparing highly-hyped videos to lesser-hyped ones. To address potential multicollinearity among engagement variables, this study employs Ridge regularized regression. As YouTube considers a broader, potentially monetized global rollout, this research provides early empirical evidence on whether Hype achieves its intended goal of supporting small creators. The findings aim to both inform the decision by creators to actively adopt the feature and highlight the efficacy of YouTube's design philosophy by assessing whether it meaningfully contributes to channel growth.

Faculty/Staff Sponsor
Byeong-Hak Choe
Faculty/Staff Sponsor Department/Office
Business
Special Topics
Edgar Fellows

298 • AI in Tax Accounting

Edward Wolcott
Abstract
Artificial intelligence has already started to reshape the accounting field, tax accounting specifically being one of the areas seeing a large shift. This study looks at how AI is being used in tax practice now, how adoption/use is developing, and how these changes are influencing everyday responsibilities and skills tax accountants need and use. Drawing on insights from academic and industry sources, along with six interviews with tax accountants from different firm sizes and experience levels, the study highlights seven main themes: AI as a tool for efficiency, concerns about accuracy and verification, an increasing focus on review and advisory work, the disruption of traditional entry-level tasks, differences in adoption across firms, the continued need for human judgment, and the expanding skill set expected of future accountants. Overall, the findings support the idea that AI is hastening the profession's shift from routine compliance and data manipulation work toward higher-value advisory roles, while also raising challenges around training, governance, and early-career development. This research focuses on tax-specific evidence from a literature base that has mostly focused on auditing or general accounting. This study offers practical takeaways for firms, educators, and students preparing for an AI-driven future.

Faculty/Staff Sponsor

Elizabeth Felski
Faculty/Staff Sponsor Department/Office
Business
Special Topics
Edgar Fellows

1F (BAILEY 201): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 201
Session Chair
Jim Allen, Psychology and Neuroscience
Track
Interdisciplinary and Other Categories: Edgar Fellows

224 • Placebo Effect in Healthcare

Sarah Elmassari
Abstract
The placebo effect has long been acknowledged as an important part of medicine and healthcare yet it hasn't been meaningfully used in mainstream medical practice. The placebo effect refers to a measurable positive change to a person's symptoms that occurs when a person takes a sugar pill or receives a sham medical treatment because they believe that the medical intervention is working. This phenomenon is important as it implies that it's not only the medical treatment that matters but also whether or not the patient believes the treatment will work, which suggests that doctor-patient interactions are far more important for patient health outcomes than was previously believed. With this in mind, efficiency should perhaps not be the main priority in healthcare. Rather physicians should focus on building supportive, trusting, and positive relationships with their patients and ethically apply the placebo effect to help patients achieve better health outcomes. In this presentation we analyze three studies that illustrate how the placebo effect can affect patient outcomes and how this phenomenon has the potential to change our healthcare system for the better.
Faculty/Staff Sponsor
Vincent Markowski
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience
Special Topics
Edgar Fellows

121 • Cross-Cultural Comparison of Women in Different Economies

Sophie Fulton
Abstract
Women's roles in the economy are shaped by a mix of cultural expectations, personal choices, and policy decisions. This project provides a cross-cultural examination of women's roles in the economies of the United States, Japan, Sweden, and Spain, focusing on how factors such as marriage, fertility, labor markets, wage gaps, and recent policy actions in each country interact together to influence women's participation in the workforce. It highlights the economic opportunities and barriers women face, showing how social expectations and economic structures combine to shape gender equality and women's place in different economies around the world. By comparing these countries, the study offers insights into what supports or limits women's economic participation globally.
Faculty/Staff Sponsor
Pallavi Panda
Faculty/Staff Sponsor Department/Office
Business
Special Topics

Edgar Fellows

335 • Motivation and Maladaptive Perfectionism in College Athletes

Riley Griffin

Abstract

This study examines the relationship between motivation, emotional processes, and maladaptive perfectionistic concerns among Division III college athletes. Previous research suggests that intrinsic and extrinsic motivation differentially predict maladaptive perfectionistic tendencies, which can negatively impact both performance and emotional well-being. However, the psychological processes underlying this relationship remain unclear. With this study, I explore whether emotional awareness and emotional suppression mediate the relationship between motivation and maladaptive perfectionism. Division III college athletes at SUNY Geneseo completed survey measures assessing their motivation, emotional processes, and perfectionistic concerns. I hypothesized that intrinsic motivation would be associated with greater emotional awareness and lower emotional suppression, while extrinsic motivation would be associated with lower emotional awareness and greater emotional suppression. These emotional processes may help explain the development of maladaptive perfectionism in athletes. This research aims to provide a deeper understanding of the emotional mechanisms that contribute to perfectionism in collegiate athletics.

Faculty/Staff Sponsor

Jim Allen

Faculty/Staff Sponsor Department/Office

Psychology and Neuroscience

Special Topics

Edgar Fellows

100 • The New Face of Education

Madeline Weld

Abstract

My project explores how technology is impacting education. I examine how digital devices change the way students learn and educators teach. Technology has become a central part of most classrooms, with almost all students utilizing technology for educational purposes on a daily basis. I look at both the positive and negative aspects associated with this. My focus is on how technology enhances education and creates more opportunities for students, but I also evaluate how technology hinders education and diminishes student learning. I have found that proper training and implementation can allow technology to be an asset to learning and improve outcomes. However, it is not always used intentionally or implemented with enough consideration which can result in adverse outcomes. I discuss how I have found the best way to implement technology into the classroom so it helps to produce the most effective outcomes for students.

Faculty/Staff Sponsor

Yuichi Tamura

Faculty/Staff Sponsor Department/Office

Sociology

Special Topics

Edgar Fellows

1G (BAILEY 202): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 202

Session Chair

Scott Giorgis, Geological, Environmental, and Planetary Sciences

Track

Interdisciplinary and Other Categories: Edgar Fellows

376 • Historical Self-Determination: Agency through Fiction

Nina Avallone-Serra

Abstract

According to one professor, fiction, as a genre which demands the reader's participation, analysis, and understanding, "emerges as a more appropriate vehicle for history than does 'history' itself." Decolonial readings of Half of a Yellow Sun by Chimamanda Ngozi Adichie, The Farming of Bones by Edwidge Danticat, and Moi, Tituba sorcière... by Maryse Condé reveal not only fiction's value as a vessel for historical narrative, but as a means of strengthening the historical agency of Africa and the Caribbean. In developing more richly the emotional lives of the characters, the intimacy of their relationships, the structure of family and community, readers are forced to interpret the unfolding of history---political unrest, enslavement, starvation, genocide---through a relational lens. These novels create a more intimate doorway into history through appeal to the human sensibility of assessing change or tumult by way of our relationships; the enormity of upheaval begins to touch us truly when our relationships are under strain and we find that the people closest to us are changed. By tracking the impacts of history on individuals, intimate partnerships, family dynamics, and community structures, the reader assumes the history as it is told. This facilitates not only the acceptance of history as a necessarily personal experience, but the recognition and illumination of the humanity of subjects of history.

Faculty/Staff Sponsor

Maria Lima

Faculty/Staff Sponsor Department/Office

English and Creative Writing

Special Topics

Edgar Fellows

317 • Green Gentrification of Planned Capital Cities in Less Developed Countries

Ella Hinckley

Abstract

Green gentrification, or the economic and social displacement of marginalized groups by new or improved green infrastructure (ex. green spaces), is a rising concern worldwide, including in less developed countries (LDCs). The phenomenon commonly results from urban greening and other efforts to integrate vegetation and open spaces into city environments. It also influences the spatial distribution of green infrastructure in cities and what residents have access to it. While increasingly studied in more developed countries, there is a lack of theoretical and empirical research on the subject in LDCs. To better understand how green gentrification affects spatial justice, my research is a comparative analysis of three planned capital cities in LDCs: Brasília, Brazil; Abuja, Nigeria; and Nusantara, Indonesia. Each case study is analyzed via a green gentrification framework. Said framework questions what beliefs inform urban greening and planning (conceptual foundations), how these beliefs manifest as exclusionary decision-making (design and implementation), and what physical or psychological displacement ensues (socio-spatial change). The case studies are then analyzed to determine key takeaways and to provide policy recommendations for future planned capital cities. This comparative analysis demonstrates practical applications of the conceptual framework. It also reinforces the importance of studying such phenomena in under-researched contexts.

Faculty/Staff Sponsor

Jennifer Rogalsky

Faculty/Staff Sponsor Department/Office

Geography and Sustainability Studies

Special Topics

Edgar Fellows

296 • Cultural Exchange and Historical Reflections Through Anime: Western Viewers, Japanese Artists, and Samurai Tales

Ryan Eck

Abstract

In recent years, Japanese animation (anime) has enjoyed global popularity. While the most popular anime have a certain "cultural neutrality" with globally-relatable themes and settings, other series reflect a more distinctively Japanese identity. This project assesses anime set during Japan's revolutionary period in the 1860s—known as Bakumatsu—in which the country endured exploitation and threats from Western powers. Samurai warriors were split between the old shogunate government and the new Imperial Court, leading to a civil war. The Bakumatsu Era was the last of the traditional, feudal Japan before the country industrialized, abolished the samurai class, and became an empire. Captivated by this turning point in their nation's history, many contemporary Japanese artists have created stories set during this time period, especially about samurai. This project will focus on three anime with Bakumatsu settings: *Ao no Miburo*, Kijin Gentoushou, and *Gintama*. Along with how Japanese artists interpret their own history, I assess how Western viewers react to these stories of foreign sociopolitics. I make a case for how Western viewers generally prefer more "culturally neutral" anime compared to historical dramas with distinctively Japanese settings. I compare how three Bakumatsu anime reflect upon Japanese history and culture, and to what extent Western audiences have dismissed these series as "too foreign." I will also analyze anime as a representation of Japanese culture to Western viewers, determining what Western viewers prefer most from anime compared to how diverse anime actually is as a medium.

Faculty/Staff Sponsor

Ken Cooper

Faculty/Staff Sponsor Department/Office

English and Creative Writing

Special Topics

Edgar Fellows

321 • How Slang Shapes our Perception of the World

Caelum Edris

Abstract

Throughout the history of humankind, language has been a key factor in all societies to both communicate and record knowledge. Since language is our gateway into understanding the world around us, it is no surprise that it greatly affects how we perceive the world, including slang and other new concepts or words created with time. Humans have studied this curious phenomenon for a hundred odd years, concluding that even perception of color and space can vary by language. Outside of English, grammatical gender heavily influences one's perception of objects or ideas, determining if the user applies feminine or masculine traits to something. Additionally, psychology plays a strong hand in this occurrence as attachments of words to the negative or positive affect how individuals both use and receive them. Slang itself features a great variety of these connotations and was found to be most similar to how grammatical gender shapes perception. Slang was found to affect one's positive or negative perception of a situation or other thing it was applied to, akin to the manner grammatical gender affects the user. With this information, ten contemporary slang examples were analyzed and found to fit into one of three categories: positive, negative, and neutral.

Faculty/Staff Sponsor

Jennifer Guzmán

Faculty/Staff Sponsor Department/Office

Sociology

Special Topics

Edgar Fellows

1H (BAILEY 203): ESPACIOS LINGÜÍSTICOS Y LITERARIOS EN LA HISPANOFONÍA

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 203

Session Chair

Connor Coventry

Track

Arts and Humanities Categories: Global Languages

149 • The Call of the Canaries: Analyzing the History and Revitalization of el Silbo Gomero

William Carmen

Abstract

El silbo gomero is a whistled register of Castilian Spanish that can be heard on the island of La Gomera that utilizes different whistled pitches to replicate vowels and consonants. It is thought that el silbo gomero was adapted from a whistled register used by the Guanches, who are speculated to have been of Berber origin and lived on the island until its Spanish conquest in the 1400s (Rodríguez-Varela, Ricardo, et al., 2018). After the 15th century Spanish colonization of the island, the whistled register was adapted to mimic the sounds of Castilian Spanish. El silbo gomero was utilized less through the 20th century due to the use of telephones and the development of road systems, but in 1999, efforts to preserve the language succeeded in mandating education of the language in schools. In 2009, el silbo gomero was added to the UNESCO Representative List of the Intangible Cultural Heritage of Humanity. Through a Language Planning and Policy (LPP) lens, I will examine the agency of public institutions in the revitalization of el silbo gomero today. First, I will elaborate on the origin and traditions of the language, including its indigenous roots. Second, I will document how top-down language policies enabled el silbo gomero to develop its status and corpus from almost extinction to being taught in schools today. Questions about challenges and opportunities to its maintenance will also be addressed.

Faculty/Staff Sponsor

Susana Castillo-Rodríguez

Faculty/Staff Sponsor Department/Office

Global Languages and Cultures

This presentation will also be presented at:

Northeast Modern Language Association, Kentucky Foreign Language Conference

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

136 • La geografía de un desvelo

Connor DiMartino, Ayden Link, William Carmen, Megan Pecenco

Abstract

“La geografía de un desvelo” (The Geography of a Sleepless Night) is an audiovisual exploration of the emotional landscape shaped by my time studying in Córdoba, Argentina. Through a combination of original Spanish poetry and video montage, this short film deeply interrogates the process of "pertaining" to a foreign space and the inevitable detachment from the normalcy established within that space. Writing in Spanish was key in allowing me to capture the novelty of this complete sensory experience, incorporating the major linguistic connection to this work as a creative endeavor. The poem’s reflective narrative balances between lived events and hypothetical lessons, specifically addressing the lurking fear of permanent loss as one transitions between life phases. By arranging the poetic imagery with complementing visuals of Córdoba, the short video invites audiences, regardless of Spanish fluency, to experience first-hand the tension between the temporary nature of perfection and the permanence of memory.

Faculty/Staff Sponsors

Susana Castillo-Rodríguez, Lori Bernard

Faculty/Staff Sponsor Department/Office

Global Languages and Cultures

This presentation will also be presented at:

SURC SUNY Upstate

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), None

61 • Memoria, nostalgia y democracia a mano: Poetry and the Spanish Transition

Ayden Link

Abstract

Between 1969 and 1982, Spanish literature, especially poetry, became a crucial space to confront collective memory during the transition from franquismo to democracy. The paper explores poetry as a form political resistance, identity reclamation, and a collective reflection on a traumatic unspoken past in three peripheral regions: Galicia, Andalusia and the Canary Islands. In Galicia Xosé Luís Méndez Ferrín employed the Galician language as a means of cultural and political awakening. His poem 'Isla' represents a nation stuck between fear and the desire of liberty, evoking the rebirth of the Galician identity after years of repression. In Andalusia, Rafael Alberti, member of the Generation of '27, conveys the pain and nostalgia of exile in his poem 'Lo que dejé por ti'. Through the creation of sensorial images and references to Andalusian landscapes, Alberti unites personal loss with the collective suffering of those in exile. In the Canary Islands, Pilar Lorjendio discreetly expresses her ideological differences against franquismo. Her poem 'IV' critiques political and moral control, reflecting the alienation of a society molded by authoritarianism. Although varied in style and context, these authors share a common goal: how to resist, recover, and remember what happened during the dictatorship. Their works reveal that democratic transition was not just a political process, but also a cultural fight against forgetting. Poetry became a space of active memory, where regional and national identities are rewritten from emotion.

Faculty/Staff Sponsors

Lori Bernard, Susana Castillo-Rodríguez

Faculty/Staff Sponsor Department/Office

Global Languages and Cultures

This presentation will also be presented at:

Northeast Modern Language Association

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

30 • Influencia regional en el español reflejada en los medios modernos

Megan Pecenco

Abstract

This project aims to study the diverse Spanish dialects in Spain through a comparative analysis of five varieties: Andalusian Spanish, Canarian Spanish, standard Castilian, Galician-influenced Castilian, and Catalan-influenced Castilian. The objective of the study is to demonstrate how historical, cultural, and sociolinguistic factors have shaped these varieties and how their differences appear both in terms of their use in daily communication and media from the regions. The first phase of the study will include an analysis that presents the historical and sociolinguistic background that explains the evolution of each dialect, including language contact, migration, bilingualism, and regional identity. This section will lay the foundation for a better understanding of the historical and cultural background that has shaped the development of the dialects. The second phase of the study examines authentic examples of these dialects as they appear in media such as television, podcasts, and social media. Using this media-based evidence, the project highlights the continued spirit of regional varieties and illustrates the linguistic richness that characterizes Spain today.

Faculty/Staff Sponsor

Lori Bernard

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Global Languages and Cultures

1I (BAILEY 204): BETTER TOGETHER: GENESEO'S PEER SUPPORT PROGRAMS

Wednesday, 22 April, 2026, 8:45-10:00 am, Bailey 204

Session Chair

Claire Jackson, English and Creative Writing

Track

Interdisciplinary and Other Categories: Other

377 • Enhancing the First-Year Experience: Best Practices for Student Success

Lily Finnegan

Abstract

The first year of college is a period of extensive academic, social, and emotional adjustment, shaping the trajectory of students' undergraduate experience. Research emphasizes the importance of academic and social integration during this critical phase for student retention and success (Tinto, 2012). First-year seminar (FYS) courses are a widely implemented high-impact practice aimed at facilitating the transition to higher education (Skipper, 2017). Numerous studies have demonstrated the positive impact of FYS participation on student persistence, retention, and academic achievement (Harrington, 2025). Research further reveals the effectiveness of peer mentoring programs in fostering belonging and academic success among mentees, while simultaneously empowering student mentors (Krisi & Nagar, 2021). The present research seeks to identify best practices for first-year student support via a comprehensive literature review. Focus group interviews were also conducted to gather feedback from students enrolled in differing first-year cohort models on our campus. Findings serve to inform the continued development of first-year programming, supporting the academic and social success of incoming students.

Faculty/Staff Sponsor

Claire Gravelin

Faculty/Staff Sponsor Department/Office

Psychology and Neuroscience

Special Topics

Edgar Fellows

Funding Sources

Teaching and Learning Center (TLC) Innovation Grant

34 • An Analysis and Classification of Writing Confidence: A Writing Center Study

Samantha Lopez

Abstract

Writing confidence has been a topic of scholarly discussion for a while, but I believe its connection to the Writing Center (WC) is still largely underresearched. Increased levels of writing confidence not only allow students to see themselves as capable of academic success but also as worthy of academic support, in this case, a WC session. Our job as writing consultants and tutors is to curb this problem before it further affects academics and careers. There is a cyclical relationship between writing confidence and the WC that should interest students and writing consultants alike. As a part of a semester-long research project for Dr. Jackson's WRTG 406, I investigated the classification of student writerly confidence on our campus. More specifically, I wanted to determine how consultants at the WC can assist in increasing students' confidence in their writing skills. I distributed a ten-question IRB-approved survey to all students who've previously attended Geneseo's WC, and found that attending the Center significantly improved confidence and yielded high levels of skill transfer. Short-answer responses were analyzed for the four pillars of Empathy-Based Tutoring: Listening, Advising, Translating, and Motivating, to give us an idea of our Center's strengths and weaknesses. Overall, results show that we're providing a good service on campus and helping to shape more confident and capable writers.

Faculty/Staff Sponsor

Claire Jackson

Faculty/Staff Sponsor Department/Office

English and Creative Writing

361 • First Generation Student Experiences with the Writing Center at SUNY Geneseo

Amanda Lozy-Lester, Samantha Lopez

Abstract
Initial data from a survey of SUNY Geneseo students (except those who entered with transfer credit exempting them from WRTG 105) revealed that first generation students may experience sessions in the Writing Center more negatively than their peers. That preliminary data raised questions regarding what might contribute to disparate results, and how that difference might be narrowed, particularly at an institution which purports to have an undergraduate student population of 24 percent first-generation students, 30 percent for first-time students in fall of 2025 (SUNY Geneseo, 2025). This research investigated the extent to which those differences exist at this institution, what specific form they take, and the perceptions of the students in question regarding their sessions in order to get a better sense of the situation and its potential causes. A mixed-methods study was conducted, using survey information in conjunction with a case study of one specific first generation student. The survey population consisted of 627 unique students who have visited the Writing Center in the last four years (2021-2025) who still attend SUNY Geneseo; the survey received 59 unique responses, twelve of which were from self-identified first generation college students. Findings indicate that there is no significant difference between the experience of first generation and non-first generation students at SUNY Geneseo's Writing Center, but that there are some areas where we could improve, notably in the student perception of the Writing Center and its presence in casual conversation.

Faculty/Staff Sponsor
Claire Jackson
Faculty/Staff Sponsor Department/Office
English and Creative Writing

229 • The Biology Mentoring (Biome) Program: A Student-Led Peer Mentoring Program that Benefits All Participants

Abby Funk, Sofia Miner

Abstract
Peer mentoring programs worldwide promote student adjustment, academic success, and a sense of belonging, particularly for first-year and transfer students. The SUNY Geneseo Biology Mentoring Program - the Biome Program - was developed to support incoming biology majors in their transition to college by fostering supportive peer relationships and community, while connecting them with academic resources. As more institutions adopt similar programs, the Biome Program highlights how small group peer mentorship can positively impact both mentees and mentors. The Biome Program provides mentees with opportunities to form relationships with experienced Geneseo students who offer advice, course recommendations, and academic support, while also encouraging connections among co-mentees. Biome participation has been associated with improved preparedness and engagement for mentees, as well as increased confidence, stronger communication skills, and professional development for mentors. In Fall 2025, a cohort mentoring model was added, which aims to connect students within the major, further strengthening peer networks and collaboration. This cohort model was found to be successful and will return this upcoming fall. In addition to informing the Geneseo community about the structure, benefits, and impact of the Biome Program, our presentation will describe strategies to improve mentee engagement and participation. Feedback on the program from participants are gathered via anonymous, online surveys and interviews. Improvements from these evaluations are implemented immediately and guide long-term program development. This work supports the expansion of peer mentoring initiatives across departments at Geneseo and contributes to broader understanding of how mentoring programs can enhance student success in higher education.

Faculty/Staff Sponsor
Suann Yang
Faculty/Staff Sponsor Department/Office
Biology
Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Other Source of Support, SUNY Geneseo Biology Department

1J (MILNE 301): HISTORY 267

Wednesday, 22 April, 2026, 8:45-10:00 am, Milne 301

Session Chair

Catherine Adams, History

Track

Arts and Humanities Categories: History

126 • Echoes of Injustice: The Anti-Lynching Movement and Its Contemporary Context

Grace Clement, Danielle Soule, Natalia Carlson

Abstract

In light of today's increasingly hostile political climate surrounding immigration enforcement and allegations of racial profiling by ICE, our group has chosen to focus on the Anti-Lynching movement for our Social Movements on Social Media campaign in Women in U.S. History. Specifically, we focus on the period following 1955 after the kidnapping, brutalization and murder of Emmett Till. We selected this movement for three distinct reasons. First, it is a movement that is often overshadowed in American history, and we believe it is important to shed light on its significance and explore why it has been historically overlooked. Second, we aim to demonstrate how this movement continues to have modern implications, particularly when understanding *direct* consequences of racial stereotyping. Lastly, this movement is an important example in the U.S. Women's movements that highlight the intersection of gender and race, which demonstrates how these issues have collided and intertwined throughout history. We will present our preliminary research, potential questions that have emerged from that research and the social media aspects of our campaign.

Faculty/Staff Sponsor

Catherine Adams

Faculty/Staff Sponsor Department/Office

History

125 • Southern Churchwomen for Change in Civil Rights

Julia Meyer, Bobbi Griffith, Avery Wolfe, Emelynne Cressy

Abstract

We will be presenting on how white southern church women used their race, gender, and faith for civil rights movement.

Faculty/Staff Sponsor

Catherine Adams

Faculty/Staff Sponsor Department/Office

History

120 • Violence Against Women Throughout History

Rebecca Sander, Tatyana Kotaska, Stella Jaycox

Abstract

This project explores the history and ongoing impact of violence against women, focusing on the Violence Against Women Act (VAWA) as a major turning point in U.S. legal and social history. Authored by Rebecca Sander, Tatyana Kotaska, and Stella Jaycox, the presentation examines how gender-based violence was historically dismissed as a private issue before gaining recognition as a civil rights concern in the late twentieth century. Using historical research, the project highlights key developments such as the criminalization of marital rape and the rise of grassroots activism in the 1970s and 1980s. It also considers how VAWA expanded legal protections and resources, particularly for marginalized

groups, including immigrant and Indigenous women. The project connects this history to contemporary movements like Missing and Murdered Indigenous Women and Girls (MMIWG) and #MeToo, showing how activism has shifted toward digital platforms and broader public engagement. By combining historical analysis with a modern social media awareness campaign, this project demonstrates the continued relevance of VAWA and emphasizes the importance of education, advocacy, and speaking out against gender-based violence today

Faculty/Staff Sponsor

Catherine Adams

Faculty/Staff Sponsor Department/Office

History

1K (MILNE 302): POLITICAL SCIENCE & INTERNATIONAL RELATIONS HONORS CAPSTONES

Wednesday, 22 April, 2026, 8:45-10:00 am, Milne 302

Session Chairs

Hanna Brant and Anand Rao, Political Science and International Relations

Track

Social Science Categories: Political Science

44 • United States v Skrimetti

Sydney Hollister

Abstract

Between 2020 and 2025, a staggering number of gender-affirming care bans and anti-transgender legislation was introduced and enacted in state legislatures. In 2023, a case challenging a Tenneesee law banning gender-affirming care for minors was petitioned to the Supreme Court of the United States. In June 2025, the court ruled in United States v Skrmetti, that Tennessee's ban did not violate the Equal Protection Act, nor call for heightened scrutiny. The majority opinion of the Court ruled that the plaintiffs did not experience sex discrimination from the ban. Today, 26 states have constitutional bans on gender-affirming care for minors, including hormone therapy and surgeries. This project analyzes the ruling in Skrmetti, unpacking the precedents, clauses, and scrutiny that led to the decision. In doing so, I provide criticisms of the ruling, demonstrating why it is incorrect in its assessments of the Tennessee law, and why in making an effort to protect youth, the Court harmed them.

Faculty/Staff Sponsor

Hanna Brant

Faculty/Staff Sponsor Department/Office

Political Science and International Relations

167 • The Behavior of Third Parties in Parliamentary Democracies: The Case of Britain's Liberal Democrats

Ethan Moyer

Abstract

The role of a third party in a two-party dominant parliamentary system is a thankless one; to parties such as Britain's Liberal Democrats the chance of participating in, much less leading a government ministry, remains continually out of reach. This paper analyzes the behavior of third parties in a two-party dominant parliamentary system through the history of Britain's Liberal Democrats at multiple key junctures in the party's history, as well through a comparison between the Liberal Democrats' political fortunes and the fate of an ideologically similar party, the defunct Australian Democrats. This paper concludes that the tendency of third parties to act as a satellite or *de facto* extension of a major party leads only to their farther political marginalization, while a policy of differentiating themselves from the two major parties allows third parties to acquire further political relevancy. As well, this paper has determined that third parties

will actively seek to position themselves at stations upon the political spectrum not receiving significant representation from the two major parties, even if their new posture differs from their previous ideological positioning.

Faculty/Staff Sponsor

Anand Rao

Faculty/Staff Sponsor Department/Office

Political Science and International Relations

396 • Judicial Checks on Presidential Administration: The Case of the IMLS

Ryan Seubert

Abstract

The Trump Administration passed Executive Order 14238 on March 14th, 2025. The order sought to continue the reduction of Federal bureaucratic agencies deemed unnecessary by the President. Included in these agencies was the Institute of Museum and Library Services (IMLS). The initiative faced significant backlash, with 21 states suing the Presidential administration. This paper outlines the judiciary checks on the executive order through a case study of the response to President Trump's defunding of the IMLS. Exploring the case through a qualitative analysis of the *Rhode Island vs Trump* case, and statements from the 21 states serving as plaintiffs. As of November 21st, 2025, the U.S. District Court for the District of Rhode Island ruled on a permanent injunction on the executive order. This allowed for the reinstating of previously terminated federal funding. The case illustrates the federal enforcement of established checks and balances of powers to prevent presidential overreach.

Faculty/Staff Sponsor

Anand Rao

Faculty/Staff Sponsor Department/Office

Political Science and International Relations

This presentation will also be presented at:

Western New York Undergraduate Political Science Conference

403 • Expressing Political Views in the Minority

Reese Dammers

Abstract

This project aims to analyze the relationship between political knowledge, partisanship and willingness to speak in classroom and social environments about politics. The charge is made by some that college environments are hostile to conservative viewpoints. As conservatives may be the minority on most college campuses, that may make them reluctant to express their political views. The potential for self-silencing to occur under these circumstances is detrimental to the quality of discussions held in classroom environments, the learning of individual students who do not participate in discussions and in the overall perception of what beliefs are safe to express. This last factor can lead to what is known as "the Spiral of Silence", where some beliefs become continually less represented in the public consciousness as more individuals with these beliefs self-silence due to the belief that they are greatly outnumbered and/or may face social persecution for disagreeing with the majority. This leads to the question of whether students self-silence on grounds of partisanship or simply due to lack of knowledge. To test this hypothesis and whether the Geneseo campus is at danger of suffering from the "Spiral of Silence" I intend to employ a non-experimental research design (a survey). For the survey completed by Geneseo students, I would test whether conservative students report self-silencing after controlling for relevant demographic and attitudinal characteristics. Using this survey, it will show the degree to which students self-silence and whether this is correlated more strongly with their partisanship or with their political knowledge.

Faculty/Staff Sponsor

Jeffery Koch

Faculty/Staff Sponsor Department/Office

Political Science and International Relations

Special Topics

Edgar Fellows

Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

1L (WELLES 128): RELIGIOUS EXPERIENCES

Wednesday, 22 April, 2026, 8:45-10:00 am, Welles 128
Session Chair
Steve Derne, Sociology
Track
Social Science Categories: Sociology

32 • Interspecies Connections with Dogs and Dolphins

Morgan Lydon
Abstract
Through exploring interspecies connection with dolphins, authors, Arnaud Halloy and Veronique Servais, found that participants experienced things such as joy, instant communication and transformation during dolphin interspecies connection. However, the study neglects to discuss interspecies connection between dogs and humans. This leads to the question of how humans experience an interspecies connection with dogs. Through documentary analysis I looked at individuals' experiences connecting with dogs. I read several blogs where humans recounted experiencing strong connections with dogs. These documents lead to the finding that interspecies connection with dogs invokes powerful emotions and experiences. Many reported feeling joy, love, pride, and change in self following from their interactions with dogs.
Faculty/Staff Sponsor
Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

68 • Pain, Connection, and Transcendence in the Act of Reading Poetry: Ancient Rasa Theory in Contemporary Times

Griffin Lyons
Abstract
In *Tastes of the Divine: Hindu and Christian Theologies of Emotion*, Voss Roberts discusses the connection between aesthetic and religious experiences and explores the history of rasa theory in ancient India. She explains that people experience rasa when they read poetry because every human has experienced every possible emotion in a past life. However, she only draws from ancient Indian texts and interpretations of rasa, so the article does not include an empirical study of the experience of rasa while reading poetry. Therefore, I conducted an empirical research study in order to examine my emotional response to poetry and explore whether or not it resulted in an experience of rasa. I found that, while I did not transcend pain, I did experience elements of rasa while reading poetry because I felt intensely connected to the world and transcended boundaries of time and space. Thus, rasa theory and experiences may provide individuals with a way to experience their intense emotions in a safe way that is separate from their current reality of time and space.
Faculty/Staff Sponsor
Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

79 • Sacred Encounters: The Relationship Between Religion and Mystical Experiences

Stephanie Bandhoo

Abstract
Greeley's research on mystical experiences reveals that some aspects of religion, such as prayer, attending church services, and listening to sermons, have been triggers to mystical experiences. This study explores the relationship between religion and mystical experiences by using documentary analysis of online accounts where individuals have experienced mystical encounters when they are involved in religious behavior. These posts were analyzed to determine whether individuals referenced their religion in context to their experience. The findings show a positive relationship between religion and mystical experiences, as many of these individuals connected their experience to prior religious beliefs or increased interest in religion afterwards. The online accounts have described their experiences as strengthening, transforming, and helping them understand God and spirituality. The research suggests that religion does have a positive relationship with how individuals process and interpret to these mystical experiences

Faculty/Staff Sponsor
Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

73 • The Managing of Negative Emotions: Do Suppressing those Thoughts Bring Spiritual Costs?

Anna Tompkins

Abstract
Erin Johnston explains the ways in which an individual can engage in either spiritual or religious practices to cultivate positive emotions and alleviate negative emotions. Those changing dispositions are referred to as 'emotion management' or 'detachment'. However, the article neglects to consider the spiritual costs of suppressing the emotions that may naturally occur within oneself. This study looked at blogs of people in spiritual practice of emotional control and change in order to gain enlightenment, specifically those managing their emotions by allowing negative feelings within their body and mind. Documentary analysis helped this study find that the negative feelings we experience support healthy growth and connection, just as enlightenment provides.

Faculty/Staff Sponsor
Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

1M (MILNE 319): GREAT CANADIAN NOVELS

Wednesday, 22 April, 2026, 8:45-10:00 am, Milne 319
Session Chair
Gwenyth Harrington
Track
Arts and Humanities Categories: English

221 • *What We All Long For:* Exploring Identity Through Diversity

Corina Dunn

Abstract
This essay explores the characters in Dione Brand's *What We All Long For* through their identity development, shaped by past experiences, racial identity, family history, and personal desires. Focusing on the lives of Tuyen, Oku, Jackie, and Carla in the culturally diverse city of Toronto, it is evident that identity is a complex, fluid, and ever-changing concept. Each character experiences pressure from their parents or the society around them, shaping their worldview and

personal outlook. Some of these characters are directly affected by pressure, while others are affected by their past trauma and neglect, demonstrating that identity isn't formed uniformly, but uniquely for each individual. Not only does this essay examine how these characters' identities are shaped, but also how they respond differently to similar pressures as a result of their experiences. For example, Tuyen expresses her identity and emotions through art, while Oku is under constant pressure from his parents, being stuck between his desires and their expectations. Jackie responds similarly to Oku, but is conflicted by the social standards of being a black woman, something she works to resist. On the other hand, Carla is emotionally distant due to the trauma she experienced as a child. By comparing these characters' responses to pressure, it becomes clear that identity cannot be understood from a single viewpoint, but must be viewed as a combination of many influences. Ultimately, this essay emphasizes the importance of creating a Canadian national identity where diverse identities can coexist.

Faculty/Staff Sponsor
Graham Drake
Faculty/Staff Sponsor Department/Office
English and Creative Writing

5 • The Use of Imagery to Develop Important Themes in Barometer Rising

Violet Rand
Abstract
Barometer Rising (1941) by Hugh MacLennan is a novel set during the 1917 Halifax Explosion, representing Canada's profound shift from her former colonial identity to her consciousness as an independent nation. MacLennan's influential novel historicizes the Halifax explosion, seeks to define a unique Canadian identity, and promotes Canadian nationalism. All of this is accomplished through MacLennan's masterful manipulation of imagery to develop three themes: that war has both profound and more subtle impacts on the lives of individuals, that Canada has a unique national identity, and that a new order has replaced the old values of colonialism in Canada. This essay identifies and analyzes the key images that uncover and amplify the major themes and meanings of the text. Throughout the novel, imagery from the natural world and the Canadian landscape serve to develop characterization and raise awareness of Canada's potential for national sovereignty. At crucial points in the narrative, the transformation of Neil Macrae from a solitary outcast to a hero connected to his Canadian community is subtly conveyed through imagery that deepens the reader's awareness of a Canadian consciousness and identity. Overall, the essay explores the entire range of imagery, symbolic and allegorical, that has made Barometer Rising an influential and inspiring text for all Canadians.

Faculty/Staff Sponsor
Graham Drake
Faculty/Staff Sponsor Department/Office
English and Creative Writing

1N (WELLES 115): RETHINKING NATIONALISM: AFRICA AND THE UNITED STATES

Wednesday, 22 April, 2026, 8:45-10:00 am, Welles 115
Session Chair
Kathleen Mapes, History
Track
Arts and Humanities Categories: History

264 • Revisiting 'American Exceptionalism': From Origins to the Classroom

Lily Herman
Abstract
The concept of American exceptionalism shows up in many different ways in American life, from politics to popular culture and in the way history is taught in classrooms. While people encounter this idea in many ways, this paper

focuses on how exceptionalism is reinforced through education. It explores how American exceptionalism developed into a form of national rhetoric through reinterpretations of key historical texts that have been reshaped to fit the narrative of exceptionalism. Through John Winthrop's "City upon a Hill," J. Hector St. John de Crèvecoeur's *Letters from an American Farmer*, and Frederick Jackson Turner's Frontier Thesis, this paper first traces how exceptionalism shifted from a religious idea to a social one and eventually into a way of explaining American historical development.
It then looks at how these ideas continue to shape everyday understandings of the United States through three case studies: the teaching of Manifest Destiny and the Cold War, and the celebration of the Fourth of July. Ultimately, this paper argues that American exceptionalism is not just one thing but a tool of rhetoric that changes depending on historical context. While exceptionalism can't be fully removed from education, this paper argues it should be taught as a lens for students to critically examine how it has evolved and shaped the United States' national and global identity.

Faculty/Staff Sponsor
Kathleen Mapes
Faculty/Staff Sponsor Department/Office
History

286 • Remembering All: How Jewish Children Offer Unique Perspectives on the Holocaust though Diaries and Memoirs

Alexander Arabatzis, Lily Herman, Ian Kepple

Abstract
This paper focuses on the unique perspectives offered by Jewish children during the Holocaust through a comparative analysis of their diaries and memoirs. It's divided into 7 parts including; Introduction, Challenges and Ethics of Research, Secondary Sources, Diaries, Memoirs, Conclusion, and Bibliography. Research findings indicate that diaries written in the lived moment offer visceral, raw accounts focused on the breakdown of family structures, the loss of childhood innocence, and fear as the motivation for survival. In contrast, memoirs written years later provide reflective narratives that emphasize the strength of family bonds and hope as the motivation for survival. This study concludes that integrating both diaries and memoirs is essential to preserving the agency of those who perished and those who survived, ensuring their collective memory is not forgotten.

Faculty/Staff Sponsor
Jovana Babović
Faculty/Staff Sponsor Department/Office
History
This presentation will also be presented at:
Western/Central New York Phi Alpha Theta Regional Conference

258 • The Relationship Between Nationalism and Identity: An Analysis of Rhodesia

Alexander Arabatzis

Abstract
The former colony and nation-state of Rhodesia faced a plethora of ethical and societal issues during its brief stint of independence. This period during the mid-20th century created for war, a complete overhaul in governmental rule, and an eventual end to the oppression that was faced by the African population. This paper works to prove that nationalism and ethnicity were much more than physical components of life during this time and were greatly affected by these changing societal factors. An analysis of the overall history of the state of Rhodesia in terms of the relationship between nationalistic and ethnic identities stemming from the late 19th century to the late 20th century will be provided through the use of both primary and secondary sources.

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Amanda Lewis-Nang'ea
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History

1P (WELLES 119): GENDER, SEXUALITY, AND WOMEN'S STUDIES RESEARCH - PANEL #1

Wednesday, 22 April, 2026, 8:45-10:00 am, Welles 119

Session Chair

Amanda Roth, Philosophy, Gender, Sexuality, and Women's Studies

Track

Interdisciplinary and Other Categories: Gender, Sexuality, and Women's Studies

322 • The Myth of Neutrality: Developmental Appropriateness and the Hidden Curriculum of Cisnormativity

Ella Franklin

Abstract

Education plays an important role in shaping how students understand not only academic subjects, but also social concepts like gender. School policies and teacher education programs often rely on ideas like "developmental appropriateness" and neutrality to guide what is taught in classrooms, but these ideas are not always as neutral as they appear. In this project, I examine how this language contributes to a hidden curriculum that reinforces cisnormativity and limits what can be taught about gender. I argue that these frameworks shape classroom boundaries in ways that position transgender and nonbinary identities as inappropriate or outside the scope of learning. To explore this, I analyze school policies, state laws, and teacher education materials, including examples like “no promo homo” legislation, to show how exclusion is embedded into institutional language. This project highlights how schools can shift responsibility for inclusion onto transgender and nonbinary students, often requiring them to take on additional emotional labor, and calls attention to the need for more intentional and inclusive approaches to gender in education.

Faculty/Staff Sponsor

Amanda Roth

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Gender, Sexuality, and Women's Studies

177 • LGBTQ+ Representation on College Campuses in America

Carissa Klepadlo

Abstract

In this presentation I will discuss the impact LGBTQ+ spaces have on college students and show why such spaces on different campuses and more affirming environments are vital for achieving equality and diversity in our current anti-lgbtq+ political climate. LGBTQ identifying college students on college campuses across the country have identified a need for such safe spaces for students to engage and work with peers and faculty in a queer setting. These spaces are important for developing peer relationships and help validate and respect identities that students may have in the past hidden. Moreover, it is crucial for students to be able to learn and engage in diverse and inclusive environments. LGBTQ+ oriented safe spaces address all of these concerns and should be supported even in the face of the federal government’s attacks on DEI and lgbtq+ representation and content on college campuses.

Faculty/Staff Sponsor

Amanda Roth

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Gender, Sexuality, and Women's Studies

320 • Trans Incarceration: How to Structure Sorting on the Path to Abolition

Naomi Minniefield

Abstract
The topic of my research is the issue of trans and gender nonconforming individuals' incarceration. Specifically, what is the most just way to sort incarcerated individuals by gender in jails and prisons? In the presentation, I will explore multiple possible answers with the overall goal of trying to minimize harm to the trans community. Prisons are already places of dehumanization and punishment for cisgender people. These characteristics are amplified and directed straight towards trans individuals once incarcerated. They are targets of sex crimes, discrimination, and face a double punishment that cisgender people don't experience. They are punished once by the judicial system, then chronically punished through transphobia for their entire sentence. I will explore two possible options that can work toward a more just situation for trans incarcerated people while on our path to abolition. One will take a queer theorist perspective and aim to deconstruct the gendered binary upheld by prisons, and the criminal or non-criminal binary upheld by society. The second will be exploring the possibility of building new facilities exclusively for trans individuals. Whatever the better approach in the short-term, I advocate the abolition of incarceration and digging into the roots of what could make a criminal, with the ultimate goal of making the idea of criminals and prisons inconceivable.

Faculty/Staff Sponsor
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Gender, Sexuality, and Women's Studies

272 • Constructing Women's Emotions: A Feminist Critique of Therapeutic Discourse and the Rise of Therapy Culture

Olivia Popielarski

Abstract
This project examines how women's emotions are constructed, regulated, and interpreted across feminist discourse and contemporary therapy culture. Rather than treating emotional expression and suppression as neutral or universal, I argue that they are socially produced and shaped by systems of power, including gender, race, and sexuality. Drawing on intersectionality and feminist critiques of medicalization, I focus on a central tension: while feminist scholarship resists the pathologization of women's emotions, therapeutic discourse often validates emotion while simultaneously reinforcing norms of what "healthy" expression should look like. From a feminist perspective, I examine how therapeutic language in media constructs emotional norms and the power structures that enforce them. This approach highlights when and where women are encouraged to express or suppress emotions (e.g., workplaces, relationships, clinical settings) and how these expectations shift across identities. Guided by frameworks such as intersectionality, emotional labor, and critiques of psychological authority, this project identifies the contradictions and gaps between feminist and therapeutic narratives, revealing how emotional "health" is shaped, negotiated, and enforced.

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Gender, Sexuality, and Women's Studies

1Q (WELLES 121): RESEARCH IN BIOLOGY AND CHEMISTRY

Wednesday, 22 April, 2026, 8:45-10:00 am, Welles 121
Session Chair
Josephine Reinhardt, Biology
Track
Science and Mathematics Categories: Biology

271 • Meiotic Drive in *Teleopsis whitei* is Likely Found on Only a Small Section of the X Chromosome

Ariana Cookinham

Abstract

Meiotic drive is a selfish genetic element that causes a gene to be inherited more than the expected 50% of the time. In the stalk-eyed fly, *Teleopsis whitei*, sex ratio (SR) males pass down their X chromosome at least 90% of the time. In a similar species, *Teleopsis dalmanni*, genomic evidence for meiotic drive is confined to the X chromosome. However, in *T. whitei*, prior research suggests that meiotic drive may not be limited to the X chromosome. To find candidate SR genes, the genomes of 10 SR males and 10 ST males were sequenced and mapped to several different reference genomes. The aligned reads were used to genotype each individual for every single nucleotide polymorphism (SNP) in the genome. The SR males were then compared to the ST males to identify SNPs that differ between drive types, which could indicate a gene related to meiotic drive. A complete reference genome does not exist for *T. whitei*, so several iterations of a reference genome utilizing the complete *T. dalmanni* reference in combination with a fragmented *T. whitei* reference have been used. The most recent reference genome was created through long-read sequencing of a single SR male and single ST male, generating a standard and drive reference, resulting in more reads successfully aligning. Analyses using principle component analysis, phylogenetic trees, genome annotations, and differential gene expression have shown that meiotic drive is likely restricted to the X chromosome in *T. whitei*, but that it is not found across the entire chromosome.

Faculty/Staff Sponsor

Josephine Reinhardt

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Biology

311 • Myological Reconstruction of the Forelimb of Yutyrannus huali and Muscular Trends within Tyrannosauroidea

Declan Fahy

Abstract

Paleontology is a field composed largely of comparison and inference. Nowhere is this more evident than in the forelimb reconstruction of *Yutyrannus huali*, a basal tyrannosauroid of Cretaceous China. This reconstruction was developed in order to better conceptualize muscle evolution in the tyrannosaur clade as a whole. The overall structure of the Y. huali forelimb was sketched in a computer software and muscle attachment sites were then added subsequently. Reconstructions of *Guanlong wucaii, Tyrannosaurus rex*, and Tawa hallae, along with osteological correlates, were used as the basis for inferring muscle locations. Clear trends, throughout the clade, in the proportions of the bone and attachment areas were found. The humerus exhibited an overall broadening of the bone and the loss of the pronator teres attachment site. Broadening occurred in the ulna and radius as well as attachments such as abductor radialis and supinator. In the manus, a trend is evident in the almost complete reduction of phalanx III. In all forelimb bones there is a clear change in proportion as well, with the scapula being larger than many of the other bones as one moves to the more derived end of the clade. When comparing forelimb characteristics with that of other theropods in a data matrix, Y. huali was found to be phylogenetically placed near basal tyrannosauroids. Continued reconstructions of species like *Y. huali* could lead to more accurate estimates of morphological trends in the tyrannosaur clade and other neighboring clades as well.

Faculty/Staff Sponsor

Sara Burch

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

Society of Vertebrate Paleontology Annual Conference

279 • Impacts of Meiotic Drive on JASPer Gene Expression During Male Testis Development

Jake Paradisin, Meghan Kuzniar

Abstract

Teleopsis dalmanni, the Malaysian stalk eyed fly, exhibits meiotic drive as a result of a selfish genetic element allele on the X chromosome. This meiotic drive allele results in male flies carrying the drive (SR) X chromosome to be unable to produce viable Y chromosome carrying gametes, violating Mendel's law of segregation. Male flies carrying the (SR) X chromosome almost exclusively father female flies. Previous work has consistently identified JASPer, a gene which is associated with euchromatin maintenance, as differentially expressed in (SR) flies. This has been shown even at the level of primary spermatocytes. JASPer is shown to have a 20-fold increase in coverage compared to the rest of the genome and there are many incomplete JASPer duplicates on the (SR) chromosome. These duplicates are often arranged in tandem arrays, with a specific array being found in a region of five overlapped inversions unique to the (SR) chromosome. Male stalk-eyed flies do not become fertile until 28 days of age, and their testis develop gradually during this period. We assessed gene expression during male testis development to determine when SR-associated differences in JASPer gene expression occurred. Male flies were dissected at four time points during their development. These flies were genotyped to determine drive status, and RNA extraction was performed on the testis and sent to outside laboratories for sequencing. Kallisto was used to quantify RNA expression and differential expression analysis was done with DESeq2 to identify differences in expression associated with drive genotype and development.

Faculty/Staff Sponsor

Josephine Reinhardt

Faculty/Staff Sponsor Department/Office

Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

155 • The Effect of Meiotic Drive on Reproductive Morphology and Sperm Survival in *Teleopsis dalmanni*

Hasan Sarfaraz, Ravi Patel

Abstract

Meiotic drive in *Teleopsis dalmanni* skews allele inheritance, favoring the X-linked sex-ratio (SR) allele and producing female-biased offspring. While it is established that SR males suffer reduced fertility and less attractive, shorter eyestalks, the specific morphological differences associated with this drive system remain a point of scientific conflict. Specifically, current literature provides contradictory evidence regarding whether SR males possess significantly larger testes as a compensatory adaptation for sperm dysfunction.

To address this discrepancy, we are investigating whether a significant difference in testes size exists between SR and standard (ST) males, or if the difference found in prior studies was specific to their methods. Our study focuses on a critical maturity window of 19–25 days post-eclosion, which was previously found to have the largest difference in testes size. We collected precisely aged SR and ST males from the same carrier female mothers, thus controlling for any environmental differences.. After dissection, testes area is quantified via ImageJ morphometric analysis, and PCR genotyping is utilized to confirm the SR or ST status of each specimen. Statistical analysis is performed in RStudio using linear models, incorporating body length as a covariate to account for body size differences. Either replicating or failing to replicate an SR-associated difference in testes size will help to clarify the physiological landscape of meiotic drive and resolve standing conflicts within the field.

Faculty/Staff Sponsor

Josephine Reinhardt

Faculty/Staff Sponsor Department/Office

Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

360 • Assessing the Use of Next Generation MinION Nanopore DNA Sequencing in Obtaining High Quality Data from Zebrafish to Inform Round Scad Fish Epigenetics under Global Climate Stress 💡

Mark Moroz, Bryan DiLeo, Berfin Gul, Alice Tarun, Salvador Tarun

Abstract

The issue of climate change has been gaining increased awareness and attention globally in recent years. It is having various impacts on ecosystems all over the world, causing many species to become environmentally stressed. Epigenetics is a concept that is being studied more prevalently regarding climate changes. Due to the changing environment, stress-induced heritable traits may appear without changes to the genomic code, known as epigenetic alterations. One such epigenetic alteration is DNA methylation, which occurs in cellular responses to environmental stress. One major source of affordable protein in the Philippines comes from the Round Scad fish, which has recently been facing rapid decline in both its population and body size. This study aims to explore the patterns of DNA methylation in wild Round Scad to determine whether these changes are associated with an epigenetic response to global climate stress. Samples of Round Scad DNA were collected and isolated from the Philippines. Using the nanopore MinION Flongle, a portable third-generation DNA sequencing technology, we are able to obtain a high yield of quality DNA sequences required for detection of methylation sites and optimize library preparation by iteratively refining the library preparation chemistry. With optimized chemistry, the study is investigating comprehensive data analysis on Zebrafish samples to identify methylation patterns against known sequences. Here, we shall report on the data collected and our process navigating this technology. We anticipate long-term findings from this project will provide critical information to manage wild Round Scad and other marine fish facing similar environmental stressors.

Faculty/Staff Sponsor

Salvador Tarun

Faculty/Staff Sponsor Department/Office

Chemistry

Special Topics

Ideas That Matter: Climate Change & the Individual

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Sorrell Chesin ’58 Research Award

CONCURRENT SESSION 2

Wednesday, 22 April, 2026, 10:45 am-12:00 pm

2A (BAILEY 101): CANADIAN SHORTS

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 101

Session Chair

Alexander Seney

Track

Arts and Humanities Categories: English

25 • "The Painted Door" and the Consequences of Adultery

Greyford Ahmed

Abstract

Greyford Ahmed's paper on the short story *The Painted Door* by Sinclair Ross analyses the relationship between wife and husband, Ann and John, respectively, and how infidelity killed their relationship. Specifically, they address how emotional and physical neglect within relationships consequently leads to emotional starvation and a fight for spiritual survival.

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English and Creative Writing

189 • "Gertrude the Governess": A Parody of Romantic Melodramas

Ryan Seubert

Abstract

This paper discusses the short story "Gertrude the Governess" by Stephen Leacock as a high burlesque parody of the melodramatic romance drama. It argues Leacock integrates outlandish hyperboles and incongruous absurdity into the love story between Lord Ronald and Gertrude to emphasize the repetitive nature of romance novels. Leacock establishes tension through setting, before releasing it through irrelevant details, culminating in a sense of nothingness to exaggerate the monotony of romance stories. He continues to playfully build up the main conflict, using incongruity to subvert common themes with humor. He similarly relies on dramatized character archetypes common to romance novels to create a caricature. This highlights the often flat characterization of romance drama protagonists. The ending is developed through comedic irony to continue the amusing distortion of romance tropes. In the final moments, Leacock discards the previous plot to create an exaggerated happy ending. In doing so, he disregards standard archetypes and pairs the couples happily-ever-after with the tragedy of their families. Throughout his short story, Leacock uses his eccentric comedy to underline repeating conventions in romantic melodramas. This paper argues that Leacock turns familiar tropes into amusement by imitating the romance genre and using comedic literary devices to entertain his readers.

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English and Creative Writing

72 • 17 Miles of Brooding Fury: An Examination of the Characterization of the Winter Storm in Sinclair Ross' “The Painted Door”

Elisabeth Small

Abstract

Sinclair Ross’ “The Painted Door” portrays a tenuous marriage between Ann, a wife scorned by the monotony of her married life bound to a farm, and John, a proud, simple man unaware of his wife’s disdain and wandering eye for something new. The marital tensions between John and Ann are exacerbated by the storm: the storm acts not only as a literal force against survival, but as a figurative reflection of Ann’s bitter isolation on the farm. Ross’ characterization of the storm mirrors Ann’s growing disparagement towards her marriage, allowing her threatening environment to justify her volatile emotions and infidelity. The brutal landscape Ross depicts functions as a catalyst for Ann thus fueling her growing internal storm. While John succumbs to the literal effects of the storm, he also endures the storm of Ann as a dissatisfied wife pushed too far by the contempt for her marriage. This paper will examine the various modes Ross uses to characterize the storm as the villainous antagonist that guides the tempest of Ann to a path of destruction. The symbolic and anthropomorphic manipulation of the storm reflects the chaotic reaches of the human condition and a desperate woman amid her own existential chaos.

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Graham Drake

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English and Creative Writing

2B (BAILEY 102): DATA ANALYTICS CAPSTONE 1

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 102

Session Chair

Byeong-Hak Choe, Business

Track

School of Business Categories: Data Analytics

29 • Data Analytics Capstone: Drug Enforcement and Overdose Mortality: Evidence From New York City Neighborhoods 💡

Jordan Alfano, Jake Starkey

Abstract

New York City continues to face a severe overdose crisis, raising important questions about the role of law enforcement in addressing drug-related harm. This study examines whether higher levels of drug-related arrests are associated with changes in overdose death rates across New York City neighborhoods. Specifically, the research analyzes whether increased enforcement activity reduces overdose deaths by deterring drug activity or limiting supply, or whether it may unintentionally contribute to higher overdose risks by disrupting community stability or access to harm-reduction resources. The analysis uses a neighborhood-by-year panel dataset combining overdose mortality data from the Centers for Disease Control and Prevention (CDC) and arrest records from the New York Police Department (NYPD). Socioeconomic indicators from the American Community Survey, including poverty rates, unemployment, income inequality, and demographic composition, are incorporated to control for neighborhood characteristics. The primary outcome variable is overdose deaths per 100,000 residents, and the key explanatory variable is drug-related arrests per 100,000 residents. Panel regression with neighborhood and year fixed effects will be used to evaluate the relationship between enforcement and overdose outcomes over time. Additional analyses will explore differences across neighborhoods with varying socioeconomic conditions, distinctions between possession and distribution arrests, and potential changes before and after major policy or public health shifts such as the COVID-19 pandemic. By examining the relationship between enforcement activity and overdose mortality, this research aims to contribute evidence relevant to ongoing policy debates about the balance between policing, treatment, and harm reduction strategies in addressing the opioid crisis.

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Business
Special Topics
McNair Scholars, Ideas That Matter: Climate Change & the Individual

11 • Does NFL Draft Position Predict Career Receiving Yards for Wide Receivers?

Ryan Horn
Abstract
This capstone project studies whether NFL draft position helps predict how successful a wide receiver will be in their career. Many teams invest high draft picks in receivers, but it is not always clear if earlier picks truly lead to better long-term performance. Using publicly available NFL draft and play-by-play data, this project combines draft information with career statistics such as receiving yards, games played, and yards after catch. The data is cleaned and organized, then explored using summary statistics and visualizations to look for patterns between draft round and career production. Next, statistical and machine learning models are used to measure how strongly draft position relates to performance. Regression models estimate how draft pick number connects to total career yards, while classification models estimate the probability that a player reaches certain performance benchmarks. Model results are tested using training and testing data to ensure they work beyond the sample used to build them. The results help answer whether draft capital is a reliable predictor of wide receiver success. The project also discusses the limits of prediction, uncertainty in player development, and how teams can use data responsibly when making draft decisions. Overall, this study provides a data-driven evaluation of how well draft position forecasts career outcomes for NFL wide receivers.
Faculty/Staff Sponsor
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Faculty/Staff Sponsor Department/Office
Business

366 • Do Sustainability Marketing Claims Reflect Reality? Evidence of Greenwashing in Corporate ESG Performance 💡

Saya Kondo
Abstract
This project investigates whether firms' sustainability-related marketing communications align with their actual environmental performance. As sustainability becomes an increasingly important component of corporate branding, many firms promote their environmental responsibility through sustainability reports and ESG disclosures. However, growing concerns about greenwashing raise questions about the credibility of these claims. Using firm-level data from publicly traded companies, this study combines textual analysis of sustainability reports with ESG ratings to examine the relationship between sustainability marketing intensity and environmental performance. A sustainability marketing score is constructed based on the frequency of key terms such as "sustainable," "carbon," and "net zero," and is compared to ESG environmental scores. Regression analysis is used to evaluate whether stronger sustainability messaging is associated with better environmental outcomes, while clustering methods may be applied to identify patterns such as firms with high marketing but low performance. The findings aim to provide insights into whether sustainability marketing serves as a reliable signal of environmental performance or whether it may sometimes be misleading. This research is relevant to consumers, investors, regulators, and businesses seeking to make informed decisions and improve transparency. Overall, the study contributes to a better understanding of the relationship between corporate communication and actual sustainability performance.
Faculty/Staff Sponsor
Byeong-Hak Choe
Faculty/Staff Sponsor Department/Office
Business
Special Topics

Ideas That Matter: Climate Change & the Individual

14 • A Panel Data Analysis of Military Modernization and Interstate War Onset, 1818–2023

Marcus Lewis

Abstract

This study examines the relationship between military technology adoption and the onset of interstate wars from 1818 to 2023. Using a country–year panel dataset derived from the Correlates of War Arms Technology data, I create cumulative and lagged measures of military modernization to capture both the level and annual growth of adopted technologies. Manually coded war onset years for major conflicts, including World War I and World War II, are merged into the dataset to create a binary war indicator for each country and year observation. Logistic regression models are used to test whether prior levels or rapid increases in military technology predict a country's likelihood of entering war. Preliminary analysis suggests that spikes in technology adoption often precede major conflicts, highlighting the potential role of arms races in conflict escalation. This project demonstrates how historical military modernization data can be analyzed to investigate patterns of interstate war over two centuries, providing insights into the dynamics of war onset and the predictive power of technological advancement.

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Faculty/Staff Sponsor Department/Office

Business

356 • Beyond Wages: The Impact of Employee Benefits on Labor Turnover within U.S. Industries

Hayden Mikula

Abstract

Employers are constantly battling with the problem of labor turnover, whether it be from a lack of adequate compensation, managerial leadership, career growth, or fringe benefits. As actors in their respective industries, it is essential that businesses stay informed on the deterrents for turnover that they are in direct competition with others to provide. This applies to employee benefits (such as Paid Leave, Retirement Plans, or Health Insurance) in particular because they show a business' desire to provide longer-term, compounding incentives for people, and have the opportunity to be tailored to specific per-employee needs in ways that may cause employees to value them over a higher wage / salary. This capstone project aims to evaluate these kinds of benefits through data from the Bureau of Labor Statistics' Employee Benefits Survey (EBS), Job Openings and Labor Turnover Survey (JOLTS), and Employer Costs for Employee Compensation (ECEC). In doing so, it will determine which benefits are most strongly correlated with lower labor turnover in the U.S. from 2020 - 2025 across various major industries. This capstone utilizes a Two-Way Fixed Effect linear regression model to control for both consistent industry-wise differences and common time-shocks such as technology trends or pandemics that cannot be observed.

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Business

16 • Using Predictive Analytics to Outperform Human Judgment in NCAA March Madness Bracket Selection

Aaron Zalen

Abstract

This presentation explores how various machine learning models perform in predicting the NCAA men's college basketball tournament when compared to consensus picks for each year. The models are trained on various team-based

metrics, such as adjusted offensive and defensive efficiency, and assessed based on how accurately they can predict the probability of a team winning.

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Faculty/Staff Sponsor Department/Office
Business

2C (BAILEY 103): GENESEO CHANGEMAKERS: STUDENT AMBASSADOR PRESENTATIONS PART ONE

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 103
Session Chair
Melanie Medeiros, Anthropology
Track
Interdisciplinary and Other Categories: Ambassadorship

101 • Testimonies of Natural Disaster in Mexico

Michelle Apodaca
Abstract
Natural disasters often receive intense global attention in the immediate aftermath, but far less focus is given to what happens to affected communities in the months and years that follow. In Poza Rica, Veracruz, severe flooding displaced thousands of families and left residents facing long-term challenges, including environmental contamination, unstable housing, limited access to medical care, and ongoing psychological trauma. Despite the scale of this disaster, the lasting health and recovery experiences of residents remain largely undocumented beyond the community itself. Understanding these long-term impacts is critical, as it can help governments, nonprofits, and humanitarian organizations better identify community needs and create more effective, sustained recovery efforts rather than short-term responses. Over the course of this year, I am partnering with the nonprofit Un Buen Grupo de Amigos (UBGA), an organization that provides mobile medical units and humanitarian aid to vulnerable communities throughout Mexico. During the summer of 2026, I will travel to Poza Rica to support UBGA's medical teams, conduct qualitative interviews with residents, and document their experiences through listening-centered storytelling. By working directly with both residents and healthcare volunteers, I aim to better understand the ongoing health concerns people face, the barriers they encounter when seeking care, and the ways the community continues to rebuild and support one another after the flooding. In this presentation, I will explain why I chose to focus on Poza Rica, outline my project plan, and discuss my partnership with UBGA, along with the progress, challenges, and key insights I have gained.
Faculty/Staff Sponsor
Bruno Renero-Hannan
Faculty/Staff Sponsor Department/Office
Anthropology
Special Topics
Student Ambassadorship
Funding Sources
Student Ambassador Award

10 • Translating Verse Into Narrative

Gwenyth Harrington
Abstract
As cursive and archival literacy fade from modern education, students are increasingly distanced from texts that require transcription to be fully understood and shared. My project addresses this growing gap by engaging directly with one of Elizabeth Bishop's poems, transforming it from a handwritten manuscript into accessible text while also reimagining it

through visual and narrative art. Transcribing Bishop's work is an attempt at recovery and interpretation. Without the ability to read script and work with archival materials, students of all ages risk losing access to important literary voices and the deeper insights that come from engaging more closely with these texts. By undertaking this transcription, I aim to demonstrate how archival work and the engagement we have with it can open new pathways for storytelling, and creative expression. So far, I have worked on transcribing the poem and have taken strides to set into motion my interactive seminar/creative writing piece. This presentation will highlight how engaging with the archival work of Elizabeth bishop not only preserves literary history but also empowers students to reclaim lost skills, dive deeper into buried stories, and see transcription as a creative act.

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Melanie Medeiros

Faculty/Staff Sponsor Department/Office

Center for Integrative Learning

Special Topics

Student Ambassadorship

Funding Sources

Student Ambassador Award

150 • The Gilded Fields Direct-to-Consumer Empowerment Project

Anna Hawkes

Abstract

The Gilded Fields Direct-to-Consumer Empowerment Project seeks to address the economic challenges that small to mid-sized agricultural producers in Central New York face each and every day. Once every five years, the Census of Agriculture provides a comprehensive count of U.S. farms, ranches, and their operators. From 2017 to 2022 alone, we have lost an additional 159,000 small farms. During the same period, we went from 32,813 family-owned farms to 24,521 in NYS. According to Zippy Duvall, American Farm Bureau Federation President, "Increased regulations, rising supply costs, lack of available labor and weather disasters have all squeezed farmers to the point that many of them find it impossible to remain economically sustainable." Gilded Fields is there to support the farm's transition from wholesale to direct-to-consumer business models. During our time, we will work through each step together, conducting in-depth business audits, developing strategic business plans tailored to the producer, designing branding material, and creating go-to-market strategies. Throughout the course of the project, I will collaborate with professionals from Cornell Cooperative Extension of Otsego and Schoharie Counties, local Community Supported Agriculture (CSA) programs, and other industry experts. Through these collaborations, I will put together a Direct-to-Consumer Empowerment Workshop. In the presentation, I will briefly discuss the economic challenges facing our producers, outline the objectives and framework of the Gilded Fields Direct-to-Consumer Empowerment Project, and share the progress I have made so far in developing partnerships, deliverables, and resources to support the farm's long-term viability

Faculty/Staff Sponsor

Melanie Medeiros

Faculty/Staff Sponsor Department/Office

Anthropology

Special Topics

Student Ambassadorship

Funding Sources

Student Ambassador Award

171 • RoomRun: A Playful Digital Literacy Program

James McNaughton

Abstract

Despite research supporting the benefits of playful approaches to literacy (Kim & Johnson, 2021), such practices have steadily declined in curricula as instructional time is redirected to standardized test preparation. While many are quick to blame the burgeoning influence of the internet on students' decline in literacy, we understand that learning is meant

to be pleasurable (Gee 2006), and curricula centered around standardized testing are often displeasurable. Instead of demonizing the internet, my project, RoomRun, seeks to leverage the internet as a tool to develop students' autonomy, belongingness, and competency, enabling the expression of student identity. Over the course of the year, I will be designing and piloting RoomRun, a Minecraft Education–based learning environment that examines how playful, exploratory, interest-driven literacy experiences influence adolescents' intrinsic motivation (Deci & Ryan, 2000), and how students' identities develop in such an environment. Students will use Minecraft-Education to explore and create rooms about a novel. Students will explore two teacher-built rooms and then create their own, gathering multimodal artifacts, constructing arguments, and ultimately authoring their own textual analyses. RoomRun is built on rhizomatic, nonlinear models of learning (Gibbs, 2015), disrupting the hegemonic teacher-centered approaches to learning. Instead, RoomRun, a Distributed Teaching and Learning Space (Gee & Gee, 2017), enables students to converse with the text and the world. In this presentation, I will discuss the problem my ambassadorship seeks to research, describe RoomRun's structure and theoretical grounding, and share progress made through my research and upcoming pilots with secondary students in the greater Rochester area.

Faculty/Staff Sponsor
Melanie Medeiros
Faculty/Staff Sponsor Department/Office
Center for Integrative Learning
Special Topics
Student Ambassadorship
Funding Sources
Student Ambassador Award

107 • Determining Preventative Measures of African Sleeping Sickness: A Structural and Catalytic Analysis of Trypanosoma brucei Malate Dehydrogenase

Grace Sutherland
Abstract
African sleeping sickness, caused by the parasite *Trypanosoma brucei*, affects approximately 20,000 people globally each year and puts a population of 65 million people at risk (Trypanosomiasis, Human African (Sleeping Sickness) Fact Sheet | Africa Health Organisation, 2019). Investigating how this parasite survives at the molecular level can help guide future treatments. In this project, I am studying one of the parasite's key enzymes, cytosolic malate dehydrogenase (MDH), and comparing it to the human MDH (hMDH1) to understand what makes the parasite's enzyme unique. Over the course of the semester, I employed techniques such as kinetic assays and small-angle X-ray scattering (SAXS). From this analysis I was able to determine that the hMDH1 and the *T. brucei* MDH have differing kinetic variables indicating there are differences in the two proteins that can potentially be exploited in future inhibition assays. The SAXS analysis of the T. brucei MDH indicates that the structure of the protein is folded and semi-globular. This characterization will allow us to compare the hMDH1 structure. Over the rest of the year, I will be using this preliminary information to run inhibition assays and tryptophan fluorescence to identify inhibitors as well as structural changes in the protein while the chemical reaction occurs. In the presentation, I will express why this is an important problem to study and some background information. I will also be discussing the results from the past two months of work.

Faculty/Staff Sponsor
Melanie Medeiros
Faculty/Staff Sponsor Department/Office
Center for Integrative Learning
Special Topics
Student Ambassadorship
Funding Sources
Sorrell Chesin '58 Research Award, Student Ambassador Award, TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Dean Johnston Student Research Assistantship

2D (BAILEY 104): HISTORY GRADUATE STUDENT PANEL # 1

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 104

Session Chair

Justin Behrend, History

Track

Arts and Humanities Categories: History

178 • The 1920s and the Distortion of Democracy: The Fourteenth Census, the Fight over Reapportionment, and its Consequences.

William Paine

Abstract

Following the 1920 decennial census the United States Congress, for the first and only time in its history, failed to pass a reapportionment bill to redistribute representation in the House of Representative in a timely manner. Congress would debate and delay reapportionment for nearly a decade before finally passing the Permanent Apportionment Act of 1929, which provided for the next reapportionment after the 1930 census as well as for all future censuses. There were many factors that helped perpetuate the debate over reapportionment in the 1920s, some of which were unique to the decade and some of which weren't. The urban vs. rural debate, which has been discussed by scholars (especially Charles W. Eagles), as well as the rampant racism and xenophobia that underpinned said debate were at the forefront of factors that perpetuated the reapportionment debate for nearly a decade. This paper explores this debate over reapportionment and the ramifications of its resolution. Among other things, the Permanent Apportionment Act of 1929 capped the House of Representatives at 435 members for all future reapportionments. With each passing census which shows our population growing, our representation in government is being perpetually diluted by an unchanging House. The resolution of the reapportionment debate of the 1920s ended the precedent of expanding the size of the House of Representatives as the population of the United States grows. This paper provides a further look into how and why we arrived at a House of Representatives that is permanently capped at 435 members.

Faculty/Staff Sponsor

Kathleen Mapes

Faculty/Staff Sponsor Department/Office

History

331 • Hyphenated America: Swedish American Experiences in the 20th Century

Ryan Coons

Abstract

Two case studies, John Ericsson with his Swedish Republicans and Joe Hill's IWW ties represent two different paths for not only Swedish immigrants, but also for all immigrants during the period. One side represents a wealthier privileged group afforded the ability to posit their ethnic association to an American identity. On the other hand, a different side of Swedish immigrants were tossing away their ethnic label in exchange for being a part of the fight for a labor revolution. These two different men help illustrate the fragility of what being "American" means as their corresponding groups have immortalized them in historical memory.

Faculty/Staff Sponsor

Kathleen Mapes

Faculty/Staff Sponsor Department/Office

History

This presentation will also be presented at:

Phi Alpha Theta Regional Conference

387 • "Labor's Wrongs and Labor's Remedy": The Utopian Socialist Movement in Rochester, New York

Adam Comstock

Abstract

Beginning in 1843, a wave of utopian socialism spread across Upstate New York, centered on Rochester. Following the principles of Charles Fourier, Rochester's "friends of Association" quickly formed communes, called "Phalanxes," to realize their dream of productive and cooperative labor. They immediately encountered strife and division, creating four Phalanxes which quickly folded. Within 3 years, the movement was dead. What accounts for this sudden rise and fall of one of the first mass movements for socialism in America? In this paper, I argue that the cause of Fourierism's rise was the unique economic atmosphere and ethic of religious social reform existing in Upstate New York in the 1840s. Additionally, the specific methods and motivations of pre-existing reform movements account for the different Phalanxes themselves. The fall of the movement can be explained by the innate problems with communal production and the failure of Fourierism to attract the kind of laborers needed to prove its own success. This story has largely been forgotten, despite its connections to anti-slavery, women's suffrage, religious revivals, and the Erie Canal, all important aspects of Rochester's history.

Faculty/Staff Sponsor

Justin Behrend

Faculty/Staff Sponsor Department/Office

History

This presentation will also be presented at:

SUNY Graduate Research and Creative Activities Conference 2026

2E (BAILEY 105): IDEA 2 VENTURE BUSINESS PRESENTATIONS

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 105

Session Chair

Mark Rider, Business

Track

School of Business Categories: Entrepreneurship

222 • ModuHear

Lillian Anderson

Abstract

For my entrepreneurship project, I wanted to look at how I could improve hearing aids. They are usually tiny, fragile, and if one part breaks, the whole unit often has to be sent out for replacement. I thought a modular design could be a better way to handle those frustrations. ModuHear is a student concept for a hearing aid that breaks down into four magnetic parts: a central shank, a snap-on battery, and two separate processing and microphone "brains." The idea is that if the battery dies or a component fails, you just swap that specific module instead of buying a new $3,000 device. My research showed that most people are just looking for better pricing and easier handling. This project explores how a "Lego-style" approach could make hearing tech more affordable and less of a headache to use.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

211 • Scorpion Syndicate

Hannah Chisholm

Abstract

An eSports organization with a focus on bringing and keeping women in gaming and eSports
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office
Business
This presentation will also be presented at:
New York State Business Plan Competition, VanArnsdale Business Plan competition
Funding Sources
3rd place prize in 2025 VanArnsdale Business Plan competition

206 • Pure Palm

Ryan DeLauzon
Abstract
This submission introduces an efficient solution for hand dryness and pain. This product combines skin recovery with long-term protection, our **moisturizing gloves** are designed to eliminate discomfort and restore skin conveniently and effectively.
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office
Business

394 • Access Hours Business Plan

Jocelyn Matusiak
Abstract
Developing an app that includes the following, with a focus on community and accessibility: Access Hours is a two-sided platform that partners with local venues—like zoos, malls, theaters, and museums—to schedule, verify, and promote low-traffic, sensory-friendly hours and practices. Neurodivergent and sensory-sensitive individuals, families, and advocates use the app to discover these quieter times, see what supports are available, and plan calmer outings or full trip itineraries with more confidence and less overwhelm. Venues use the business side of the app to learn how to implement sensory-friendly practices, fill slow periods, and reach a community that actively seeks predictable, supportive public experiences.
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office
Business

106 • Tailored Tutoring

Blake Juston
Abstract
Tailored Tutoring is an innovative approach to the tutoring process that combines AI technology with human guidance to give personalized and affordable supplemental education tools to K-12 students. After an initial consultation, the customer will receive a customized learning system that will be matched to their unique needs, learning style, and desired academic outcomes. As a student works through our program, their progress will be monitored to ensure that they are staying on track. Revisions will be made to the system when necessary to suit the user's development. By offering a cost-effective highly personalized alternative to traditional tutoring, Tailored Tutoring aims to give high quality academic support to families of all different economic backgrounds.
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office

Business

102 • SunShift

Logan Martin

Abstract

SunShift is an event-focused brand that uses UV-responsive bracelets to make sun safety simple and visible. The bracelet changes color to signal when users should reapply sunscreen or seek shade, helping prevent harmful UV exposure during outdoor events. Designed for beaches, festivals, and resorts, SunShift blends safety with lifestyle by creating a product people will actually wear and notice. Through this approach, SunShift turns invisible sun risk into a visible, actionable experience.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

203 • Travel Together

Madeline Weld

Abstract

My business idea is a travel platform called Travel Together. The platform connects families traveling with local correspondents to create more personalized, culturally immersive experiences. Unlike typical travel planning services that utilize standardized itineraries, Travel Together uses local recommendations to provide users with authentic and unique experiences tailored to the travelers' needs and interests. By matching users with locals who are knowledgable about their travel needs and location, tourists are able to engage with locals, immerse themselves in the culture, and create lasting memories. Travel Together aims to shift modern tourism to be centered around personal connection and family experiences.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

2F (BAILEY 201): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 201

Session Chair

Jennifer Katz, Psychology and Neuroscience

Track

Interdisciplinary and Other Categories: Edgar Fellows

71 • Perceptions of Different Types of Maternal Figures: Compared to Mothers, Are Stepmothers Judged More Negatively or Less Positively?

Phoebe Brenner

Abstract

Although divorce and remarriage are extremely common, stepfamilies face various types of stigma. In particular, stepmothers may be perceived in terms of the evil stepmother tropes common in classic fairy tales. The current study attempted to replicate and extend research on stepmother bias conducted in Italy and Australia with a US sample. Specifically, we randomly assigned undergraduates (*N* = 103) to read a vignette about a maternal figure (either a mother or stepmother) interacting with her husband and two misbehaving young children. We expected and found that participants perceived stepmothers as more to blame than mothers for causing children's misbehavior. Unexpectedly,

there were no differences in perceptions of different maternal figures as either competent or caring. These results add to a growing literature suggesting that stepmothers are vulnerable to bias. In particular, when compared to biological mothers, stepmothers may be especially likely to be perceived in more negative (rather than less positive) ways. More generally, to promote the success and healthy functioning of blended families, interventions are needed to help foster more sensitivity, support, and understanding for stepmothers as parents.

Faculty/Staff Sponsor
Jennifer Katz
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience
Special Topics
Edgar Fellows

91 • When Does Fear of Missing Out Promote Undergraduates' Academic Performance?

Ella Fowler, Hunter Phillips

Abstract
The fear of missing out (FOMO) reflects human needs for belonging. Past research focused on FOMO suggests that worries about social exclusion interfere with undergraduates' academic performance. But can FOMO actually promote academic engagement? In the workplace, FOMO has been related to work engagement as well as after hours responsiveness to emails. Accordingly, we adapted a workplace-specific measure of FOMO to classes in one's major. Like workplace FOMO, classroom FOMO reflects worries about missing out on potentially valuable career-related information and social networking opportunities. Undergraduates (N = 113) were recruited for an online study of "A Survey of Academic Experiences." They responded to self report measures of academic outcomes (e.g., major class attendance, academic motivation, and engagement) as potential correlates of both general and classroom FOMO. Results suggested that, as might be expected, general and classroom FOMO were positively correlated. However, only classroom FOMO positively predicted academic outcomes. That is, classroom FOMO was distinctly, significantly related to frequency of major class attendance, academic motivation, and academic engagement in classes for one's major. These findings suggest that context-specific forms of FOMO may facilitate constructive academic outcomes. Student success may depend, at least in part, on students perceiving that a lack of engagement may disadvantage them.

Faculty/Staff Sponsor
Jennifer Katz
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience
Special Topics
Edgar Fellows

66 • Punishing Responses to Peers with Autism: Potential Effects of Diagnostic Label on Stigma, Social Distancing, and Inclusive Attitudes

Alexandra Gaboury

Abstract
Efforts to promote inclusion are currently under attack at a national stage. Misinformation about Autism perpetuated by our government, defunding to support programs for students with disabilities, and critical attacks to social security disability benefits are all part of our current social reality. To understand the root of these ableist policies, scholars must also address ableist unconscious bias and what criteria individuals use to exclude others. Despite research showing widespread support for social inclusion of individuals with disabilities, many students with disabilities still experience and share difficulties reaching services and being included in their wider communities. In part, ableism stems from an expected social norm of being able or neurotypical, and assuming others will comply. Social norm enforcement suggests that when individuals with disabilities act contrary to this social norm, then they may be ostracized because exclusion is legitimated. Prior research shows that providing participants with a diagnosis of a character in a story leads to reduced stigma, but labeling theory tells us that a label, such as a diagnosis, can cue our stereotypes towards that label. In this study, we aimed to study how the effect of diagnosis disclosing affects stigma (broken down across multiple variables)

towards an individual, especially as information of disability increases in our present day, yet social inclusion does not. We hypothesize that diagnosis disclosure will decrease stigma, reduce social distancing, report more positive emotions, more external causal attributions, and report inclusive social attitudes towards autism when participants describe them positively.

Faculty/Staff Sponsor
Jennifer Katz
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience
Special Topics
Edgar Fellows

2G (BAILEY 202): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 202
Session Chair
Aaron Steinhauer, Physics and Astronomy
Track
Interdisciplinary and Other Categories: Edgar Fellows

204 • Reverse Logistic Network Design for EV Battery Supply Chain

Gianna Battista
Abstract
Electric vehicles (EV) are a staple in sustainability initiatives, but what happens to the end-of-life batteries? EV batteries contain rare metals like Lithium, Nickel, and Cobalt that are extracted from the earth unethically and these waste batteries become environmental hazards. By creating a closed loop supply chain, we can incorporate recycling of batteries and metals to decrease environmental impacts and create second life products. Decision makers must balance cost vs profit priorities while considering sustainability initiatives. The optimal solution can be determined using a Genetic Algorithm, where candidate solutions evolve toward better solutions through an iterative application of selection, crossover, and mutation, similar to how chromosomes adapt over generations. The algorithm determines waste allocation quantities and the amount of external and recycled metals that should be purchased in order to maximize profit and minimize cost of the supply chain. We follow the lifecycle of LFP batteries in one make and model electric vehicle. We aim to discover how total profit and total cost changes when we alter parameters like demand and market metal prices. Supply chains must balance economics, sustainability, and real-world complexity in order to survive in today's climate.

Faculty/Staff Sponsor
Douglas Baldwin
Faculty/Staff Sponsor Department/Office
Mathematics
Special Topics
Edgar Fellows

284 • Investigation of Particle Induced Gamma Emission as an Analysis Technique for Targets with Thin Lithium Films

Shoshanna Hertz
Abstract
The SUNY Geneseo Pelletron group has been working on analyzing targets with thin lithium films since 2023. These targets consist of a thin layer of natural lithium, deposited onto a stainless steel substrate. Previously, a combination of Rutherford backscattering spectroscopy (RBS) and nuclear reaction analysis (NRA) have been used to determine the thickness of the lithium layer and the overall composition of the target. However, this technique had limited success.

Currently, an experiment is underway to test the effectiveness of particle induced gamma emission (PIGE) as an alternate analysis technique for targets with thin lithium films. In this experiment, a 1.011 MeV deuteron beam was incident on the target. At 0°, a sodium iodide (NaI) detector was used to detect the 478 keV gamma rays from $^{7}Li(d,d'\gamma_{1-0})^{7}Li$, the reaction of interest for PIGE. A silicon detector was also set up at 165° to obtain the charged particle data needed for RBS and NRA. The results for the thickness of the lithium layer from each technique were compared, in order to determine if PIGE is the better analysis technique.

Faculty/Staff Sponsor
Charles Freeman
Faculty/Staff Sponsor Department/Office
Physics and Astronomy
Special Topics
Edgar Fellows

218 • Pretreatment and Fiber Analysis of Cannabis Sativa with Ionic Liquids

Gannon Kelly
Abstract
Cannabis Sativa, or Hemp, is a plant whose fibers are commonly used for industrial purposes, such as textiles, fabrics, clothing, and biodegradable plastics. However, many of the steps taken to prepare these fibers for use are expensive and dangerous, using highly hazardous chemicals. As an alternative to this process, it is possible to treat hemp with Ionic Liquids, or salts in a liquid form with asymmetrical cations and anions. Through this project, hemp has been treated with 1-ethyl-3-methylimidazolium chloride and 1-decyl-3-methylimidazolium chloride, two Ionic Liquids. It is then exposed to acid and base hydrolysis with Hydrochloric Acid and Sodium Hydroxide before being imaged to see the efficiency and logistics of fiber preparation via these greener and safer alternatives. These experiments have been performed with three sizes of hemp and with different treatment lengths for each step of the process to find the most effective method. The hemp fibers from these experiments are then photographed and visually compared via the use of a ZEISS Stereo Discovery.V20TM stereomicroscope. This project also plans the use of chemical and structural analysis techniques, such as High-Performance Liquid Chromatography and Nuclear Magnetic Resonance, through other universities to further analyze the hemp fibers in the future.
Faculty/Staff Sponsor
Barnabas Gikonyo
Faculty/Staff Sponsor Department/Office
Chemistry
Special Topics
Edgar Fellows
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

104 • Habitat Preferences and Temporal Patterns Among Cavity Nesting Bee and Wasp Species in Geneseo, NY 🌿 💡

Sophia Stang
Abstract
Cavity-nesting bees and wasps lay eggs in hollow stems or other pre-made cavities during late spring. Larvae over-winter in the tubes and emerge the following spring. To observe nesting patterns of these insects, we placed boxes containing hollow reed “bee tubes” in five locations around the SUNY Geneseo campus. Additionally, eight nesting boxes were placed in a local nature preserve with native grasslands, wet meadow, and woodland. We photographed the tubes once a week throughout the summer and early fall as the cavities were sealed off by insects forming larval cells. We noted the type of material used to fill the tubes and analyzed trends in phenology and site preferences of different occupants using the photographic record. We kept some specimens as vouchers for identification to the species level, and we released the rest. Commonly observed bee taxa in 2023 and 2024 included leafcutter bees *Megachile pugnata, M. rotundata, M. relativa*, and the mason bee, Osmia caerulescens. We also observed wasp taxa including the grass-carrying wasp,

Isodontia mexicana, the spider-hunting wasp Trypoxylon lactitarse, and potter wasps *Ancistrocerus capra, A. spinolae,* and Euodynerus foraminatus. We are currently investigating reproductive success and how this relates to site characteristics. In this study we explore the identities of occupants, cavity fill types, site preferences, and timing of occupation across years and under different ecological conditions. This information gives us a better understanding of our local native bee and wasp ecology and the conservation efforts necessary to support their populations.

Faculty/Staff Sponsor
Jennifer Apple
Faculty/Staff Sponsor Department/Office
Biology
Special Topics
Edgar Fellows, Ideas That Matter: Climate Change & the Individual, Earth Day-related
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

2H (BAILEY 203): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 203
Session Chair
Lisa Meyer, Sociology
Track
Interdisciplinary and Other Categories: Edgar Fellows

304 • Book Challenges and Censorship in Local Public Libraries

Wrileigh Bacon
Abstract
Over the past few years, the amount of book bans within the United States has increased to the thousands. Wrileigh Bacon has spent the past semester researching the impact of book bans within the U.S, looking at its effects on accessing information and how it affects libraries. She has surveyed librarians in the surrounding counties near Geneseo, NY to see how book challenges have affected libraries within rural communities. She has found that there have been quite a few book challenges within these libraries, but that librarians are equipped to handle such cases.
Faculty/Staff Sponsor
Max Sparkman
Faculty/Staff Sponsor Department/Office
Milne Library
Special Topics
Edgar Fellows

69 • Highly Rated But Not Too Long: Predictors of Hiking Route Usage in the Adirondack Park, New York State

Sierra Doody, Stephen Tulowiecki, David Warden
Abstract
Hiking trails provide numerous health, social, recreational, and economic benefits, yet their overuse can lead to various impacts upon trail surfaces and the surrounding environment. Research has sought to understand factors determining the usage of various recreational units such as parks, mountain summits, and trails, but has seldom rigorously assessed factors contributing to the popularity of specific hiking routes. This study assessed determinants of trail-route usage in the Adirondack Park, New York State, US (approx. 25,000 km2). As the dependent variable, we developed an index of route usage (from 0 to 100) for a sample of 150 routes based on the number of logged activities on the AllTrails.com app from circa 2016-2025. We then compared this index to a set of 24 independent variables describing both route characteristics (e.g. length, elevation gain) and aspects of the surrounding region (e.g. human population within a given

radius). Boosted regression trees, a machine-learning algorithm, was applied to develop an explanatory model of trail usage. Results showed that route usage could be reasonably well predicted (e.g. RMSE = 8.936) based on eight variables (with relative importance values as follows): average rating (37.2%), route length (19.0%), population within 25 km (11.0%), elevation gain (10.8%), population within 200 km (10.7%), population within 500 km (4.8%), maximum elevation (4.0%), and annual precipitation (2.5%). Findings provided insight into understanding trail-user behavior and route choice, and can help direct future efforts to ease trail overuse. Results contribute to larger bodies of literature in recreation demand theory and tourism studies.

Faculty/Staff Sponsor
Stephen Tulowiecki
Faculty/Staff Sponsor Department/Office
Geography and Sustainability Studies
Special Topics
Edgar Fellows
This presentation will also be presented at:
Geographic Information Sharing Special Interest Group (GIS/SIG) 2026 Conference

220 • The Experiences of Rosebud Students at Carlisle Indian School

Wrileigh Bacon, Sierra Doody, Max Esposito, Emily Trask
Abstract
Richard Henry Pratt opened the first off-reservation boarding school, Carlisle Indian School, to educate and integrate Indian children into American society. Pratt had to recruit students for his project and was advised to recruit Sioux children at Rosebud Agency. Rosebud had a long history of violent conflicts between the westwardly expanding Americans and the Sioux, who fought hard to protect and occupy their culturally important Black Hills. Despite initial resistance, Pratt left Rosebud with sixty-six students, promising a better life through education. These Rosebud students, and the ones who followed, faced institutional efforts to separate them from their Indian culture by cutting their long hair, changing their names, and creating a military-like environment. The curriculum aimed to prepare them to participate in American culture, focusing on areas such as English, Christianity, and the arts. The crux of Pratt's design was the outing system, which placed students with local families to immerse them in American life and provide work opportunities. Leaving the institution came in several forms: finishing their term, not returning from sanctioned leave, running away, and death. After Carlisle, some students' lives were greatly enriched by their education. Yet others felt the opposite, stranded between an unaccepting American society and their estranged Indian roots. Though Carlisle gathered these students from the same agency and subjected them to the same schooling, their experiences and outcomes varied greatly. They cannot be described through mere generalizations, and doing so would diminish the complexity of the children's lives.

Faculty/Staff Sponsor
Michael Oberg
Faculty/Staff Sponsor Department/Office
History
Special Topics
Edgar Fellows

142 • The Impact of Social Media Consumption on Emotion Recognition and Intensity Perception

Emily Trask
Abstract
This study will investigate the relationship between the amount and type of social media content consumed, and an individual's ability to both recognize emotions and perceive intensity. Undergraduate college students will be recruited via the SUNY Geneseo Psychology Subject Pool and by word of mouth to participate in the study. Participants will provide information on their social media use, then be shown twenty facial expressions, where they will identify the emotion and rate its intensity. I hypothesize that individuals that consume more social media content involving high

levels of emotionality will be more likely to both correctly identify the emotion, and perceive the emotion as more intense.

Faculty/Staff Sponsor
Steven Kirsh
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience
Special Topics
Edgar Fellows

2I (BAILEY 204): RESEARCH IN MEDIA AND CULTURAL STUDIES

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Bailey 204
Session Chair
Atsushi Tajima, Communication
Track
Social Science Categories: Communication

385 • Orientalism and U.S. Geopolitics on Islamophobic Stereotype Development in the Media

Sarah Allam
Abstract
Islamophobic stereotypes have become a common theme in recent decades, and audiences who share these beliefs may influence the image of believers of the Islamic faith. However, because of the intricacies of Islamophobia, those who appear Muslim (i.e., Arabs, North Africans, and Central/South Asians) may have their image indirectly affected as well. The countries in which many Muslims reside have faced the intervention from the Western world; however, the impact of diplomatic relations with the United States (U.S.) is the primary focus in this presentation. To observe the prevalence of these beliefs and preconceived notions within the campus population at a Predominantly White Institution (PWI) in Upstate New York, an anonymous survey was used. This was conducted to observe any correlations between general demographics, primary source of news, knowledge of U.S. politics, and views on Muslims and Islam as a whole. Data collection is ongoing; however, no significant findings have been found thus far.
Faculty/Staff Sponsor
Atsushi Tajima
Faculty/Staff Sponsor Department/Office
Communication
This presentation will also be presented at:
SUNY Undergraduate Research Conference

70 • Fantastical Worlds and Our Own: How Fantasy Reflects and Affects Reality

Malachy Jensen
Abstract
Abstract This study is an analysis of fantasy fiction, especially in novels, and how it pertains to reality through affecting cultural norms and structures, as well as self-identification and relationships with others. Through investigation of parasocial interactions, analysis of the gratifications that fantasy provides, chronological investigation of themes in four fantasy novels centering on the driving characters of those narratives, and audience analysis via a survey, this study reveals insights into both the shifts in fantastical worlds and our own. Fantasy both drives and is driven by culture, a unique situation to the fantasies humans have created. Keywords: fantasy, parasocial relationships, identity construction, chronological studies
Faculty/Staff Sponsor
Lee Pierce

Faculty/Staff Sponsor Department/Office
Communication
This presentation will also be presented at:
James C. McCroskey and Virginia P. Richmond Undergraduate Scholars Conference for the Eastern Communication Association
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

186 • Cross-Platform Warfare: How TikTok, Instagram Reels, and YouTube Shorts Normalize and Circulate Antisemitism Through Humor and Trends

Benjamin Levitsky
This presentation examines how short-form video platforms TikTok, Instagram Reels, and YouTube Shorts contribute to the spread and normalization of antisemitism through both algorithmic design and cultural practices. As antisemitic incidents continue to rise, with reports from the Anti-Defamation League highlighting record-breaking increases in recent years, this study explores how these platforms function as key spaces where such content is encountered and circulated, particularly among Gen Z users.
Faculty/Staff Sponsor
Atsushi Tajima
Faculty/Staff Sponsor Department/Office
Communication
This presentation will also be presented at:
Eastern Communication Association Convention
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

202 • Dance as a Medium of Communication as It Relates to Eating Disorders

Cadence Panol
Abstract
Media of communication employ specific methods of transmission to contribute to ongoing dialogue regarding the awareness and improvement of eating disorder experiences across the United States. The contents of communication can fall into three main categories: emotional, social, and informational. Dance serves as an effective means of social and emotional communication due to its employment of nonverbal and visual communication. Nonverbal and visual communication lend themselves to the activation of mirror neurons, cortex, and bilateral insula, which work simultaneously to elicit an emotional recognition response while watching a dance. The lack of verbal and written messages being transmitted enables audience members to focus on the emotional connection between dancers and individual personal experience, creating a connection across individuals, regardless of personal eating disorder experience. Dance as a live experience fosters an environment in which audience members may engage in socialization and dialogue discussion about eating disorders, further integrating their relevancy into today's society.
Faculty/Staff Sponsor
Atsushi Tajima
Faculty/Staff Sponsor Department/Office
Communication
This presentation will also be presented at:
Eastern Communication Association (ECA) Conference 2026
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

383 • The Love of the Game Should Not Hurt

Bridget Schafer

Abstract

This presentation dives into the belief that there is a possible connection of domestic violence and sports viewership. This research is important because millions of individuals are affected every year by domestic violence. Research suggests there is a possible link between domestic violence and sports, and how sports players' actions are reflected towards the media. This paper develops ideas from social learning theory and freedom of will theory. Methods utilized are phone calls requesting domestic violence reports from game days. This research could lead to how sporting events are marketed and how players' personal lives are influential to sports viewers.

Faculty/Staff Sponsor

Atsushi Tajima

Faculty/Staff Sponsor Department/Office

Communication

305 • Social Media Identities Constructed Through Product Consumption

Anna Tompkins

Abstract

This paper seeks to uncover social media's influence on the identity one constructs for themselves. As a social media user, identities are oftentimes a result of those influencers and content creators one is in contact with. Those who create content for audiences also present lifestyles and aesthetics to draw in followers and sell their identity. Social media users can purchase these representations in the form of products for their *self* to uphold; this process is referred to as consumerism. Consumption in this performative manner has become a normal process in modern-day. Through analyzing social media content and its users, this study uncovered a range of personal to societal concerns as a result of product possession and identity seeking.

Faculty/Staff Sponsor

Atsushi Tajima

Faculty/Staff Sponsor Department/Office

Communication

This presentation will also be presented at:

Eastern Communication Association's 117th Annual James C. McCroskey and Virginia P . Richmond Undergraduate Scholars Conference

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

2J (MILNE 301): REPRESENTING AND SPEAKING FREEDOM: DECOLONIZING MISREPRESENTATIONS OF GLOBAL BLACK PEOPLE WITHIN FILM, AI, EDUCATION, FOREIGN AID, AND IDENTITY

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Milne 301

Session Chair

Griffin Lyons

Track

Interdisciplinary and Other Categories: Black Studies

143 • Decolonizing the Mind: Garvey, DuBois, Nkrumah, and the Struggle for Psychological Freedom

Channing Hill

Abstract
This scholarship argues that psychological freedom is the foundational condition for Black liberation, drawing on the Pan-African thought of Marcus Garvey, W.E.B. Du Bois, and Kwame Nkrumah. Despite formal political change, global capitalism, Western education, and mass media continue to impose Eurocentric standards that shape identity, knowledge, and value, often alienating African and diasporic peoples from their cultural foundations. Garvey's call for mental emancipation, Du Bois's concept of double consciousness, and Nkrumah's theory of *Consciencism* collectively emphasize that domination persists at the level of consciousness. Each framework identifies internalized inferiority as a central barrier to liberation and calls for the reconstruction of self-definition through African-centered perspectives. This study contends that political sovereignty and economic independence remain incomplete without prior psychological transformation. Employing African-centered research methods, it prioritizes the lived experiences, agency, and cultural worldviews of African-descended peoples as essential to processes of decolonization and collective self-determination.
Faculty/Staff Sponsor
Olaocha Nwabara
Faculty/Staff Sponsor Department/Office
Black and Africana Studies
This presentation will also be presented at:
National Council for Black Studies Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

80 • African Centered Approaches to Development and Foreign Investment in Zambia

Griffin Lyons
Abstract
When researching development in African countries, it is critical to recognize that foreign aid policies are often strategically crafted to benefit the foreign investors and to continuously undermine the wellbeing and livelihoods of the indigenous peoples. Western standards and conceptions of development are what determine foreign aid policy, and, because of this, these policies will not adequately allow for non-Western nations' development. With the recent shut down of USAID, foreign aid has been a prominent topic of discussion in the United States, but a more critical lens that takes into account the lived experiences of African communities must be taken. In relation to this, I intend to explore how other Western countries make decisions about the allocation of aid and resources to foreign countries in the Global South, specifically in Africa. I will use Africana studies methodologies to analyze how racial and national identity formation impact how Zambian communities view the foreign they receive. In turn, I will also examine how people in the United States and Ireland perceive the aid they send to African countries and how these perceptions influence policy decisions. My research is grounded in the lived experiences of the communities I am studying, and I take into consideration African perspectives and understandings of the world. I intend to highlight how foreign aid and policy decisions directly affect Zambian peoples receiving aid and examine how the success and effectiveness of foreign aid is measured in the United States and Ireland compared to in Zambia.
Faculty/Staff Sponsor
Olaocha Nwabara
Faculty/Staff Sponsor Department/Office
English and Creative Writing
Special Topics
Student Ambassadorship, Edgar Fellows
This presentation will also be presented at:
National Council for Black Studies
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Student Ambassador Award

133 • Colonial Legacies and Contemporary Classrooms: A Comparative Study of the U.S. and Senegal

Sammi Mcgiveron

Abstract

This project aims to compare contemporary educational systems within the United States, with a particular focus on New York and Senegal in West Africa. The project examines how histories of colonization, oppression, and systemic inequalities have shaped modern education structures in these regions. By comparing regions, the project contributes to the field of Black Studies by providing insights into culturally responsive educational practices that can promote equity and empowerment across the African Diaspora and the continent itself. Experiencing education authentically through personal cultural lenses is a privilege that many across the African Diaspora have been denied for centuries. Instead, education has been weaponized as a tool of oppression and designed to enforce conformity to the dominant Eurocentric worldview. A combination of scholarly analysis, field observations, and interviews with educators in both regions allows for exploration of the following questions: How does the history of oppression and marginalization shape modern education? How are current education systems addressing the persistent challenges Black students face, and how effective are they? In what ways have political and economic structures influenced educational outcomes in these regions, and how do these influences compare across contexts? Findings state: The legacy of African and Black Oppression has lasting effects on contemporary education, as it still reflects and reproduces the Eurocentric ideals that once controlled and marginalized individuals across Africa and the Diaspora. Recentering education in the Black and African perspective is essential to education reform.

Faculty/Staff Sponsor

Olaocha Nwabara

Faculty/Staff Sponsor Department/Office

English and Creative Writing

Special Topics

McNair Scholars

This presentation will also be presented at:

50th Annual National Council for Black Studies

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), McNair Scholars Program Support

81 • The Machines' Skin: Anti-Blackness In the Age of Social Media and AI 💡

Jay Preston

Abstract

Technological advances have transformed research and communication, but they have also enabled new forms of anti-Blackness in the United States. This study examines how modern technologies—particularly social media and generative artificial intelligence (AI)—contribute to the persistence and spread of harmful racial stereotypes. It focuses on how AI is being used to produce a contemporary form of minstrelsy, tracing the evolution of minstrel practices from 19th-century stage performances to film, digital media, and now algorithmically generated content accessible on personal devices. Drawing on examples from platforms such as Instagram, X, TikTok, and Facebook, this research analyzes both the content itself and patterns of user engagement, including likes, comments, and follower activity. While such content is often dismissed as humor, many users struggle to distinguish AI-generated material from reality. This ambiguity amplifies the normalization of anti-Black stereotypes, increases toxicity in online spaces, and reinforces existing prejudices. Beyond analysis, this study serves as a call to action for the field of Black Studies. As the mechanisms of racial bias and misinformation evolve, scholarly methods must adapt accordingly. Rapid advancements in AI are approaching a point where synthetic images and videos may become indistinguishable from authentic ones, complicating how information is evaluated and disseminated. In response, scholars must develop technical competencies to critically assess digital media and identify AI manipulation. Strengthening these skills will be essential to preserving the integrity of research and effectively addressing emerging forms of anti-Blackness in the digital age.

Faculty/Staff Sponsor

Olaocha Nwabara
Faculty/Staff Sponsor Department/Office
English and Creative Writing
Special Topics
Ideas That Matter: AI
This presentation will also be presented at:
National Council for Black Studies
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

117 • Black Film and Television: A Method of Resistance Through the Amplification of Black Voices

Mika Slotnick
Abstract
This paper will examine popular modern visual mediums which center Black stories. Specifically AMC's *Interview with the Vampire*, along with Ryan Coogler's Sinners. The prevalent ideas within these stories of Pan-Africianism, cultural appropriation, forced assimilation and racial domination will be examined, both as they exist within these stories and in American history. Further, this paper will examine the genre of Black horror, along with its significance as a cultural movement. Both genres avoid colonial perspectives, reclaiming history with Black stories at the forefront. Through the allegorical use of the 'monster' in Black horror to confront the deep rooted racism and prejudices of our society, the genre explores Black identity and uses fiction to empower people throughout history. *Interview with the Vampire,* and *Sinners* challenge the dominant historical narratives of America, which often reduce Black Americans to victims of history, and disregard the prevalence and constantly evolving nature of systems of oppression. These stories allow their Black characters to contain multitudes, not focusing on their oppression but their existence and ability in spite of it. These are stories which bring to the forefront of the audiences' minds the resilience, creativity and power of the Black community. Visual mediums are a powerful tool. One which has historically been used against Black Americans in order to reduce them to mere caricatures. Representing Black characters on screen, as artists, activists and storytellers is an essential act of resistance against a world which wishes to silence and disregard Black stories.
Faculty/Staff Sponsor
Olaocha Nwabara
Faculty/Staff Sponsor Department/Office
English and Creative Writing
This presentation will also be presented at:
National Council for Black Studies
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

2K (MILNE 302): THEORY AND PRACTICE OF PHILOSOPHY: MORALITY, EDUCATION, AND ADVOCACY

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Milne 302
Session Chair
Carly Herold, Philosophy
Track
Arts and Humanities Categories: Philosophy

291 • Is Virtue Possible Without Morals? A Question for Niccolo Machiavelli.

Julia Burger

Abstract
Niccolo Machiavelli wrote The Prince as a guidebook to a certain way to live. His ideas – both at the time and now – are controversial, in that they oppose traditional guidelines of 'good' and 'bad' by basically refuting the concepts. I propose that Machiavelli's 'teachings of evil' are really just a version of modest virtue ethics. I intend to explore the extent of morality present in his ideas, as well as consider the question of whether virtue ethics in general needs an underlying set of morals to hold up. I plan on untangling the webs of ideas this thought has led to, as well as evaluating how they connect to a suspected end goal in the book. Although Machiavelli's ideas seem to be uncharted waters at times, I will do my best to uncover his deeper motivations, or short of that, my interpretations of them.

Faculty/Staff Sponsor
Carly Herold
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Philosophy

328 • Beyond the Canon: Understanding the Student Cost of Excluding Marginalized Thinkers

Alexis Flint, Alexis Patrick

Abstract
This presentation shares work we originally delivered at the American Philosophical Association Central Division Teaching Hub in February 2026, where we became the first undergraduate students to present since the Teaching Hub's inception. Undergraduate philosophy education in the United States operates within a largely unexamined canon, one that by default excludes the majority of philosophical traditions produced across human history. We identify two interlocking dynamics of canonical exclusion: the underrepresentation of women within "core" curricula, and the downstream effects of these exclusions on students' capacity to recognize their own intellectual lineages. We argue that these are not incidental oversights but structurally reproduced features of undergraduate philosophy education that carry real epistemic costs. We then turn to intervention. Nonviolent Pedagogy (NVP), a framework adapting Martin Luther King, Jr's six-step nonviolent methodology to undergraduate philosophy education, grounds our proposed response. The distinctive contribution of our APA presentation was a practical application designed for faculty: rather than describing epistemic exclusion abstractly, we guided participants through direct experience of it, using NVP's action-oriented methodology to make the felt reality of canonical exclusion impossible to theorize away. We argue that this kind of embodied, community-oriented pedagogy is essential to any reform that moves beyond critique.

Faculty/Staff Sponsor
David Levy
Faculty/Staff Sponsor Department/Office
Philosophy
This presentation will also be presented at:
American Philosophical Association Teaching Hub Central Division 2026
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Other Source of Support, Support from the Department of Philosophy

285 • Deaf Cultural Identity and Bioethical Considerations of Pediatric Cochlear Implantation

Grace Hubbel

Abstract
Identity experiences of individuals who have had pediatric cochlear implantation and utilize bilingual-bicultural practices are not often fully captured by either distinctions of “deaf,” “Deaf,” or “Hearing.” I aim to address a gap in the literature around the relevance of the bilingual-bicultural model on the identity development of these individuals related to the presumed binary of “deaf” (the medicalized view) vs. “Deaf” (the cultural view). Because language is the most substantial aspect that defines a Deaf identity (second to the audiological component,) the bilingual-bicultural model

adopted with cochlear implants blurs these binary distinctions. I argue that the difficulty in capturing these experiences could leave this population at risk for encountering hermeneutical injustices, a type of epistemic injustice. I propose that emphasizing Deafness as fluid rather than binary can prevent this hermeneutical marginalization and allow them to better capture their experiences. Lastly, I will show how pairing the choice of pediatric cochlear implantation *with* a bilingual-bicultural model can address some objections to cochlear implants in the literature framed around the potential harms of closing off a deaf child's identity pathways.

Faculty/Staff Sponsor
Amanda Roth
Faculty/Staff Sponsor Department/Office
Gender, Sexuality, and Women's Studies

277 • Foundations in Philosophy: Engaging High School Students Through GennyPOP

Olivia Popielarski, Riley Sheehey, Sophie Johnson, Peyton Jameison, Brett Bower, Amanda Louis
Abstract
Typical high school education programs do not feature a basic introduction to philosophical thinking beyond that of a "What if?" question. This exclusion limits students' awareness of the academic and personal value of Philosophy. As a result, the Geneseo Philosophy department created the Philosophy Outreach Program, fondly known by members as GennyPOP, to introduce basic philosophical concepts and lessons in local schools. Some of the lessons covered include topics such as the "Ship of Theseus," the "Experience Machine," and Descartes' "Dream Argument." These lessons not only expose students to foundational philosophical concepts but also encourage critical thinking, self-reflection, and thoughtful reflection in a way that is often overlooked.
Faculty/Staff Sponsor
David Levy
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Philosophy

2L (WELLES 128): STRANGE EXPERIENCE: MUSIC, TATTOOS, AND THE MYSTERY OF BEING IN BETWEEN

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Welles 128
Session Chair
Steve Derne, Sociology
Track
Social Science Categories: Sociology

130 • Music Mysticism and Transcending Worlds

Olivia Kelsick
Abstract
In the "The Theory and Art of Mysticism," Radhakamal Mukerjee mentioned the idea of art, music, and literature contributing to mysticism, which is the belief of becoming one with an entity. I noticed that listening to music allows people to connect with an entity outside of themselves. It creates a connection that people feel on a spiritual, emotional, and physical level. I especially noticed the idea of mysticism with music when I accidently fell asleep while listening to music. Depending on what I was listening to while asleep, the music not only became background noise in my dream, but the song itself set the tone and even influenced what I was dreaming about. The songs that I have used to fall asleep to and guide my dreams provide me with a different connection and experience compared to other songs. I came to notice and understand that listening to specific songs before going to sleep allowed me to become one with the music on a subconscious level as the music transcends reality and becomes one with you in your dreams. This feeling stuck with me even after I woke up.
Faculty/Staff Sponsor

Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

262 • Raves vs. Solitary Music Making: Variation in Music-Induced Altered States of Consciousness

Sean Anglim
Abstract
In their study of rave culture, Takahashi and Olaveson argue that music, embodiment, and group-level energy produce altered states of consciousness (ASC) described as euphoric, transcendent, and deeply physical. While their research focuses primarily on the communal rave settings, their findings also emphasized the influence that music alone holds towards participants reaching these heightened feelings, even when listening in a secluded setting. With this, I began to wonder whether similar ASC's and feelings of personal embodiment could emerge outside of such communal environments. More specifically, can playing musical instruments in solitude evoke comparable emotional, cognitive, and bodily effects? To explore this question further, I conducted sociological introspection, journaling my physical, emotional, and psychological responses after sessions playing guitar, keyboard, and bass. Across eighteen journal entries, consistent themes emerged: sensations of flowing bodily energy, difficulty articulating the experience in words, heightened feelings comparable to flying, and feelings of transcendence beyond everyday stress, beyond the perception of time. While rave participants often describe high-energy, trance-like states, my findings display a more soothing, dream-like form of ASC rooted in immersion and self-generated sound. This study suggests that music itself, independent from crowds, drugs, or collective environments, can serve as a powerful tool for embodied transformation. Personal music-making may produce a distinct but similar form of ASC shaped by introspection rather than communal, group-level experiences. By examining music generation rather than music consumption, this research expands sociological understandings of embodiment, transcendence, and the transformative potential of music that can lead to reaching ASC.
Faculty/Staff Sponsor
Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

21 • Embodied Connection: Tattoos as Symbols of Social Bonds and Emotional Well-being

Leah Donaldson
Abstract
In *Music, Dance and Raving Bodies: Raving as Spirituality in the Central Canadian Rave Scene*, Takahasi and Olaveson claim that raves show the connection between individuals and shared experiences. To add to this idea, I questioned whether similar feelings of connection could be seen through meaningful symbols. This research was conducted to see whether tattoos can strengthen social bonds and emotional well-being. Using introspection, I looked at photographs from when I got meaningful tattoos and reflected on the memories and emotions they evoked. Through this process, I found that meaningful tattoos can evoke strong feelings of closeness, belonging, and continued connection to loved ones, suggesting that connection can be sustained through symbolic and embodied forms beyond immediate group interaction.
Faculty/Staff Sponsor
Steve Derne
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Sociology

84 • "In-Between" the Sacred and the Profane; The Mystery as Fundamental to the Religious Life

Alexandria Goike

Abstract

In Durkheim's book, "The Elementary Forms of Religious Life," he says that the distinction between the sacred and profane reflects the fact that we live group and individual lives. While studying this area of Durkheim, I wondered if he was missing another aspect of our lives. Martin Buber talks about the "in-between," as an arena of experience. I found that this is what Durkheim missed. There is an in between of the group and individual that is often overlooked. This in-between aspect of our lives may be a mystery. Focusing on the in between highlights mystery as fundamental to religious life.

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Sociology

2M (MILNE 319): RESEARCH IN MATHEMATICS

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Milne 319

Session Chair

Caroline Haddad, Mathematics

Track

Science and Mathematics Categories: Mathematics

110 • Mathematics Behind Netflix Recommendations

Amanda Donovan

Abstract

Recommender systems used by streaming platforms such as Netflix can be formulated as a matrix completion problem. User–movie ratings form a large sparse matrix in which most entries are unknown. A common approach is to approximate this matrix by a low-rank factorization, representing users and movies in a low-dimensional latent space. The rating matrix is approximated as a product of two smaller matrices describing hidden user preferences and movie attributes. These factors are computed by solving a least squares optimization problem using the Alternating Least Squares (ALS) algorithm, which iteratively updates user and movie vectors while minimizing reconstruction error over the observed ratings. We illustrate the method through a small numerical example computed in Mathematica, demonstrating how low-rank approximation can be used to estimate missing ratings and generate recommendations.

Faculty/Staff Sponsor

Andrzej Kedzierawski

Faculty/Staff Sponsor Department/Office

Mathematics

219 • Reframing u-Substitution: A Complex and Vector Analysis Approach to Visualizing Integration Theory

Gavin George

Abstract

The standard presentation of u-substitution in introductory calculus treats the method as an algebraic trick: one chooses a new variable to undo the chain rule and simplify an integral. While this approach works, it hides the geometric structure that gives the method its meaning. At its core, u-substitution is the one-dimensional case of a broader principle: integration under a change of coordinates. Any substitution re-describes the domain, stretching or

compressing it according to how the new variable changes with respect to the old one. The familiar differential relationship between the two variables is simply the Jacobian factor that accounts for this distortion. Seen this way, the substitution formula expresses how integrals transform when the underlying space is parameterized in a new way. This viewpoint extends naturally to integration along curves. A line integral is the integral of a function after re-parameterizing the domain by a curve, with the Jacobian given by the speed of the parameterization. Likewise, the Riemann–Stieltjes integral is a one-dimensional change of variables in which the "width'' of each Riemann rectangle is determined not by increments in the original variable but by increments in the integrating variable. In each setting, the derivative of the integrator rescales the measure of integration. Understanding substitution as a coordinate transformation clarifies the method and highlights its deep connections to multivariable calculus, differential geometry, and measure theory.

Faculty/Staff Sponsor
Caroline Haddad
Faculty/Staff Sponsor Department/Office
Mathematics

4 • Find Patterns in Counting Schreier Sets

Julian King
Abstract
A nonempty set F is Schreier if min F ≥ |F|. Bird observed that counting Schreier sets in a certain way produces the Fibonacci sequence. Since then, various connections between variants of Schreier sets and well-known sequences have been discovered. Here, I present joint work with Hung Viet Chu, Yubo Geng, Steven J. Miller, Garrett Tresch, Zachary Louis Vasseur where we proved linear recurrences for the sequence that counts colored and uncolored multisets F with min F ≥ p|F|. Additionally, I present new results in 2-dimensional square-lattice Schreier-Type sets with different definitions for min F which give rise to different sequences with formulas given by an ubiquitous counting technique for Schreier-Type sets. The first part of the research was conducted under the auspices of the Polymath Jr. REU, and supervised by the first, third and fourth collaborators. Recent work has been done in collaboration with the first, and second collaborator and Silas Richardson.

Faculty/Staff Sponsor
Caroline Haddad
Faculty/Staff Sponsor Department/Office
Mathematics
Funding Sources
National Science Foundation DMS2341670 and 2015553

65 • Least Squares Four Ways

Ethan List, Caitlin Roos
Abstract
We examine and explain the least squares (linear regression) using 4 common methods (the normal equation, pseudo-inverses, penalty term, and QR decomposition). We applied each technique to data gathered from the S&P 500 and analyzed how each method performed on this real world data. Although theoretically they yield the same result, some numerically outperform others. We consider what makes the data we considered yield an ill-conditioned system, and what makes one method better than another method.

Faculty/Staff Sponsor
Caroline Haddad
Faculty/Staff Sponsor Department/Office
Mathematics

2N (WELLES 115): BUSINESS MANAGEMENT PRESENTATIONS

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Welles 115

Session Chair

Avan Jassawalla, Business

Track

School of Business Categories: Business Administration

45 • How to Improve Recruitment and Retention of Older Workers—In Today's Talent Shortage, Older Workers (50 Years or Older) Are an Untapped Talent Pool

Grace Clement, Cora Rabey

Abstract

Topic: How to improve recruitment and retention of older workers – in today's talent shortage, older workers (50 years or older) are an untapped talent pool. In today's tight labor market, organizations need to take a closer look at applicants aged 50 and older who represent a significant yet underutilized talent pool. Failing to recruit and retain these experienced individuals leads to a loss of institutional knowledge, diminished workplace diversity, and missed opportunities to utilize multigenerational teams which have proven to outperform younger employee teams. In this presentation, we will share our research by explaining three key human resource management (HRM) challenges we identified: exclusion during recruitment, implicit bias in the job interviewing process, and non-inclusive onboarding and training practices which result in low engagement and quick turnover from older workers. We will provide actionable, research-based solutions we developed to improve HRM in organizations seeking to build more age-inclusive environments and successfully integrate older talent.

Faculty/Staff Sponsor

Avan Jassawalla

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Business

88 • Impact of Using Virtual Teams on a Company's Product Innovation

Tyelor Courtwright, Donovan Grey, Christina Marona, Madison Moore

Abstract

This presentation examines how virtual teams influence product innovation, focusing on two key factors: geographical dispersion and leadership style. Research findings indicate that while virtual teams offer flexibility and access to global talent, geographic distance often reduces team efficacy, slows early-stage product development, and creates communication and trust barriers. Additionally, leadership style plays a critical role in shaping team performance. Transformational and democratic leadership styles are shown to enhance innovation by promoting trust, communication, and employee engagement, while autocratic and transactional styles tend to hinder innovative outcomes. Based on these findings, two practical recommendations are proposed. First, organizations should implement a Virtual Teams Onboarding and Trust-Building Program to establish strong communication norms and team cohesion early in the development process. Second, a Smart Work Delegation and Time Zone Management System can improve coordination, reduce delays, and increase accountability across geographically dispersed teams. Overall, this research highlights the importance of strategic management practices in maximizing the effectiveness of virtual teams and supporting successful product innovation.

Faculty/Staff Sponsor

Avan Jassawalla

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Business

128 • Impact of Employees' Social Media Usage on their Interpersonal Conflict in the Workplace

Raymond Trottier, Allison Blake, Jackson Gloskey, Emily Crall, Lily Quackenbush

Abstract
Social Media has become one of the most prominent sources of social networking and connecting with family and friends. However, social media has also become a driving force in creating workplace conflict. It has been shown that increased Job Stress can lead to an increase in social media usage. This, in turn, can cause conflict in the workplace over the content of the post or could spark issues due to the lack of productivity within a team, due to the increased usage. This increased usage of social media can create workplace gossip and online discourse, potentially increasing conflicts due to concepts like Ego Depletion and Social Comparison. This happens in swing with the rise of cyber-loafing within the workplace, as well as an increase in blurred boundaries between coworkers. However, businesses can combat this rise in social media-based conflict by implementing policies limiting when employees can use social media at work. Additional ways to lower the conflict on social media are by implementing policies that restrict what employees can share on social media.

Faculty/Staff Sponsor
Avan Jassawalla
Faculty/Staff Sponsor Department/Office
Business

20 (WELLES 117): CORRECTING CONGRESS PART ONE: PERSPECTIVES OF THE NEXT GENERATION

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Welles 117
Session Chair
Hanna Brant, Political Science and International Relations
Track
Social Science Categories: Political Science

31 • Maneuvering Malapportionment: The Wyoming Rule

Samantha Koepele, Luke Wallace

Abstract
In recent years, the faith of Americans in their governing institutions such as Congress have fallen to an all time low. In this project we explored how expanding the House of Representatives can improve the representation of the American people and equality in the House, thus restoring faith in Congress. Since the House was capped at 435 members in 1929, the population of the United States has increased from approximately 122 million to roughly 349 million in 2026, producing ever-widening disparities in district size and unequal voting power. Preexisting studies have shown that larger districts weaken constituent representation, as well as interstate inequality. This project contributes to the Congressional reform debate by evaluating how the Wyoming Rule can be a solution to unequal representation. This proposal also addresses gaps between theory and potential implementation, showing how expanding the House can both eliminate malapportionment and strengthen democratic legitimacy. Our research found that the Wyoming Rule has the potential to eliminate malapportionment and disproportionate voting power by standardizing House district population and increasing House membership. These findings show that malapportionment stemmed from the fixed House size and can only be corrected through expansion. Decreasing the number of constituents per representative would also function to create more meaningful representation as congressmembers have to form relationships with smaller constituencies. Expanding the House is a practical solution to strengthen political equality and constituent representation. The implementation of the Wyoming rule could solve issues surrounding democratic legitimacy and possibly restore the American public's faith in Congress.

Faculty/Staff Sponsor
Hanna Brant

Faculty/Staff Sponsor Department/Office
Political Science and International Relations

42 • Should We Abolish the Senate?

Luke Mancini, Devyn Balfe
Abstract
An interesting problem within our current Congressional system revolves around the structure of the Senate. By definition, the Senate is almost anti-democratic, since small-population states have an equal number of representatives as large-population states. The Senate is also notorious for producing gridlock through a lack of consensus and stalling legislation through actions such as the filibuster. A House member, Victor Berger, in 1911 introduced a resolution to abolish the Senate, but this was before the passage of the 17th Amendment, so the intention was slightly different. Still, many of his ideas hold true today, specifically that the Senate is an obstructive body. This research will aim to explore how the abolition of the Senate would affect the American government, using comparable governments to conclude what changes could be made. While the House of Representatives embodies the principle of "one person, one vote", the Senate initially functioned as the "aristocratic" check to its citizen-led counterpart, its representatives being initially elected by state governments. By examining the United States in a comparative context, it becomes clear that the Senate is extremely malproportioned and fundamentally has become obsolete. The Senate, as it currently stands, does not possess the capacity to represent all of its electorates and thus does not serve the democratic function the United States has promised. By abolishing the Senate, room is made within Congress for total representation, and the seats designed for Senate members can be reapportioned to the House for states with growing populations, ensuring all voices are heard.
Faculty/Staff Sponsor
Hanna Brant
Faculty/Staff Sponsor Department/Office
Political Science and International Relations

22 • Disempowering the Undemocratic Senate: How Looking Across the Atlantic Could Fix Congress

Nate Mormon-Horn, Ethan Moyer
Abstract
While the House of Representatives is often considered the 'people's house' of the U.S. Congress, which ostensibly represents the interests of the American population as a whole, its counterpart, the Senate, is much less democratic. Allocating two senators per state regardless of population systematically advantages the political preferences of voters from less populous states when crafting federal policy. To fix this democratic deficit between the two houses of Congress, we propose reserving the power to pass federal legislation entirely to the House of Representatives, restricting the legislative powers of the Senate to solely propose, recommend amendments to, and delay the implementation of bills, rather than being able to block them entirely. Despite having its legislative power be curtailed, the Senate would still retain its power to confirm presidential appointments, try federal impeachments, and to veto the passage of legislation that would directly affect the relationship between Washington and state governments. We feel these reforms would make the U.S. Congress a more democratic institution. When proposing this reform, we considered the bicameral parliaments of the United Kingdom and Germany. The newly formed relationship between the House of Representatives and the Senate is inspired by the relationship between the House of Commons and the House of Lords in Britain since the Parliament Act of 1911. The proposed remaining powers of the Senate are inspired by the prerogatives of the German *Bundesrat* (structured similar to the Senate) in relationship to the *Bundestag* (structured similarly to the House of Representatives).
Faculty/Staff Sponsor
Hanna Brant
Faculty/Staff Sponsor Department/Office
Political Science and International Relations

7 • Partisan Gerrymandering: The Parasite of Democratic Elections

Matthew Peters, Joshua Homer

Abstract

Partisan gerrymandering has recently escalated to unprecedented levels, severely distorting U.S. Congressional representation, hindering competitiveness, and corrupting the ability to establish free and fair elections. Currently, roughly 10% of districts are considered truly competitive. Previous gerrymandering studies have explored methods such as packing & cracking, efficiency gaps, legal loopholes, independent redistricting commissions, and computer-generated AI algorithms to mitigate partisan gerrymandering, identify the best system to ensure more equitable representation among voters, and restore public trust in democratic elections. Our research underscores the importance of reform by comparing computer-generated algorithmic models and independent commission districts with human-drawn maps, assessing which one produces a more competitive election system. Through such consideration, our project argues that gerrymandering hinders the potential benefits of competitive elections and democratic representation. One of our major findings suggests that computer-generated and independently drawn district maps allow for a more democratic and competitive election atmosphere. These findings relate back to our central argument by showing that partisan district manipulation can directly produce inequitable outcomes in our elections by undermining the competition and democracy it was designed to foster. Such results are significant because competition, transparency, and equity are key to a democratic election, and if districts are divided inequitably, it can give one party a key advantage over another. Ultimately, this paper offers thoughtful insight into how gerrymandering can undermine democratization in our state and federal elections and offers solutions to mitigate its effects.

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Political Science and International Relations

49 • Big Money in Congress: How We Got Here, Its Effects, and What We Can Do About It

William Russell, Matteo Conorozzo

Abstract

For decades, the role of money in our political system has expanded greatly, especially following the rulings of *Citizens United v FEC* and Buckley v Valeo with the latter influencing campaign finance laws by establishing the principle that limits on election expenditures are unconstitutional with the Supreme Court opinion adding that a restriction on spending for political purposes violates the First Amendment. After *Citizens United v FEC,* independent expenditures and Super PAC spending increased significantly according to the Federal Election Commission. Critics argue that this influx of money creates unequal political influence, such as elite capture, the influence of government agencies by the private sector, and the rise of an oligarchic class within the United States. Existing research highlights several harmful effects of this, including high campaign costs and the fact that wealthy donors and interest groups have a huge stake in which policies receive attention. This project aims to address whether there is a link between donor dependence and specific policy outcomes and how greater accountability and transparency can be brought about. We hypothesize that increased reliance on donors leads to greater policy alignment and that an alternative public financing system increases transparency and accountability for voters. These results relate to the problem by allowing individuals to dissect the inner workings of this system and what could be done to address its negative effects. Understanding these results is essential to evaluating the health of American democracy as well as formulating ideas as to how political equality could be restored.

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Political Science and International Relations

33 • A Better Ballot: Ranked Choice Voting

Kaylyn Beachner, Ashley Price

Abstract

Ranked choice voting has gained attention, especially lately following the NYC mayoral election, as a potential congressional reform to change how members of Congress are elected. This project's main question is whether a more representative and accountable government would result from nationwide congressional elections adopting ranked choice voting. The plurality system currently determines the majority of US elections, with the winner being the candidate who wins the most votes. Some can argue that this system incentivizes illicit campaign tactics, and promotes partisan division. With the implementation of ranked choice voting in a number of states in recent years, there are now opportunities to assess how ranked choice voting effects campaigns and voter behavior. This project will examine existing research, especially a close look at the recent NYC mayoral election, and cases studies from areas that use ranked choice voting and information from the Netflix documentary *Majority Rules*. It will investigate whether ranked choice voting increases voter turnout and results in candidates voters are more satisfied with. The findings suggest that ranked choice voting has the potential to reduce strategic voting and diversity in candidates. It is also suggested that ranked choice voting will incentivize more issue focused campaigns, though implementation challenges and voter education remain significant concerns. This congressional reform project aims to argue that ranked choice voting represents a viable congressional reform that could strengthen the United States's voting system and reduce polarization in politics.

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Political Science and International Relations

2P (WELLES 119): GENDER, SEXUALITY, AND WOMEN'S STUDIES RESEARCH - PANEL #2

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Welles 119

Session Chair

Amy Braksmajer, Sociology, Gender, Sexuality, and Women's Studies

Track

Interdisciplinary and Other Categories: Gender, Sexuality, and Women's Studies

181 • How Sex Negativity Erases Marginalized Identities in the Pursuit of Comprehensive Sex Education

Dylan Almy

Abstract

Many report a lack of comprehensive sex education in their school curriculum. Comprehensive sex education offers a more holistic approach to discussing topics of sexuality and reproduction. Health education is much less objective than many think, reflecting dominant ideologies that are designed to oppress minorities. Relationships, consent and communication, sexual justice, and pleasure are all aspects of sex education that are often overlooked, yet these are critical aspects of healthy and inclusive education. This project explores the framework of sex negativity, the overarching ideology that claims sexual activity is dangerous and harmful, to better understand why and how certain aspects of sexuality are omitted from mandated material. By analyzing the ideological frameworks that influence education, it is clear to see how minorities including women, people of color, queer people, and people with disabilities are largely excluded from sex education. Various forces of oppression, alongside the influence of sex negativity, create a hierarchy of acceptable sexual behavior that stratifies populations. This focus of social influence over sexual health is a large part of the Geneseo Sex [Ed] internship. Geneseo Sex [Ed] works to promote sexual health and justice on campus through workshops and resource distribution, educating students on various aspects of sexuality that are not often included in typical sex education. This project makes the argument that making sex education more comprehensive is a necessary

step in advocating for sexual health and justice for all, with an additional benefit to those most harmed by systemic injustice.

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Amanda Roth, Amy Braksmajer
Faculty/Staff Sponsor Department/Office
Gender, Sexuality, and Women's Studies

85 • Desire Shouldn't Discriminate: Combating Ableist Sex Education

Natalie Bentley

Abstract

In this presentation I will discuss my experiences as an intern for Geneseo's Sex[Ed] program and my related research project focusing on sex education for individuals with intellectual disabilities. Combining academic work and experience working with this community, I have decided to focus my research on how infantilizing those with intellectual disabilities impacts their level of sex education and sexual experiences. I aim to argue that disability is a spectrum and those with intellectual disabilities *are* capable of receiving and retaining sex education. I will be utilizing the concept of hermeneutical injustice as the theoretical baseline to provide a much needed bridge between disability and sexuality studies. Those with intellectual disabilities should feel supported in their sexual identities/expression and have safe spaces, support networks and partners who can provide education and social support through their process of sexual discovery.

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Gender, Sexuality, and Women's Studies

274 • How Does Gender Performativity and Heteronormativity Shape the Self-identification of Queer Women in Contemporary Society?

Maria Clara Farya

Abstract

My Great day presentation will discuss how gender performance influences and shapes the self-identification process of queer women in contemporary society. Western societal expectations push heteronormative ideals as the default. As the acceptance of same-sex relationships continues to grow, it is evident how these societal expectations can affect–and even potentially disrupt– self-expression of queer people. Judith Butler coined the term of gender performativity which suggests that from the moment we are born, we are expected to act and behave in accordance with our assigned sex at birth. However, this performative nature of gender can disrupt true self-expression, especially for those in oppressed communities such as women. In relationships involving queer women, labels are created to explain each participant's role, such as “the masc” or “the fem”. While these labels may seem helpful in self-identification, they may often reinforce heteronormativity and sexist ideals. By drawing on existing feminist and queer literature, this presentation will seek to analyze how such pressures involve heteronormativity pushing its way into queer identities and communities.

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Gender, Sexuality, and Women's Studies

210 • How Feminist Theory Helps Us to Understand the Pleasure Gap Between Men and Women

Ariel Tabachnikoff

Abstract

In this presentation I will pull on aspects of feminist and queer studies of sexuality to help explain the pleasure gap between men and women in heterosexual sex.. The pleasure gap–otherwise known as the orgasm gap– is the concept that men are significantly more likely to have an orgasm than women during sexual encounters, particularly casual sexual encounters. I will explore three main factors that contribute to the orgasm gap: 1) heterosexist and patriarchal definitions of sex, 2) sex negativity, and 3) the social prioritization of male pleasure over female pleasure in individual sexual encounters within hookup culture. Regarding 1, while sexual activity consists of a broad spectrum of different activities, cultural norms narrowly define sex as "traditional" penetrative sex, an act that is not likely to stimulate the clitoris to orgasm. Regarding 2, in a society where sex is viewed as inherently morally wrong if it is without the purpose of reproduction, unnecessary pleasure, especially women's pleasure, is deemed sinful. This normalizes a culture of sex that prioritizes male pleasure and disregards female pleasure which has contributed to the orgasm gap. Finally, regarding 3,especially during casual sexual experiences women often prioritize the pleasure of men with the intention of helping them to orgasm but men do not prioritize female sexual pleasure to the same degree. Understanding the causes of the orgasm gap and overcoming it would allow for a more pleasurable sexual experience, especially for women.

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Gender, Sexuality, and Women's Studies

2Q (WELLES 121): RESEARCH IN BIOLOGY

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Welles 121

Session Chair

Anna Tessier

Track

Science and Mathematics Categories: Biology

357 • Structural Responses of Metabolic Enzymes to High Pressure in Deep-sea and Shallow-Water Fish

Rowan Considine, Amanda Byer, Samantha Canter, Katie Le, Jacob Daane

Abstract

Below 200 meters, the deep sea makes up ~70% of Earth's habitable space but remains one of the least understood environments. Organisms living at depths approaching 11,000 meters experience hydrostatic pressures up to ~110 MPa, nearly 1,000 times greater than at the surface. These extreme pressures can destabilize protein structure, disrupting enzyme activity and interfering with essential metabolic processes. Understanding how deep-sea organisms maintain protein stability under these conditions is important for explaining how life persists in such extreme environments. This study investigates enzymes malate dehydrogenase and lactate dehydrogenase, from shallow-water fish, the lumpsucker (*Cyclopterus lumpus*) and a deep-sea snailfish (*Pseudoliparis swirei*), a species that inhabits the deepest ocean trenches. These enzymes were over-expressed in *Escherichia coli,* purified using affinity chromatography, and assessed using SDS-PAGE. To examine how pressure affects enzyme structure, we conducted high-pressure biological small-angle X-ray scattering (HP-BioSAXS) experiments at the Cornell High Energy Synchrotron Source. SAXS measures overall size, shape, and detects changes in conformation. This technique allowed us to monitor conformational changes in proteins at select pressures within 0–300 MPa at temperatures 4,10, and 20°C. Our results suggest that enzyme structural responses to pressure differ between shallow-water and deep-sea species, indicating molecular adaptations associated with life at extreme depth. These structural responses may be influenced by temperature, highlighting the importance of pressure–temperature interactions in protein stability. By examining how enzyme structure changes across depth-related pressure conditions, this work improves our understanding of molecular function and informs protein stability in biotechnology and medicine.

Faculty/Staff Sponsor

Mackenzie Gerringer

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Biology
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

183 • Why You're Most Likely a Loser - An Examination of the "Friendship Paradox" Using Network Theory

Samantha Rava, Rachel Molloy
Abstract
The Friendship Paradox states that most of an individual's neighbors have more neighbors than the individual. We tested this using an association network with 62 bottlenose dolphins *(Tursiops truncatus)* from New Zealand and the neural network of the roundworm C. elegans. We introduce a friendship coefficient (FC), defined as the average degree of an individual's neighbors divided by the individual's own degree. The FC will have a value of 1.0 for a regular network, like a chess board with periodic boundaries, and increases in value for networks that are more complicated. We found that the FC for dolphins was 1.356, which is significantly higher than the mean FC for a set of 100 random networks with identical degree distributions ($t = 7.95$, $df = 99$, $p < 0.001$). This suggests that dolphin associations are not random, most likely due to their preferential associations with chosen neighbors (e.g., dolphin cows and their calves). The *C. elegans* neural network also supports the Friendship Paradox, having an FC = 1.053 and a clustering coefficient (CC) of 0.10, which is less than the dolphin's CC of 0.31. The higher CC in dolphins explains why the FC is higher in dolphins than C. elegans. Therefore, your FC is likely greater than 1, showing why you're most likely a loser.
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Gregg Hartvigsen
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Biology

146 • Describing Freshwater Temporal Acoustic Patterns of Western NY

Anna Tessier, Kristi Hannam, Maya Tucci
Abstract
This presentation will discuss the acoustic diversity index patterns across 6 ponds in the Geneseo area through space and time. During summer 2025, hydromoth recorders were set and collected underwater recordings from Indian Fort pond, Island Preserve pond, and four different ponds on the Park property outside of the town. Recordings over a two month span of June through July were analyzed in the lab using R studio and Ocenaudio, comparing the ADI of three different sites at each pond, as well as the ADI overtime across ponds. These comparisons were made for both day and night time hours to determine if there was greater soundscape diversity throughout different times of day. Data analysis is still ongoing, however, there have not been any significant differences found in the statistical and graphical analysis thus far.
Faculty/Staff Sponsor
Kristina Hannam
Faculty/Staff Sponsor Department/Office
Biology
Funding Sources
Geneseo Foundation Undergraduate Summer Fellowship

310 • Leaf Litter Compost Soil Amendments In Created Wetlands May Drive Ecosystem Succession Toward an Alternative Community Structure.

Avelin Tomidy, Joelle Chang, Talia Weidberg, Aneesa Mirza
Abstract
Wetland loss due to human activity has driven increased efforts to create and restore wetlands. This study evaluates a created freshwater wetland and a natural forested reference wetland at the Frances Willard Conservation Area in Riga,

New York. Since 2019, the site has been used to assess the long-term effects of leaf litter compost (LLC) additions on ecosystem structure and function. LLC was applied annually to treatment transects, while Control transects (CTRL) remained untreated. The objective is to promote succession toward conditions resembling natural wetlands(REF). This project examines linkages between vegetation, soil biogeochemistry, and microbial communities to understand successional trajectories. Results from 2024 indicate that LLC significantly increased total carbon and nitrogen, shifting soil conditions toward those of the REF. These nutrient changes supported native plant recruitment but also promoted the invasive *Phalaris arundinacea*, suggesting potential divergence in plant community composition. To assess whether surface patterns extend belowground, we analyzed microbial communities at 0–1 cm and 10–11 cm using 16S rRNA sequencing. Compost-amended soils showed enrichment of Bacteroidota and Desulfobacterota, indicating increased decomposer activity and nutrient cycling. Microbial communities also clustered by treatment, suggesting that compost drives shifts in community composition and soil nutrient dynamics. These results will help determine whether ecosystem succession aligns with restoration goals. Overall, LLC amendments appear to accelerate soil development but may also promote alternative successional pathways, highlighting the importance of integrating soil and microbial dynamics in wetland restoration.

Faculty/Staff Sponsor
Wendy Owens-Rios
Faculty/Staff Sponsor Department/Office
Biology
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

2R (WELLES 123): MANY SHOCKS, ONE SYSTEM: THE MACROECONOMY, OIL PRICES, AND ARTIFICIAL INTELLIGENCE

Wednesday, 22 April, 2026, 10:45 am-12:00 pm, Welles 123
Session Chair
Léonie Stone, Business
Track
School of Business Categories: Economics

314 • Many Shocks, One System: The Macroeconomy, Oil Prices, and Artificial Intelligence 💡

Emily Bahm, James Gardner, Henry Hallock, Connor DiMartino, Alexander Stayoch, Anthony Dodge, Ella Dinino, Colin Henley

Abstract
The Fed Challenge team explains the major issues confronting the U.S. macroeconomy at present. We focus on oil prices and the economic consequences of war in the Middle East, the ongoing problems created by tariffs and immigration policy, and the opportunities and disruptions created by the development of artificial intelligence. Come learn about what you're hearing in the news!

Faculty/Staff Sponsor
Léonie Stone
Faculty/Staff Sponsor Department/Office
Business
Special Topics
Ideas That Matter: AI

CONCURRENT SESSION 3

Wednesday, 22 April, 2026, 12:00-1:20 pm

3A (BAILEY 101): ADAPTING LOUISA MAY ALCOTT'S *LITTLE WOMEN*

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 101

Session Chair

Alice Rutkowski, English and Creative Writing

Track

Arts and Humanities Categories: English

24 • Losing the Heart of *Little Women*: Gender, Morality, and the Missteps of *Little Witches*

Kyle Bulger

Abstract

Adaptations of literature are more prevalent now than ever before, so it's no surprise that one of America's most cherished works of literature, *Little Women* by Louisa May Alcott, is adapted into a film by practically every new generation and, more recently, into numerous graphic novels. At a glance, Little Women seems perfectly suited for modern adaptations. Its focus on childhood and adolescence makes it easily adaptable for a wide range of audiences, along with its themes of gender, marriage, and womanhood. However, these themes are often misunderstood by contemporary authors and frequently misrepresented, if not entirely abandoned, in many adaptations of the novel. This is certainly the case in the graphic novel Little Witches: Magic in Concord by Leigh Dragoon. This graphic novel, which places the March siblings in a witch family that must protect Concord from a curse, is unsuccessful not because it introduces fantasy, but because its fantasy framework erases the moral ambiguity, gender discourse, and emotional development that define Little Women, while implementing a poorly construed and borderline regressive abolition storyline, along with a rigid moralism absent from the original novel.

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Alice Rutkowski

Faculty/Staff Sponsor Department/Office

English and Creative Writing

23 • *Little Women*: Nostalgia, Relatability, and Love from Alcott to Gerwig

Ariel Guttman

Abstract

Louisa May Alcott's classic novel, *Little Women*, has entertained and inspired young girls for over a century. Alcott's heartfelt depiction of four sisters growing up in the Civil War era is celebrated for its humor, realism, and relatability to all young girls, and praised for its messaging of generosity, unconditional love, and finding your own path in the world. Though there have been many adaptations produced over the years, from graphic novels, to television series, to films, one recent version of the story has gained mass attention since its release. *Little Women* (2019), directed by Greta Gerwig, reimagines the classic story through its non-linear storytelling and star-filled cast. Modern audiences, who often share the same nostalgic appreciation for Alcott's novel as those who read it at its first release, view this film with appreciation for its representation of the original tale. Although Gerwig's film centers and expands Jo's narrative and tells the story through an altered timeline, by updating its depiction for modern audiences, it can be considered a successful adaptation due to its inclusion of the original's central themes of morality, generosity, and love, its depiction of complex relationships, and maintenance of the nostalgia and emotional impact present in Alcott's original *Little Women*.

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English and Creative Writing

20 • "When You're Ready for Every Detail": How a "Junior Readers" Adaptation Compromises the Integrity of Louisa May Alcott's Little Women

Archer Maduro
Abstract
Louisa May Alcott's Little Women follows four sisters facing trials big and small that ultimately strengthen their bond as a family and allow them to mature into wise, selfless, and empathetic young adults. Alcott brilliantly uses these characters to also comment on themes of gender ambiguity and spiritual morality. Bethany Snyder rewrote Alcott's novel in 2008 as a "Junior Classic edition" more suited to younger readers. Snyder explains in her foreword that the "classic story [of Little Women]… has been carefully condensed," but reassures that "the well-known phrases… Louisa May Alcott's [writing] style… [and] the important imagery" were retained. However, this revised text now focuses on the bare bones of the plot and heavily censors much of Alcott's prose and social commentary. The adaptation's illustrations, provided by Martin Hargreaves, also seek to honor the source material in how they depict class differences, but fail in their character accuracy. In her attempted juniorization of Alcott's novel, Bethany Snyder left readers with a story robbed of key characterization and moral motivation, therefore creating an unsuccessful adaptation.
Faculty/Staff Sponsor
Alice Rutkowski
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English and Creative Writing

3B (BAILEY 102): DATA ANALYTICS CAPSTONE 2

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 102
Session Chair
Byeong-Hak Choe, Business
Track
School of Business Categories: Data Analytics

15 • Wildfires, Insurer Withdrawal, and the Expansion of FAIR Plans in the Western United States

Ann Brennan
Abstract
As wildfire risk increases across the western United States, major insurers have reduced coverage or withdrawn from high-risk markets. This project examines the relationship between wildfire risk, insurer withdrawal, and the expansion of Fair Access to Insurance Requirements (FAIR) Plans, primarily in California. Using data analysis and machine learning techniques, it explores whether areas with greater wildfire risk experience larger increases in FAIR Plan enrollment. This project also evaluates the extent to which wildfire exposure predicts shifts in the insurance market. Insurance market instability has major implications for homeowners, insurers, regulators, and local governments. As private insurers cut back on policies, more homeowners rely on state backed insurance plans, raising concerns about long term sustainability and financial risk. This analysis aims to provide evidence that can inform regulatory decisions and policy planning by quantifying the relationship between wildfire risk and FAIR Plan growth.
Faculty/Staff Sponsor
Byeong-Hak Choe
Faculty/Staff Sponsor Department/Office
Business

13 • Living Near the Cloud: Quality of Life Near Data Centers 💡

Theodore Packert

Abstract
This project compares quality-of-life outcomes between communities near data centers and those farther away. As data centers become more central to everyday life, it is important to assess whether proximity is associated with environmental or health-related risks that could warrant public advisories or planning guidance. If measurable indicators suggest harm, policymakers and planners can use the evidence to site future facilities in ways that minimize impacts on existing and future communities. The study focuses on New York State metros (NYC, Rochester, Buffalo, Albany, etc.) and combines public data center directories with neighborhood-level demographic, housing, and environmental datasets. The main question being asked is: Do communities located near data centers show different quality-of-life outcomes than comparable communities farther away? If data centers do create harm to communities, how can we minimize the effects to ensure that communities can operate in a safe and healthy way. Along with ensuring that data centers leaving minimal impact on communities, we will look into possibilities of alternate energy strategies such as co-located renewables or small modular reactors, could reduce local grid strain and emissions linked to data center growth in New York State.

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Business
Special Topics
Ideas That Matter: Climate Change & the Individual, Ideas That Matter: AI

17 • Wealth Creation & Coinciding Political Behaviors

Christopher Taratko

Abstract
Within the US, people normally reside within the two primary parties: Democrat and Republican. They both contain a relative foundation for where their array of positions stem from, giving them alternative names such as Liberal (Democrat) and Conservative (Republican). The topic that is searched for within the provided data questions how these two parties create wealth within the US, if there are any distinct inferences to be made. The primary databases that have been chosen to help find trends are *Voting Behavior*, *Household / Unemployment*, *Debt Balances*, and *Income Data* by state. Of these sources, they will be analyzed more in depth by *Age Groupings*, to understand demographics of both sides to see when and where wealth becomes a large motivator. The combination of these sources will help draw a picture to the correlation among *how individuals vote among Age, and how those segments treat their own wealth and keep it growing*. This information will hope to prove valuable to younger individuals planning out their life, in order to grow wealth as opposed to being stuck underneath their potential. With large economic shifts and business usage of AI in the past 4 years, it has become apparent that jobs will almost never have a complete guarantee of continuing to exist in the future. It also means the job-force has to continue adapting to such circumstances by using the tools at their disposal.

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Business

12 • Exploring Socioeconomic Factors Associated with Low Food Access Tracts in New York State

Cameron Caffarelli, Nada Trabelsi

Abstract
Reliable access to affordable and nutritious food is essential to public health, yet many communities in the United States do not have access to supermarkets or grocery stores in their area. This study examines the distribution of low food access census tracts in New York and explores their socioeconomic characteristics. Using data from the U.S. Department of Agriculture's Food Access Research Atlas, we classify tracts as "low access" if at least one-third of residents live more than one mile from a supermarket in urban areas or more than ten miles in rural areas. The binary outcome variable (LA1and10) identifies low-access tracts, while input variables include race/ethnicity, poverty rate, median family income, urban status, and low vehicle access. We apply logistic regression to estimate the likelihood of a tract being low access and interpret adjusted odds ratios to assess the relative influence of socioeconomic characteristics.

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Business

3C (BAILEY 103): GENESEO CHANGEMAKERS: STUDENT AMBASSADOR PRESENTATIONS PART 2

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 103
Session Chair
Melanie Medeiros, Anthropology
Track
Interdisciplinary and Other Categories: Ambassadorship

373 • The Amazon Project

Muhtady Ahmed

Abstract
In Madre de Dios, illegal gold mining is causing severe environmental damage by releasing toxic mercury and other metals into ecosystems and water sources. Mercury is commonly used to extract gold due to its low cost and effectiveness, but when the gold-mercury amalgam is burned, it releases harmful contaminants into surrounding sediments and waterways. This contamination spreads quickly and poses a serious threat to biodiversity, ecosystem health, and local communities that rely on these water sources. Over the course of this year, I will be traveling to Peru and collaborating with Hoja Nueva to gather environmental data that highlights the impact of illegal gold mining. Upon arrival, I will complete on-site training in tropical ecology and safety protocols before conducting field research. My work will include testing water quality in affected and unaffected areas, focusing on trace metals and methylmercury levels that make habitats uninhabitable for sensitive species such as anuran populations. Additionally, I will conduct herpetological surveys along established transects to document species diversity, abundance, and physical condition. Observing deformities in amphibian populations will help indicate long-term biological contamination. In this presentation, I will discuss the environmental consequences of illegal gold mining in Madre de Dios, describe the methods and goals of my ambassador project, and share the progress I have made so far in collecting and analyzing data.

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Center for Integrative Learning
Special Topics
Student Ambassadorship

Funding Sources
Student Ambassador Award

87 • Addressing Light Pollution at SUNY Geneseo 🌿

Zachary Boice, Christopher Desiderio, Gavin George
Abstract
The level of light pollution in and around SUNY Geneseo's campus poses a threat to public health, a threat to the habitats of native species, and obscures the natural beauty of the night sky. We seek to reduce light pollution by targeting factors like overlighting and the use of cool-color lights. Over the course of this year, we have been actively collecting light intensity data from various locations on campus. This will help us understand what regions of campus contribute the most light pollution. We are also measuring the correlated color temperature of campus lights to understand whether fixtures meet sustainability guidelines for light pollution. In this presentation we plan to raise awareness about several adverse effects of light pollution described in existing literature and how these concerns will inform our plans for implementation. We then plan to share data we have collected thus far and discuss the current emerging trends.
Faculty/Staff Sponsor
Melanie Medeiros
Faculty/Staff Sponsor Department/Office
Center for Integrative Learning
Special Topics
Student Ambassadorship, Earth Day-related
Funding Sources
Student Ambassador Award

161 • Improving Access to LGBTQ+ Inclusive Literary Texts

Chloe Hirt, Kaleighanne Athens
Abstract
In the Geneseo School of Education, a key concept taught to candidates is teaching with diverse texts. But when candidates are teaching in schools in the GLOW Region, they can often be without guidance, resources, or time for teaching these books, specifically LGBTQ+ and disability pride books. The teaching of diverse texts allows all students to feel seen and understand these important topics. This connects to the countrywide issue of book banning and the federal attack on Diversity, Equity, and Inclusion. Over the course of this year, we are connecting with the GLOW Region through events that promote diverse texts, purchasing books to distribute to local schools and libraries, and creating short guidance documents to support the teaching of these texts and topics. We are working with Wadsworth Library, Teacher Education Resource Center, and local school districts to share these books, resources, and to host our events. In this presentation, we will briefly discuss the problem our ambassadorship seeks to address, focused on access to diverse texts for educators, students, and families. We will also describe our overall project and what we hope to accomplish, and what we have accomplished so far in the past 4 months.
Faculty/Staff Sponsor
Melanie Medeiros
Faculty/Staff Sponsor Department/Office
Center for Integrative Learning
Special Topics
Student Ambassadorship
Funding Sources
Student Ambassador Award

75 • The Yellow Wallpaper Ballet

Katherine Penna

Abstract

The lack of care invested in women's mental health has been an enduring issue both now and before Charlotte Perkins Gilman authored her radical short story, "The Yellow Wallpaper." These concerns are often not understood (sometimes systematically), and the people who suffer from them are stigmatized. As the present political environment of our nation continues to push both the arts (as well as their accessibility) and these marginalized voices to the fringe of our social consciousness, I felt compelled to revisit the potential of this work of literature. This project will adapt Gilman's story into a ballet, framing it with current events, to empower marginalized voices through movement, music, and color. By attempting to express these human concerns through a non-dominant, artistic discourse, this work seeks to decenter dominant ideologies surrounding nonnormative perceptions and narratives. Over the course of a year, I will work to compose and direct this ballet, seeking to unite various sectors of Geneseo's performing arts community throughout the creative process. My hope is to make this performance a process in which people of many different skill levels and identities can participate to demonstrate the visibility and community facilitated by collaborative methods of artmaking. In this presentation, I will briefly describe what I hope to accomplish with this project as well as discuss my progress so far.

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Melanie Medeiros

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Center for Integrative Learning

Special Topics

Student Ambassadorship

Funding Sources

Student Ambassador Award

3D (BAILEY 104): HISTORY GRADUATE STUDENT PANEL #2

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 104

Session Chair

Kathleen Mapes, History

Track

Arts and Humanities Categories: History

227 • Examining Geopolitical Alliances and Shifting Power Dynamics in Multilateral Trade Negotiations: A Case Study of the Semiconductor Sector in the US-China Trade War, 2018-2025

Hillary Arinze

Abstract

This thesis uses the 2018-2025 US-China "chip war" to examine how great-power rivalry over semiconductors had reconfigured multilateral trade rules, alliance structures, and understandings of lawful economic statecraft. It argues that semiconductor policies, including tariffs, export controls, investment screening, and industrial subsidies, functioned as historically embedded instruments through which the United States and China stretched the WTO national security exceptions and reinterpreted industrial subsidy disciplines. Methodologically, the study combines historical institutionalism and process tracing with constructivist IPE and geoeconomic statecraft to construct key episodes of policy change and to analyze the discursive framing of semiconductors as strategic technologies rather than ordinary tradeable. Drawing on government documents, WTO dispute materials, policy reports, and elite discourse (including original podcast interviews), this thesis traces how the "chip war" has reshaped third-country alignments and global semiconductor supply chains. This thesis contributes to scholarship on the US-China trade war by shifting attention from

aggregate tariff impacts to a sectoral, historically grounded account of how the semiconductor conflict ("chip war") became a critical juncture that rearticulated power, identity, and order in the global trading system.

Faculty/Staff Sponsor
Catherine Adams
Faculty/Staff Sponsor Department/Office
History
This presentation will also be presented at:
SUNY Graduate Research and Creative Activities Conference 2026

174 • "To Complete Our Declaration": The American Indian Chicago Conference, The Declaration of Indian Purpose, and the Quest for Self-Determination

Joseph Ferguson
Abstract
The American Indian Chicago Conference (AICC) illuminates understudied elements within twentieth century Indigenous history. Post WWII policies of termination came to frame the conference, and archival evidence from the planning and establishment of regional conferences and founding documents allows for analysis of the deeper meaning the conference held. The planning phases, schedule, events, and outcomes of the conference indicate factors of a national Indigenous community and identity that have yet to be fully explored in the historiography of this period. The implications of termination policies on Indigenous peoples in North America act as a starting point for the conference's development. The stages of planning, which included various regional and intertribal meetings that were smaller in scale than the AICC laid a foundation for a much larger national meeting. These conferences, along with the AICC itself, played a vital role in defining a pan-Indian identity in the 1960s and 70s. In analyzing the days of the conference, a narrative that connects the events of the AICC to Indigenous identity, community, and culture is clear through themes of tribal sovereignty and self-determination. The American Indian Chicago Conference and the Declaration of Indian Purpose, I argue, acted as a bridge between the era of termination and the era of self-determination for Indigenous populations in the United States, and it should be seen as such in the historical narratives of the twentieth century United States.
Faculty/Staff Sponsor
Michael Oberg
Faculty/Staff Sponsor Department/Office
History
Funding Sources
Funding for this thesis project was provided by the Charles Randy and Susan Bailey Student Fellowship Endowment.

141 • 'Planting the Seeds of an Educational Revolution': A History of Federal TRIO Programs

Jack Kirby
Abstract
Histories of American higher education tend to suggest that the relationship between the federal government and higher education reached its apex in the 1950s before beginning to decline in the 1960s. How, then, do we understand the creation of federal TRIO programs in the 1960s and their continued growth through the remainder of the twentieth century? TRIO programs are federally funded projects intended to expand college access for non-traditional students. Through the lens of access, this paper argues that the federal government was limited in its ability to influence higher education during the post-war period because of the highly decentralized nature of the American university system. Eventually, Lyndon Johnson successfully incentivized implementation of Civil Rights policy in higher education through TRIO. Programs like Upward Bound (the original TRIO program) were successful because they granted institutions funds for the purpose of supporting non-traditional students without demanding uniformity. In fact, variance was a virtue when it came to the creation of Upward Bound projects. What's more, this paper argues that expanding college access has been a bipartisan position since at least 1945. In arriving at these conclusions, I utilized a wide range of primary sources including hearings, newspaper articles, and government reports.
Faculty/Staff Sponsor

Joe Cope
Faculty/Staff Sponsor Department/Office
History
This presentation will also be presented at:
SUNY Graduate Research Conference
Funding Sources
The Charles Randy and Susan Bailey Student Fellowship Endowment

3E (BAILEY 105): IDEA 2 VENTURE BUSINESS PRESENTATIONS

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 105
Session Chair
Mark Rider, Business
Track
School of Business Categories: Entrepreneurship

99 • TownTide Adventures

Brayden Smith
Abstract
My submission is my business idea named TownTide Adventures that takes personalized choices from travelers and uses steady, up-to-date weather changes to suggest and recommend to travelers the best options for them to do while in an area. We also emphasize supporting and promoting local businesses, so they get the recognition that they are commonly overlooked for.
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office
Business

223 • Dovetail Workshop Business Proposal

Andras Beke
Abstract
The business proposal for Dovetail Workshop, a makerspace focused on woodworking. This space provides the tools, equipment, and supplies for woodworkers of all skill levels to grow their skills and engage in a hobby they love.
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office
Business

259 • ElevateHER

Isabella Lavrynenko
Abstract
My business ElevateHER is a female only gym focused on optimizing women's health and workouts through the use of high quality technology. We focus on the females as individuals so they can get the most out of their experience.
Faculty/Staff Sponsor
Mark Rider
Faculty/Staff Sponsor Department/Office
Business

282 • Skybound pitch

William Russell

Abstract

Walk through how I constructed an aerial photography and videography business from scratch. SkyBound aims to help struggling real estate agents achieve success and recognition by providing professional aerial imagery that can highlight the beauty and prowess of each listing.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

226 • Ministry Connect

Emma Sternberg

Abstract

Ministry Connect is an online community looking to connect Christians to local volunteering opportunities that align with their preferences and skills.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

230 • Business Idea: Rt Performance

Ryan Trebing

Abstract

RT Performance is a platform that provides training videos and tutorials for coaches and athletes to improve performance. It focuses on making high-quality coaching content easy to access, easy to understand, and usable anywhere. The goal is to help athletes develop skills, prevent injuries, and give coaches better tools without needing expensive in-person training.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

113 • Business Idea: Holistic and Conventional Medicine Clinic

Emily Ye

Abstract

A business idea proposal about creating a clinic where it merges holistic and conventional medicine together.

Faculty/Staff Sponsor

Mark Rider

Faculty/Staff Sponsor Department/Office

Business

3F (BAILEY 201): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 201

Session Chair

Lisa Meyer, Sociology

Track

Interdisciplinary and Other Categories: Edgar Fellows

52 • Racial, Socioeconomic, and LGBTQ+ Diversity in Geneseo Greek Life

Jenna Crowley

Abstract

This study examines student perceptions of racial, socioeconomic, and LGBTQ+ diversity within Greek life at SUNY Geneseo. Although sororities and fraternities often promote values of community and inclusion, research has suggested that Greek organizations may perpetuate exclusion based on race, class, and LGBTQ+ identity. To investigate these dynamics at Geneseo, this study utilized an anonymous web-based survey to examine students' perceptions of how race, socioeconomic status, and LGBTQ+ identity influence different aspects of Greek life affiliation. The survey collected responses from 94 Geneseo students, including both Greek-affiliated and non-affiliated participants. Statistical analyses, including correlation, regression, and ANOVA, were conducted to examine relationships between participant demographics and perceptions of inclusivity. Results indicate that Greek affiliation significantly shaped perceptions of Greek life environments. Students affiliated with Greek organizations were more likely to perceive Greek life as inclusive and reported witnessing fewer discriminatory behaviors. In contrast, non-affiliated students, non-White participants, and LGBTQ+ participants reported lower levels of perceived inclusivity and were more likely to report observing discriminatory or exclusionary behaviors. Financial barriers were also identified as a major factor influencing students' decisions to join Greek organizations, suggesting that socioeconomic status plays a substantial role in access to membership. Overall, the findings suggest that while Greek life provides many academic and social benefits, disparities in perceived inclusivity and accessibility persist for marginalized groups. The study highlights the need for institutional efforts to address financial barriers, increase diversity education, and strengthen policies that promote equity and inclusion within Greek life organizations.

Faculty/Staff Sponsor

Lisa Meyer

Faculty/Staff Sponsor Department/Office

Sociology

Special Topics

Edgar Fellows

196 • From Judgement to Hierarchy: How Women Reinforce Sexual Double Standards

Kelly Kinsella

Abstract

This study examines how slut-shaming among college women acts as a perception-based mechanism of social control that reinforces gendered and classed hierarchies. While commonly associated with men, slut-shaming is also perpetuated by women—reflecting internalized gender norms and participation in maintaining patriarchal standards. By examining previous literature on gender performance, sexual double standards, and stigma, this study argues that slut-shaming is driven less by actual sexual behavior and more by appearance, rumor and perceived reputation. These perceptions are used to categorize women into moral hierarchies, where those labeled as "sluts" face social penalties while others gain status and protection. To explore this dynamic, a mixed-methods cross-sectional survey was conducted with undergraduate women at SUNY Geneseo. The anonymous survey assessed perception of slut-shaming, its social consequences, and the role of reputation through close-ended, scenario-based, and open-ended questions. Quantitative data were analyzed using descriptive statistics, while qualitative responses were examined through thematic analysis. Findings highlight how slut-shaming often operates independently of confirmed behavior, functioning

instead as form of social control rooted in gender norms and social status. By centering perception rather than behavior, this study contributes to existing literature by empirically examining women's participation in slut-shaming and the mechanisms through which reputational hierarchies are constructed and maintained within college environments.

Faculty/Staff Sponsor
Lisa Meyer
Faculty/Staff Sponsor Department/Office
Sociology
Special Topics
Edgar Fellows

201 • The Choreographic Process: Dance as a Medium of Visual Communication About Eating Disorders

Cadence Panol

Abstract
What does it take to put together a choreographic piece of art that communicates emotional concepts? This presentation is the culmination of a capstone exploration into the creative choreographic process as it relates to visual communication and production about eating disorders through art. Throughout the fall semester, the piece entitled "Anorexia Nervosa" was cast, choreographed, composed, costumed, lit, photographed, recorded, and performed for the 2025 Geneseo Dance Ensemble production of "Threading in Motion." The piece explored visual storytelling elements through the choreography, including specific bodily gestures, group and partner lifts, physical contact versus distance, and movement motifs repeated throughout the dance. In order to create a piece for stage, technical theater elements were also incorporated in collaboration with the Geneseo Costume Shop and Theater Department. These choreographic and technical elements intersect with specific socioemotional and cultural stigma and existing understandings of eating disorders in order to create a unique experience for the choreographer, performers, and observers of the show. This process involved documentation of the rehearsal process via a written journal and video recordings of the dancing, the photographing of costume concept pieces, audio recordings of draft music compositions, and sketches of lighting designs. This capstone exemplifies the interdisciplinary nature of dance composition for stage performance, highlighting all of the different factors that contribute to the facilitation of conversations about eating disorders by using dance as a medium of communication.

Faculty/Staff Sponsor
Deborah Scodese-French
Faculty/Staff Sponsor Department/Office
Theatre and Dance
Special Topics
Edgar Fellows

205 • SUNY Geneseo's Financial Literacy Gap

Anamaria Santos Mendez

Abstract
College is a significant investment for everyone who chooses to attend. An investment that, in return, offers a time and place to grow, develop, and engage deeply with the content of one's chosen major. The knowledge and experiences gained in these years ultimately shape the career paths students pursue after graduation. Alongside academics, SUNY Geneseo, like many colleges across the country, offers a wide range of student services and extracurricular opportunities designed to support students outside the classroom. However, one area that remains noticeably overlooked is financial literacy. Beyond the financial aid concepts students must learn coming into college, every year introduces an array of financial concepts, from taking out loans to opening a credit card to even investing, to build long-term financial stability ultimately. In most cases, students have a social network they can turn to for such financially oriented questions, but who do first-generation college students turn to? What is SUNY Geneseo doing or not doing to help its students? What does financial literacy look like at Geneseo? What are the limitations of financial literacy? These are the multifaceted

questions my paper aims to explore, while also offering a platform to highlight the importance of financial literacy on college campuses and what meaningful support could look like.

Faculty/Staff Sponsor
Jyothsna Harithsa
Faculty/Staff Sponsor Department/Office
Business
Special Topics
Edgar Fellows

3G (BAILEY 202): EDGAR FELLOWS CAPSTONES PANEL

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 202
Session Chair
Bradley Taber-Thomas, Psychology and Neuroscience
Track
Interdisciplinary and Other Categories: Edgar Fellows

195 • From Safety to Stress: How Classroom Environment Interacts with Trait Anxiety and Self-Esteem to Influence State Anxiety: A Proposed Study Design

Ashley Biondi, Bradley Taber-Thomas

Abstract
Anxiety in academic settings can negatively affect students' emotional well-being and academic performance by impairing focus, reducing motivation, and hindering overall achievement. Research demonstrates that both trait anxiety, a general predisposition to anxiety, and state anxiety, a temporary situational response, affect students' cognitive processes and emotional regulation. The classroom environment plays a crucial role in shaping a student's social-emotional experiences. A supportive classroom setting is associated with improved motivation, engagement, and well-being, which serves as a buffer to ease academic stress. In contrast, judgmental classroom settings, characterized by negative feedback and pressure, can influence anxiety, particularly in individuals with high trait anxiety. Self-esteem plays a role in mediating an individual's ability to regulate anxiety. Despite these findings, little empirical work has been done experimentally to contrast supportive/safe versus judgemental/stressful classroom environments and their effects on state anxiety and performance, while accounting for individual differences in self-esteem. This proposed study outlines a research design intended to examine how different classroom environments may influence students' anxiety responses, combining traditional self-report measures with physiological indicators such as heart-rate monitoring and eye-tracking technology to capture moment-to-moment emotional and attentional responses. Additionally, simulated data were generated to illustrate the expected patterns of results based on our hypotheses. By experimentally contrasting supportive and judgmental classroom contexts, the proposed design aims to provide a more comprehensive understanding of how environmental and individual factors interact to influence anxiety in academic settings and how future interventions could address these factors.

Faculty/Staff Sponsor
Bradley Taber-Thomas
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience
Special Topics
Edgar Fellows
Funding Sources
Edgar Fellow

232 • Unreconstructed: Housing Segregation in the Federal Government

James Flockhart

Abstract

The National Housing Act of 1934 was passed in order to stabilize the housing market by subsidizing loans and creating the Federal Housing Administration (FHA) to evaluate and insure the risk of lending. However, FHA Underwriting Manuals from 1934 and 1938 identified "inharmonious racial groups" as financial risks, federally institutionalizing racial discrimination in lending practices now known as redlining. This paper analyzes the FHA's racialized risk assessments, tracing their origins in economic thought and examining their long-term effects on urban development and wealth accumulation. Focusing on the work of Richard T. Ely, Frederick Babcock, and Homer Hoyt, it argues that responsibility for redlining extends beyond the Roosevelt administration. These policies were shaped by widely accepted racist ideologies ingrained within American economic theory, which informed federal policy and legitimized discriminatory practices.

Faculty/Staff Sponsor

Justin Behrend

Faculty/Staff Sponsor Department/Office

History

214 • ISIS and Counterterrorism in Western Europe

Brian Kenny

Abstract

The Islamic State, also known as ISIS, has been responsible for an estimated 40,000 deaths since its formation in the early 2010s, making it the world's deadliest terrorist organization. At its peak in 2015, ISIS conquered large amounts of territory in Iraq and Syria with the goal of establishing a global caliphate governed according to an extremist interpretation of Islam. At the same time, ISIS aimed to wage war against its political and ideological enemies around the globe, with Western Europe emerging as a major target. From 2015 to 2017, ISIS carried out a series of shocking attacks in cities such as Paris, Brussels, and Barcelona, killing hundreds and making counterterrorism the number one priority for European security agencies. Although the frequency and severity of attacks have decreased in recent years, ISIS remains a major threat to Western Europe, and authorities have recently foiled plots targeting high-profile events such as the 2024 Paris Olympics. This project focuses on counterterrorism policy in Spain and France, two nations that face a common threat from ISIS, but differ greatly in key policy areas, including state centralization and community-based deradicalization programs. Through comparative analysis, the project examines why these countries have taken different approaches to counterterrorism and evaluates the successes and shortcomings of each model. Going forward, the experiences of Spain and France provide valuable insights into how Western European nations must adapt their counterterrorism policies in response to the evolving ISIS threat.

Faculty/Staff Sponsor

Anand Rao

Faculty/Staff Sponsor Department/Office

Political Science and International Relations

Special Topics

Edgar Fellows

3H (BAILEY 203): THE CHOICES WE MAKE & HOW THEY MAKE US

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 203

Session Chair

Quinlan Craven

Track

Interdisciplinary and Other Categories: Other

95 • Buy Now, Pay Later and the Future of American Household Debt

Brody Phelps

Abstract
Buy Now, Pay Later (BNPL) has emerged as a rapidly growing form of short-term consumer credit, allowing households to divide purchases into interest-free installments with minimal friction. While often framed as a tool for improving financial flexibility, its broader economic implications remain unclear. This presentation examines whether BNPL primarily functions as a mechanism for consumption smoothing or whether it contributes to increased financial fragility and inequality within a K-shaped economy. Using an intertemporal consumption framework, BNPL is modeled as a form of borrowing that shifts consumption forward in time. In the short run, BNPL increases current consumption by easing liquidity constraints and reducing the perceived cost of purchases. However, in the long run, required repayments reduce future disposable income, potentially constraining future consumption. The analysis suggests that BNPL expands access to credit at the margin, particularly among younger and lower-wealth households, and is primarily used for consumption rather than asset accumulation. As a result, while BNPL may temporarily stabilize consumption, it may also increase hidden household leverage and contribute to financial vulnerability over time. In the context of a K-shaped economy, where higher-income households accumulate wealth through asset ownership while lower-income households rely more heavily on consumption-based credit, BNPL may not create inequality but may reinforce existing economic divergence.

Faculty/Staff Sponsor
Mansokku Lee
Faculty/Staff Sponsor Department/Office
Business
This presentation will also be presented at:
Possibly presenting at SURC and COPLAC

127 • An Ethical Analysis of *Eating Animals* by Jonathan Safran Foer

Quinlan Craven, Trinity Stich

Abstract
This presentation examines the ethical implications of animal consumption through an analysis of *Eating Animals* by Jonathan Safran Foer. Foer investigates the realities of modern factory farming, revealing that the vast majority of animals consumed in the United States are raised in industrialized systems designed to maximize efficiency at the expense of animal welfare. By combining his research with personal experiences, he challenges the readers to reconsider the moral consequences of their everyday food choices. Our presentation explores several of Foer's main arguments including the cruelty of factory farming, differences in societal values and dietary practices, and the role of storytelling in shaping human attitudes towards animals we eat. Additionally, we explore contrasting examples such as ethical farming and the efforts from organizations like PETA, to show the complexity of this issue. We also applied philosophical frameworks including utilitarianism and duty ethics to evaluate Foer's claims. Drawing on ideas presented by philosophers Peter Singer and Tom Regan, we assess the extent to which animal farming practices can be morally justified. Ultimately, this presentation encourages critical reflection on the ethical consequences of food choices and asks whether it is possible to farm animals in a way that will reduce their suffering.

Faculty/Staff Sponsor
Carlo Filice
Faculty/Staff Sponsor Department/Office
Philosophy

391 • Time with Friends as a Way to Reduce Anxiety

Kendra Prosser

Abstract
Sociologist Pitirim Sorokin defines love as a psychosocial, multidimensional phenomenon that produces love energy, one of the highest energies known. Sorokin further concludes that love energy is powerful in defeating negative energies

such as fear. This paper proposes that anxiety is a negative energy that may subsequently be defeated or reduced through the experience of love energy. This research uses sociological introspection to explore love energy, which may be produced through time with friends, as a method of anxiety reduction. Ultimately, the findings suggest that love energy, specifically created through time with friends, reduces feelings of anxiety and even increases feelings of happiness and peace of mind.

Faculty/Staff Sponsor
Steve Derne
Faculty/Staff Sponsor Department/Office
Sociology

3I (BAILEY 204): LEARNING FROM THE STUDENT CENTERED CIVIL RIGHTS MOVEMENT

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Bailey 204
Session Chair
Emilye Crosby, History
Track
Arts and Humanities Categories: History

244 • Communicating SNCC: White Women, Allyship, and Sharing SNCC with the Masses

Valerianne Jacobson
Abstract
This presentation will examine the few key white women who held long-term positions in SNCC (Student Nonviolent Coordinating Committee), especially Mary King, Dorothy (Dottie) Zellner, Connie Curry, Casey Hayden, and Jane Stembridge. SNCC was a student-led organization founded by Ella Baker. Although it emerged from the sit-ins, which challenged segregation, it quickly moved into organizing around voter registration in the Deep South. White southern fears around "race-mixing," especially interracial sex, limited white women's work options, but didn't prevent these women from finding ways to contribute to the organization and Movement. All four of them joined SNCC in its early days and they were all involved in the group's work related to communications. This presentation aims to identify what these women shared, in terms of their common roots and their motivations for joining the Movement. It also explores their evolving understandings of, contributions to, and positions in SNCC over time. In examining these elements, this presentation aims to examine the larger questions of good allyship and effective white participation and leadership within a Black grassroots movement.

Faculty/Staff Sponsor
Emilye Crosby
Faculty/Staff Sponsor Department/Office
History

199 • The Foundation of the Cake: How Historians and Authors Depict Ella Baker

Valerianne Jacobson, Ian Kepple, Maximilian Schnittman
Abstract
This paper examines how historians and textbook authors depict Movement leader Ella Baker and how these interpretations shape our understanding of the Civil Rights Movement. The paper is divided into three parts. First, it analyzes top-down narratives that center national leaders such as Martin Luther King Jr. and often minimize Baker's contributions by reducing her role to the founding of organizations like the Student Nonviolent Coordinating Committee (SNCC). Second, it examines bottom-up interpretations that emphasize grassroots organizing, local leadership, and Baker's broader influence on individuals, organizations, and communities. Third, this paper examines the implications of top-down and bottom-up narratives of Ella Baker and the Civil Rights Movement and how these interpretations shape students' understanding of the movement and the significance of figures like Baker. This paper argues that top-down

narratives, which center around national figures and organizations, often neglect or minimize the role of grassroots activism, while bottom-up narratives reveal the central importance and influence of Ella Baker's philosophy on grassroots organization and local leadership in local communities, individuals, and organizations, allowing for a deeper understanding of the complex story of the Civil Rights Movement.

Faculty/Staff Sponsor
Emilye Crosby
Faculty/Staff Sponsor Department/Office
History

160 • From Civil Rights to Anti-war

Maximilian Schnittman
Abstract
This presentation is an examination of why and how the Student Nonviolent Coordinating Committee (SNCC), a group that is typically identified with the mostly Southern and Black Civil Rights Movement, became involved in what is often perceived as a Northern and primarily White Anti-war Movement. SNCC grew out of the 1960 sit-in movement and quickly emerged as a crucial student-led group organizing around voter registration in the Deep South. After years of pursuing voting rights and political power, helping to push for the passage of the Civil Rights Act of 1964 and the Voting Rights Act of 1965, SNCC was roundly criticized for attacking the Vietnam War in early 1966. The group was inspired to make a public statement when one of its volunteers, Sammy Younge Jr., a Tuskegee student and Vietnam War Veteran, was murdered by a white gas station attendant. In response SNCC issued a statement denouncing the Vietnam War arguing both Younge and the Vietnamese are seeking rights which are guaranteed to them under the law. "Younge was murdered because the United States law is not being enforced. Vietnamese are murdered because the United States is pursuing an aggressive policy in violation of international law." This presentation will show how the organization and its members became increasingly critical of what they considered a war of American Imperialism and how their involvement in the broader anti-draft and anti-war Movement evolved and grew.

Faculty/Staff Sponsor
Emilye Crosby
Faculty/Staff Sponsor Department/Office
History

3J (WELLES 210): NATIONS AND JUSTICE

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Welles 210
Session Chair
Samuel Scamardo
Track
Interdisciplinary and Other Categories: Other

111 • Genocide in Guatemala: A Continuous State of Suffering through Intentional Silence, Repression, and Cultural Erasure

Jakob Smith
Abstract
Approximately 200,000 Guatemalans— almost entirely Indigenous Maya populations— were killed or disappeared during the Guatemalan Civil War between 1960 and 1996. Because Indigenous populations were not seen within the mold of the "New Guatemala," the repressive Guatemalan military attempted to exterminate rural Maya populations through blatant targeted murderous campaigns. While the killing declined significantly around the mid 1980s, the genocide never ended; in this paper, I will investigate how genocide of Maya populations transformed from literal to figurative murder. By purposefully hiding the remains of victims, not recognizing their actions as genocide, and

suppressing activism using harsh repression and intimidation tactics, the Guatemalan government and military have continued their attempt to erase Maya culture altogether.

Faculty/Staff Sponsor
Ryan Jones
Faculty/Staff Sponsor Department/Office
History
This presentation will also be presented at:
Phi Alpha Theta Conference

287 • Necropolitics & Dehumanization: The Rise of Trump & Militarization of the Southern Border

Natalie Bentley

Abstract
This paper discusses my synthesis of interlocking social structures that have shaped, and been shaped by, the militarization of the Southern U.S. Mexico border. Generations of white supremacist and patriarchal policies have allowed for the dehumanizing rhetoric and policies towards Black and Brown immigrants. The 1990s saw the introduction of the Prevention Through Deterrence (PTD) approach to immigration, which pushed migrants into the hostile terrain of the Sonoran Desert. Post 9/11 America deepened this "zero tolerance" immigration policy. Trump has capitalized on this fear in both of his presidential campaigns through militarizing and criminalizing the Southern border. My directed study, "Trump Democracy and Justice", is rooted in both my SUNY Geneseo research and ethnographic findings from my Study Away trip in Tucson, Arizona, as part of the Anthropology of Borderlands course. I significantly deepened my existing theoretical analysis of Trump, white nationalism, necropolitics, and social movement organizing through educational training and direct action in Arizona. My emerging findings center on bridging my studies of the Trump Administration, my engagement with De Leon's (2015) ethnography *The Land of Open Graves: Living and Dying on the Migrant Trail*, and my fieldwork in Arizona. Hiking the Sonoran Desert, visiting the border wall in Nogales, Arizona, and attending federal migrant court proceedings illuminated the intentional relationship between the Trump Administration's immigration policies and hostile desert conditions. My argument is that this connection of policy and the environment has a purpose: devaluing the lives, deaths, and humanity of migrants on the Southern border.

Faculty/Staff Sponsor
Reece Torres
Faculty/Staff Sponsor Department/Office
Sociology

308 • Trois pays, une même espérance: An Examination of African Migration in Contemporary Europe

Ayden Link

Abstract
Over the past twenty-five years, the rate of migration from Africa to Europe has steadily increased, with the population of African migrants in Europe nearly doubling. Many migrants take advantage of the freedoms of movement within the Schengen zone. Despite heavy reliance on migration to maintain social and economic benefits, Portugal, Spain, and France each employ distinct legislative and social approaches to the reception and integration of migrants. This project analyzes the implications of African migration across the three countries, investigates primary migrant groups, the roles they play in society, and nuances integration methods of each country. Using thematic analysis, our study is three-fold: The first part identifies the socio-historical contexts of each host country regarding African migration, including perceptions, historical relations and formative events. The second part looks at the legislation regarding citizenship, residency, and documentation status in each host country. The third part investigates how the existing institutions facilitate migrant integration. The study reveals stark differences in the integration process: uneven laws regarding language proficiency, residency, and access to resources. This leaves migrants confronting significantly disparate bureaucratic landscapes. The study also sheds light on the dualistic reality of African migration to Europe: it serves an

essential role in society while simultaneously facing severe socio-cultural barriers. This project ultimately asks how greater alignment in migration and integration policy, using Portugal, Spain, and France as comparative models, might advance more equitable, coherent, and effective approaches to African migrant integration across the broader European Union.

Faculty/Staff Sponsor
Kodjo Adabra
Faculty/Staff Sponsor Department/Office
Global Languages and Cultures

37 • Reclaiming the Political Future of the Sahel Through the Rejection of French Influence

Samuel Scamardo
Abstract
Beginning in 2021, three Sahelian states–Mali, Burkina Faso, and Niger–staged three successive military coups in an attempt to move towards self-determination. As a result of French exploitation and continued neo-colonial influence, these nations seek to redefine their political trajectory for true independence through the newly formed Alliance of the Sahel States (AES). This study investigates the motivations behind the rejection of French interventionism and the conditions that led to the creation of the AES. Drawing on close reading of recent literature by leading scholars and political analyses, I synthesize critical findings to illustrate the historical and geopolitical context in which the AES arose. Preliminary results reveal that France's continued and persistent presence in post-independent Africa is widely regarded as a continuation of exploitation and unequal power dynamics. As a result, these Sahelian states have rejected French influence under their new military regimes by promoting their native languages, initiating and enacting the withdrawal of French military troops from Sahelian soil, and installing governments with explicitly anti-France agendas. Collectively, these developments illustrate a broader effort to establish genuine self-governance rooted in local values, languages, and economic autonomy. This research study offers a deeper critical analysis and understanding of contemporary French neo-colonialism, interventionism, and exploitation within the context of geopolitical realignments in former African colonies.

Faculty/Staff Sponsor
Kodjo Adabra
Faculty/Staff Sponsor Department/Office
Global Languages and Cultures
This presentation will also be presented at:
National Conference on Undergraduate Research
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

3K (MILNE 302): RESEARCH IN PSYCHOLOGY

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Milne 302
Session Chair
Claire Gravelin, Psychology and Neuroscience
Track
Social Science Categories: Psychology

267 • Mortality Salience and Materialism: Alternative Pathway Models of Death Anxiety and Reflection, and the Authentic Self

Natalie Casey
Abstract
This poster examines mortality salience (MS) and materialism, highlighting the psychological processes that mediate and moderate this pathway. Supported by terror management theory, MS often triggers death anxiety, resulting in seeking

security, meaning, and status from culturally valued symbols. In Western culture, this is often material goods, and the accumulation of wealth. Empirical findings demonstrate that MS increases financial greed and materialism by buffering death anxiety (Kasser & Sheldon, 2000; Zaleskiewicz et al., 2013). However, this pathway becomes complex when other factors are considered. Recent research highlights the dual system of death awareness, such that depending on presentation, death-related stimuli triggers either death anxiety or reflection. Death reflection is a cognitive state in which individuals reflect on life meaning and what may be thought of them after death. This kind of thinking induces lower materialism (Liu et al., 2023). Additional moderators disrupt the original pathway as well: core value affirmation reduces identity-driven consumption (Xiao et al., 2024), supporting evidence that individuals who reflect on the life meaning experience reduced consumption. Priming saving thoughts produces a more significant anxiety buffer than spending behavior (Zaleskiewicz et al., 2013), suggesting that a financial perspective different from our popular Western consumerism may be more effective at reducing anxiety when exposed to death. Understanding these models has important implications for well-being. Materialism and extrinsic motivation that is associated with these values negatively impact well-being. As thoughts of mortality are inevitable in our lives, individuals should be encouraged to engage in death reflection rather than death anxiety.

Faculty/Staff Sponsor

Jim Allen

Faculty/Staff Sponsor Department/Office

Psychology and Neuroscience

235 • No Moderated Effects, but Altruistic Motivations Mediate the Relation between Environmental Threat and Environmental Concern

Jim Allen, Anthony Carvalho, Sarah Brunskill, Carly Chupick, Riley Griffin, Alexandra Gaboury, Ethan Moore, Emily Lopez

Abstract

Batson found that valuing another person's welfare moderated the relation between perceiving that person in need and helping that person via the mediator's empathy and altruistic motivation (Batson, 2023). Batson's theory has inspired research in environmental psychology (Bereguer, 2010), although the model has not been fully tested. We sampled 131 college students who read a narrative about a fictional landscape named "Forest Creek Highlands" (FCH) facing pressure from developers. The description was ambiguous regarding the severity of the threat. Participants indicated their perception of threat and concern for FCH. Measures of empathy for FCH and altruistic motivation to protect it were also included. Results indicated that valuing the environment did not moderate the relation between perceiving the environment as threatened and the first mediator, empathy for the environment. Additionally, perceiving the environment as threatened indirectly predicted environmental concern via the mediator altruistic motivation to protect the environment. Empathy for FCH did not mediate the relation. There was also a larger direct effect. Lack of variability in Environmental Concern, Environmental Threat and Empathy for the Environment might explain why the full model was not confirmed. Ceiling effects may have also influenced the results. Future research should address these problems using an experimental design. This research has important potential implications for ways to address the current environmental crisis. If Batson's model predicts Environmental Concern, this suggests that appealing to altruistic motives is an effective way to meet the environmental crisis.

Faculty/Staff Sponsor

Jim Allen

Faculty/Staff Sponsor Department/Office

Psychology and Neuroscience

This presentation will also be presented at:

2026 Association for Psychological Science Annual Convention

340 • Interactive Effects in Rape Evaluations: Evaluator Gender, Victim Race, and Reporting Status

Eva Elliot, Ava Franks, Elisabeth Lersch, Emma Michalak-Brown, Rileigh LeVan, Sabonne Schuman

Abstract
Rape is a gendered crime, with men perpetrating the majority of sexual violence. While rates of victimization are similar for Black and White women—approximately one in four—societal responses differ markedly by race, shaped by entrenched stereotypes. Black women are often stereotyped as hypersexual, animalistic and immoral, whereas White women are viewed as pure and submissive. These racialized narratives, alongside rape myths—stereotypical beliefs about rape, victims, and perpetrators—contribute to disparities in victim blame and perceptions of assault severity, particularly as rape experiences deviate from prototypical expectations. The present study examined how evaluator gender, victim race (Black vs. White), perpetrator race (Black vs. White), and reporting status (reported vs. not reported) interact to shape rape myth acceptance (RMA), victim blame, and perceived severity. Male and female participants evaluated a vignette describing an assault with these factors manipulated. Analyses revealed that men reported greater rape myth endorsement and blamed victims more than women. Black victims were blamed more than White victims, and reporting generally reduced blame and increased perceived seriousness. However, Black non-reporting victims were blamed most, and their assaults were deemed less serious, particularly by men. Women endorsed uniformly low RMA, whereas men endorsed greater RMA for Black victims who did not report. Perpetrator race was not a significant predictor. These findings underscore the compounded impact of gendered attitudes, racialized stereotypes, and reporting expectations, highlighting the need for intersectional approaches to understanding perceptions of sexual assault.

Faculty/Staff Sponsor
Claire Gravelin
Faculty/Staff Sponsor Department/Office
Psychology and Neuroscience

This presentation will also be presented at:
Eastern Psychological Association

370 • Effect of Empathy Moderation on Mediated Relationship Between Concern, Threat, and Ecological Altruistic Motivations 💡

Alexandra Gaboury

Abstract
Prior research connects altruistic models of helping behaviors to environmental helping behaviors. These models typically involve concern for the natural environment, perceptions that the natural environment is threatened, and empathy as predictors for ecological altruistic motivations (to protect the environment). This poster tests a novel configuration of these predictors in a moderated mediation, using past altruism research as a theoretical framework. 131 college students reacted to a description of a fictional forest facing threats of development. Results indicated perceptions of threat to the environment partially mediated the relation between concern for the environment and altruistic motivation to protect it. However, the model becomes more supported when empathy is a moderator of the relation between perceptions of threat (mediator) and ecological altruistic motivations (outcome variable). Surprisingly, the primary effect of the moderated mediation was found among low empathy reported participants. Lower empathy scorers who perceived more threat recorded a higher ecological altruism than perceived lower threat–an effect not experienced by high empathy scorers. Finally, this model was only supported when altruistic motivation to protect the environment was used as an outcome variable. The model was not supported if egoistic motivations to protect the environment or even altruistic motivations to protect other humans was used as an outcome variable. These results do require replication as this has not been tested as a model of environmentally friendly behavior, but include some promising potential and theoretical implications.

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Psychology and Neuroscience
Special Topics
Ideas That Matter: Climate Change & the Individual

3L (MILNE 303): EQUITY AND INEQUITY IN GENESEO'S PAST AND PRESENT (PAPERS FROM WRTG 105)

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Milne 303
Session Chair
Joe Cope, History
Track
Interdisciplinary and Other Categories: Writing Program

184 • Equity Behind the Fence: German P.O.W.s and the Communities in Which They Lived

Nicolas Francis
Abstract
This paper examines the relationship between Prisoners of War imprisoned in the United States and the local people in the communities where these camps resided. It specifically looks at the unique relationship between these two groups that existed in Western New York, and specifically Geneseo, during the final years of the Second World War. Previous research shows that German P.O.W.s were often viewed with suspicion, but they largely overlook local community interactions and the relationship between P.O.W.s and nearby educational institutions, particularly in terms of equity in education and racial equity. This study asks: How did interactions between German prisoners of war and local communities affect perceptions of equity in the higher education systems of 1940s Western New York? This study uses primary archival sources, oral history interviews, local newspapers, and secondary scholarly research to analyze experiences associated with the Geneseo camp and other Western New York P.O.W. camps. Findings show that informal interactions between P.O.W.s and locals led to knowledge exchange, social relationships, and educational contact through efforts such as book drives, demonstrating a belief in education as a shared or universal good, despite official restrictions. Also, this study demonstrates the further inequity that existed in Western NY, the unique lack of racial equity between Italian and German prisoners. It shows how local interactions often promoted collaboration and more inclusive attitudes toward education, while military and institutional authorities maintained systems of control that reinforced inequities educationally and racially.
Faculty/Staff Sponsor
Joe Cope
Faculty/Staff Sponsor Department/Office
History
This presentation will also be presented at:
Phi Alpha Theta Regional Conference

217 • From Compliance to Inclusion: Students with Disabilities at SUNY Geneseo

Autumn Quill
Abstract
Since its founding, SUNY Geneseo has established itself as a public liberal arts college committed to academic excellence and community values. Yet, like many institutions of higher education across the United States, its support for students with disabilities has been shaped by shifting legislation, evolving campus culture, and ongoing questions about equity and access. Disability support on U.S. campuses has undergone dramatic transformation since the 1960s, moving from minimal accommodations and institutional indifference to more formalized structures shaped by Section 504 of the Rehabilitation Act (1973) and the Americans with Disabilities Act (1990). Even so, these developments unfold evenly, and institutions struggled to translate federal mandates into meaningful inclusion.

Geneseo promotes its public liberal arts identity by emphasizing expanded access to learning and opportunities, historically limited to a select few, raising the question of where it has upheld that mission. This research explores how SUNY Geneseo's support for students with disabilities has evolved from the 1960s to the present, focusing on key institutional shifts, challenges, and outcomes. It examines the timeline of recognizing and institutionalizing accommodations, the influence of major legislation on policies and campus structures, and student experiences that reflect the difference between compliance and inclusion. Ultimately, it considers whether Geneseo's current programs demonstrate a shift from reactive, compliance-based practices toward a more intentional and inclusive mindset.

Faculty/Staff Sponsor

Joe Cope

Faculty/Staff Sponsor Department/Office

History

400 • Increasing Access and Support: How SUNY Geneseo Aids First-Generation Students in Their Academic Success

Jasmin Montano-Luna

Abstract

As the number of first-generation students attending SUNY Geneseo has increased, have their efforts to support their academic and sense of belonging on campus increased? First-generation students are the first in their families to pursue higher education. First-generation students often face unique challenges such as financial strain, limited institutional knowledge, and a lack of sense of belonging among peers. Existing studies have noted that these challenges are intensified for students of color, especially in predominantly white institutions, who face microaggressions, hypervisibility, and cultural isolation on campus. These studies also demonstrate a strong correlation between a student's sense of belonging and their academic engagement, implying that a university plays a crucial role in a student's success. This paper explores these themes, particularly in Black and Latinx populations. It identifies key resources universities should have, such as pre-orientation programs, dedicated support centers, and campus events. Using this framework, this paper analyzes those programs at SUNY Geneseo, including its First-Generation Pre-Orientation Program, TRIO Support Services, and campus events. Findings suggest that SUNY Geneseo has made progress in supporting first-generation students by fostering community, and having access to resources made for first-generation students. Although it is slowly improving, comparing its resources to diverse schools within the SUNY system highlights that SUNY Geneseo has a long way to go.

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History

402 • Intersectional Identities and LGBTQ+ Support Systems at SUNY Geneseo

Keira VanDerBeck

Abstract

I researched the support services Geneseo has for LGBTQ+ students and how intersectional identities play a role in the support of LGBTQ+ students. Some sources I analyzed include the literary magazine Ruby Bayou, and the history of the Safe Zone program.

Faculty/Staff Sponsor

Joe Cope

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History

406 • Women's Rights in Geneseo: 1960s–1970s

Shannon Donnelly

Abstract
This paper explores how gender roles and expectations shaped women's experiences in higher education and at SUNY Geneseo as a whole during the 1960s and 1970s. Using archives of the student handbooks, newspaper articles, and historical sources, we can see clearly how policies such as strict curfews and behavioral rules reflected the belief that women needed supervision, while men were given more independence. The research highlights how women at SUNY Geneseo challenged these inequalities through protests and activism, ultimately forcing the college to change its policies, demonstrating that progress can only be achieved through persistence, resistance, and action while also raising important questions about how gender inequality in higher education continues to evolve today.

Faculty/Staff Sponsor
Joe Cope
Faculty/Staff Sponsor Department/Office
History

3M (MILNE 319): RESEARCH IN THE SOCIOMEDICAL SCIENCES

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Milne 319
Session Chair
Brenna McCaffrey, Anthropology
Track
Interdisciplinary and Other Categories: Sociomedical Sciences

132 • Art in a Time of Cholera: Artistic Depictions of Cholera and the Communication of Public Health Information

Fiona Foley

Abstract
Illness is an inherent part of human life and has remained constant across the development of societies and medical knowledge. During the nineteenth century, London and its surroundings experienced three major cholera outbreaks that ultimately led to John Snow's discovery, which today is considered the foundation of modern public health. Before Snow's work, however, the nature of cholera was not understood, which can be proven based on the illustrated reality reflected in artistic works that were created and published in newspapers during the three outbreaks. These artworks often depicted cholera as shrouded figures or distorted bodies, while suggested remedies appeared as potions or elaborate and exaggerated costumes. Although not always accurate, this imagery reflected and informed public health representation. This study analyzes 54 illustrations, coding their themes and health messages through the theoretical framework of biocommunicability, which examines how biomedical knowledge is produced, circulated, and received. Through my analysis, this study explores how artistic depictions of cholera contributed to the communication of public health information, the formation of a relationship between art and health information, and the creation of a public sphere of health discourse.

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Anthropology
Special Topics
Edgar Fellows

78 • The Impact of IBD on Decisions in Maternity and Emotional Wellbeing in Women

Grace Hubbel

Abstract
The purpose of this study is the investigation of how inflammatory bowel disease (IBD) influences decision-making across various contexts of motherhood in women with IBD, as well as the emotional responses that emerge when facing choices and uncertainties related to family planning or motherhood with the disease. This study addresses a significant gap in the literature of the potential connection of emotional distresses that could occur within aspects of reproductive health with IBD, and the increased psychological distress and lower quality of life scores recognized in female patients compared to male patients. Using qualitative analysis of various social media content from women with IBD, key decisions and choices faced by women with IBD across stages of motherhood are identified, as well as emotional distresses associated. The findings suggest that emotional distresses that arise in the navigation of motherhood with IBD are likely contributing factors to the increased level of psychological impacts on female patients with IBD. The goal with this project is to contribute patient-centered knowledge to this area of research, and generate discussion on systematic implementation of preconception counseling and family planning in the care for women with IBD considering motherhood.

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Faculty/Staff Sponsor Department/Office
Anthropology

278 • Professionalization of the New York Abortion Access Fund Following the Dobbs v. Jackson's Women's Health Organization Decision

Alexis McGrory

Abstract
Following the Supreme Court's decision in Dobbs v. Jackson's Women's Health Organization overturning the constitutional right to abortion access, many states implemented near total bans on abortion. In response, abortion funds and other activist volunteer organizations had to professionalize their structure and change their mission to tackle this new legal obstacle in abortion access, and to accommodate the increased caseload of out of state patients. One organization in New York that implemented this change is the New York Abortion Access Fund, which has gone from a grassroots volunteer-based organization to a hybrid paid and volunteer structure with a new mission aimed at reproductive justice. With this shift, benefits and drawbacks have appeared that changed the way volunteers are able to assist clients in accessing abortion. Staff are adjusting to the high volume of cases that are often highly complicated while also trying to manage the organizational changes that seem to be happening at a rate much quicker than NYAAF and other abortion access organizations can support. This study uses ethnographic research across the formal and informal spaces where abortion access is facilitated in New York to document the impact of abortion bans in states where laws have remained unchanged. This study is a secondary qualitative analysis of participant-observation, in-depth interviews with over 30 abortion access workers previously conducted by Dr. McCaffrey to explore how the professionalization of NYAAF has affected reproductive healthcare access. This research was conducted among advanced undergraduate research assistants from SUNY Geneseo's Anthropology and Sociomedical Sciences program.

Faculty/Staff Sponsor
Brenna McCaffrey
Faculty/Staff Sponsor Department/Office
Anthropology
Special Topics
Edgar Fellows
Funding Sources
Faculty Incentive Grant, Dean Johnston Student Research Assistantship, McNair Scholars Program Support

255 • Illness, Responsibility, and Restructured Care: The Psychosocial Dimensions of Parental Cancer in the United States

Clare O'Brien

Abstract

This research reframes parental cancer in the United States as a family-level social condition rather than a strict biomedical diagnosis. Analyzing psychosocial oncological research and theories of neoliberal health governance, it argues that cancer not only impacts the physical body but also parental and self identity, family dynamics, the psychosocial well-being of the parents, and children's emotional development. Approximately 14-28% of cancer patients are parents to young or dependent children under the age of 25, however, U.S. oncology care practices are predominantly disease-centered and individualized. By examining qualitative analyses, empirical studies, and cultural narratives, like the 'triumph' and 'battle' discourses of cancer, this work demonstrates how neoliberal notions of resilience, self-management, and societal expectations of intensive parenting amplify psychosocial distress in families affected by parental cancer. It highlights persistent structural gaps in childcare support, counseling services, and comprehensive family-centered care, reinforcing the notion that responsibility for managing illness, like cancer, is individualized within the household rather than supported at a systemic level. Despite increased research on the psychosocial outcomes of parental cancer, there is still very little information about how cancer patients with dependent children themselves understand and frame their illness within these cultural and structural contexts.

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Anthropology

364 • Social Media & Playing-Related Pain in Cellists

Audrey Ryan

Abstract

Playing-related pain (pain related to playing an instrument) is a complex issue that is very common in string musicians. Indeed, one systematic review suggests prevalence rates of 64.1-90% (Kochem & Silva, 2018). Despite its prevalence, the causes and risk factors are still poorly understood, and treatment options are not standardized. For many chronic conditions, studies find that social media can act as a site for people with similar diagnoses to exchange advice and emotional support. Analyzing these posts can help to highlight beliefs, experiences, and practices surrounding chronic conditions and pain. Through a content analysis of Facebook posts about playing-related pain in a group for cellists, this research examines how musicians use social media to make sense of their pain, and what tactics they use to address it.

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Anthropology

82 • Habitat for Humanity and the Facilitation of Safer Home Environments in Livingston County NY

Tary Santelises

Abstract

Access to safe, stable, and affordable housing is a foundational determinant of health and wellbeing. Organizations such as Habitat for Humanity (HfH) have become critical actors in addressing housing insecurity and environmental hazards affecting low-income families. Beyond constructing homes, Habitat's efforts have recently included lead abatement which collectively enhance physical safety and community health. The following presentation examines the social, economic, and health-related impacts of Habitat for Humanity projects, with an emphasis on how these initiatives contribute to safer living conditions for vulnerable families in Livingston County, a rural county in Western NY. This

analysis draws upon several empirical studies evaluating HFH's outcomes in different contexts, connecting these findings to contemporary public health issues like lead exposure in children.

Faculty/Staff Sponsor
Brenna McCaffrey
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Anthropology
Funding Sources
McNair Scholars Program Support

3N (NEWTON 202): INSIDE LIVES: MORE ALIKE THAN DIFFERENT

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Newton 202
Session Chair
Jennifer Waddington, Education, LIVES Program
Track
Interdisciplinary and Other Categories: Other

261 • Inside LIVES: More Alike Than Different

Tristan Cascio, Rachel Skibinski, Taylor Matthews, Mya-Lyn Albanese, Katrina Brisbane, Michael Campbell, Edrick Delgado-Rivera, Donna Dickes, Micah Durkee, Holly Gates, Aiden Gauthier, Hope Gill, Sam Hardy, Zachary Jacoby, Lilly Marks, Zachary Mogavero, Austin Pape, Brandon Schneider, Rachel Skidmore, John Yost, Ty Acquard, Andrew Bennett, Daniel Deming, Dani Drazkowski, Evelyn Howden, Morgan Hulbert, Travis Nowinski, Emily Sanford

Abstract
The SUNY Geneseo LIVES Program invites you to explore what it truly means to grow, adapt, and thrive. Students will share their personal experiences, skills, and challenges as they navigate independence and college life. Students will be presenting the new program changes along with their own personal changes. They will also discuss the strategies and skills they have developed to overcome these changes. Poster presentations will further highlight key areas of growth, including daily living skills, career readiness, and social development. By sharing their experiences with those of the larger Geneseo student body, presenters will emphasize goals, routines, and aspirations, reinforcing the idea that independence and growth looks more similar than different across individuals. This presentation aims to raise awareness, challenge assumptions, and showcase the meaningful, personal, and academic changes fostered through the LIVES Program.

Faculty/Staff Sponsor
Jennifer Waddington
Faculty/Staff Sponsor Department/Office
Education
This presentation will also be presented at:
The Arc of Genesee, Livingston, Orleans, and Wyoming County

3O (WELLES 117): CORRECTING CONGRESS PART TWO: PERSPECTIVES OF THE NEXT GENERATION

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Welles 117
Session Chair
Hanna Brant, Political Science and International Relations
Track
Social Science Categories: Political Science

28 • Congressional Wealth: Examining How Politicians Turn Their Tax-Funded Salary into Millions

Heather Belcher, Faith Manchester

Abstract

Members of Congress are able to vote on legislation with the potential to directly affect the performance and price of stocks. With members currently being allowed to engage in the stock market in its current set up, there is still significant room for insider trading to occur despite some legislation already in place to prevent such activities, such as the STOCK Act of 2012. But, the rules and consequences are rarely enforced and many suspected scandals are dropped from investigation. This use of their power can lead to members of Congress acting in ways that are more in their own interest than that of the general population. Evidence of this was shown in 2020 when four Senators were found to be participating in insider trading and yet were never held accountable. It could be argued that more action is not taken because the people who should be enforcing this are the people doing it. However, there was another attempt made to stop this from happening by members of Congress in 2025. The attempts and created policies show that action could be taken, it is just likely to get push back from the Congress members who are thriving off of this. But those same people are showing why this is needed. Examining how Congress interacts with the stock market and legislation surrounding their restriction from it could help to find a solution to abuses of power relating to insider trading.

Faculty/Staff Sponsor

Hanna Brant

Faculty/Staff Sponsor Department/Office

Political Science and International Relations

19 • Instituting Compensatory and Ethical Changes for Congressional Reform

Daniel Moore, Brianna Dermady

Abstract

This project investigates the growing socioeconomic divide between members of Congress and their constituents, proposing fundamental reforms in how these representatives are financially regulated and compensated. Currently, the uniform federal salary structure and rather lenient regulations on outside income allow legislators not only to remain insulated from the economic hardships of their constituents but also to be easily influenced by special interests, promising them potential re-election campaign funds. This research proposes replacing the uniform federal salary structure for members of Congress with the living wage of their home district. By tying a representative's salary to their district's local economy, members will have more incentive to address the needs and issues of their constituents directly. Issues may include, but are not limited to, regional inflation, housing costs, and other highly localized factors. This project, furthermore, advocates for a total financial decoupling of public office from private gain. This includes a strict ban on individual stock trading, accepting money from corporate political action committees (PACs), and a lifetime bar on former members of Congress becoming lobbyists. This study argues that these reforms would severely limit current and possible corruption that distorts federal governance and erodes constituent representation. Forcing lawmakers to operate within the same financial constraints as their voters shifts their focus from private gain back to meaningfully representing their districts. These measures serve to restore institutional trust and ensure those elected to represent the country are subject to economic realities and the consequences of their constituents.

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Hanna Brant

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Political Science and International Relations

18 • The Roadblock of Progress: Banning Lobbying in Congress

Sam Englebert, Liam Wendell

Abstract

Corporations and lobbying organizations have too much power over congress, and influence representatives to vote for policies that benefit them for monetary gain. Via empirical evidence from sources like OpenSecrets, it has been shown time and time again that representatives can and will take money from the highest bidder in order to vote for their policies. Not only is this un-democratic, it goes hand in hand with the holding and trading of individual stocks for financial gain. The stronger the relationship between lobbyists, corporations, and representatives are, the more likely they are to be entrenched in this practice. The purpose of the ban is simple- make congress more democratic and vote for policies that are in the interests of constituents, and pursue widely agreed on national issues, without any outside influence. In effect, this would remove the financial incentive to act nefariously or in self-interest for personal gain. According to Pew Research Center, roughly 73%-80% of Americans believe that lobbying groups have too much power over American politics. Not only is this position popular, but it speaks to the larger issue that American's voices are ignored by their representatives in favor of corporations and special interest groups. Again, if enacted, this would restore integrity to congress and ensure that there is zero to no chance that personal gain is the main factor in voting for legislation.

Faculty/Staff Sponsor

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Political Science and International Relations

26 • The Competency Cap: Deciding when Lawmakers are too Old to Serve

Olympia Frisoni, Allison Tuifel

Abstract

In recent years there has been growing conversation about the ages of our congressional representatives. The 119th House has a median age of 57.5 years and the Senate has a median age of 64.7 years (Desilver, 2026). With bipartisan support, 79% of Americans support having age maximums for elected officials in D.C much of that including younger generations who don't feel well represented by older congresspeople (Gramlich, 2026). Age separates people through mutual experiences, values, and priorities so this age difference has been making younger generations feel ostracized and less motivated to be involved in political action. Trends have shown that successful younger candidates have encouraged younger generations to politically engage and participate more. Another glaring issue with the aging of Congress is the competency of these representatives due to health complications associated with aging. Similar to the proposed Constitutional Amendment made by Representative John James (H.J.Res.87), we propose an age limit of 75 years for Congresspeople. This age limit will ensure the age demographics of Congress reflect our country and that delicate decisions will be made with less concern over cognitive and physical decline. Our research intends to not only review relevant literature pieces and opinions across the country but also plan to anonymously survey the Geneseo community to further research public opinion on age maximums. Through this addition to the Constitution we hope to provide further stability in lawmaking and make room for the future of our nation to pioneer in Congress.

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Political Science and International Relations

3P (WELLES 119): GENDER, SEXUALITY, AND WOMEN'S STUDIES & BLACK STUDIES RESEARCH PANEL

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Welles 119

Session Chair

Susana Castillo-Rodríguez, Global Languages and Cultures

Track

Interdisciplinary and Other Categories: Other

154 • Representation and Reality: Domestic Abuse, Intersectionality, and Resources in *Maid* (2021).

Grace Terhune

Abstract

In my presentation for GREAT Day, I will be analyzing the domestic abuse resources represented in the Netflix limited series *Maid* (2021) through an intersectional lens. The series follows a young mother, Alex, who is navigating the challenging process of leaving a harmful relationship. By examining Alex's intersecting identities, including race, class, and gender, my analysis explores how the show depicts the limitations of domestic abuse resources for survivors of other intersecting identities. I will then relate this research project to my role as an intern in the SUNY Geneseo Title IX office including the tasks I have taken up as an intern and the domestic abuse resources that the Title IX office has available for SUNY Geneseo.

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Amanda Roth

Faculty/Staff Sponsor Department/Office

Gender, Sexuality, and Women's Studies

118 • Culture of Cool: Exploitation of the Black Community within American Media

Mika Slotnick

Abstract

This paper will examine cultural appropriation in America as it affects/relates to the Black community. Specifically, it will focus on our current digital era, and the ability of the media to accelerate and further exacerbate the appropriation of Black culture. Further, it will address the ways cultural appropriation intersects with media to promote the consistent disregard and discrediting of Black people. Using bell hooks' concept of "eating the other," along with relying on various humanities methodology, the paper will seek to answer the central question of what it means to produce creative work centered on and/or drawing from one's own culture in a society which seeks to extract from your community without any care for the community itself. In our modern era, with nearly every American engaging with the media in one way or another, it is essential that we understand the constant exploitation Black Americans face everyday. Along with the ways in which we may participate or be complicit in this exploitation. This project intends to force broader society to examine the manifestations of cultural appropriation in film, television and social media. Further, to help people understand how to combat this harm.

Faculty/Staff Sponsor

Amanda Roth

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Philosophy

225 • "Professionalism" Politics of Safety (In Relation to Black Women)

Adryanna Arriaga

Abstract

For my presentation, I will discuss my research on professionalism identity and its impact on queer Black women's workplace legitimacy. This project explores how professionalism is often seen as a neutral standard, but is actually shaped by white, heterosexual, and middle class expectations. Because of this, queer Black women and others with marginalized identities may feel pressure to conform in order to be viewed as professional or successful. Using intersectionality, this research examines how race, gender, and sexuality overlap to shape workplace experiences. Drawing from Communication Studies, I analyze how professionalism is reinforced through everyday interactions, dialogue, and media. By taking a functionalist approach, I consider how these norms are meant to create order while also questioning who they benefit and exclude. This project ultimately aims to rethink professionalism in ways that support more inclusive and authentic expressions of identity.

Faculty/Staff Sponsor

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Gender, Sexuality, and Women's Studies

303 • Depicting Women Behind Bars: An Intersectional View into Representation in *Orange is the New Black*

Claire Lustig

Abstract

With this research project, I examine the representation of incarcerated women in the Netflix series OITNB. Media impacts so much of our experience in the world and can even change how we view it. A positive representation of a marginalized group of people shown on a platform as wide and available as television could have a massive anti-racist, anti-homophobic etc impact. If incarcerated women were portrayed better on TV, my hope is that maybe they could be treated better in real life. My research will ask the question of what makes good representation in media "good", who decides that? Is *Orange is the New Black* a well supported depiction of incarcerated women and what specifically makes it so? My research mainly takes a Black/Queer Feminist approach and centers around Black and Queer women's experiences in prison. I've strived to include as many perspectives as possible in my research. I recognise that everyone's experiences with incarceration are very different; thus their opinions on how the show displays the experiences of incarcerated women also differ. The overarching idea that I've found is that Orange is the New Black includes such a variety of identities and lives that is rare in American television and provides at least some watchers with an accurate and responsible depiction of incarceration.

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Gender, Sexuality, and Women's Studies

3Q (WELLES 121): THE STORIES NUMBERS TELL OF THE WORLD WE LIVE IN

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Welles 121

Session Chair

Lytton Smith, English and Creative Writing

Track

Interdisciplinary and Other Categories: Other

83 • Analysis of Student Performance Factors on Exam Scores

Lillian Cooke, Carolyn Mack

Abstract
Our research focused on analyzing a dataset that looked at various student performance factors' effect on exam scores. Some of these performance factors include hours studied, attendance, extracurricular activities, hours of sleep, gender, public or private school, etc. The goal of this research was to determine which of these 19 variables are statistically significant in affecting student performance in exams. We created a regression using a forward stepwise selection method to determine which variables were significant through utilizing Minitab and doing by hand calculations to create a model that maximizes the adjusted R^2 values. From there, we went on to further individually examine the relationship between specific factors that we were surprised were not included in the regression by forward selection. We looked to see if a quadratic, cubic, or transformed model would serve this specific relationship. After analyzing this primary dataset, we found a different dataset with similar variables of student performance factors that looked at the effect on exam scores, where we created another regression model of the statistically significant performance factors' using the forward selection method. From there, we chose 100 random samples from both datasets pertaining to similar variables and compared which variables were statistically significant from the original and new dataset we selected.

Faculty/Staff Sponsor
Chi-Ming Tang
Faculty/Staff Sponsor Department/Office
Mathematics

251 • Statistical Learning for Data Analytics: NHL Probabilistic Prediction 💡

Dylan Rogers

Abstract
This project aims to build an automated system in R to predict NHL game outcomes and player point performance using updated player stats. The model combines the use of a logistic function to estimate the probability of a team winning and the likelihood of players recording points. Data is collected from online APIs and processed through a series of scheduled GitHub actions that run throughout the day. These actions create daily game data, update predictions as more information is given, and store the results. The system also evaluates its own accuracy using statistical measures such as log loss and brier score. Overall, this project demonstrates how machine learning concepts, probability models, and automation can be combined to build a real-time sports prediction pipeline.

Faculty/Staff Sponsor
Sedar Ngoma
Faculty/Staff Sponsor Department/Office
Mathematics
Special Topics
Ideas That Matter: AI

392 • Brains Teaching Brains

Sarah Allam

Abstract
Educators play a significant role in society and even more so in student development. The quintessential role of an educator is to teach according to a curriculum; however, for young students, an educator may be the first figure to guide them through non-academic skills. To aid local educators, a set of brochures was developed to provide information to encourage an expansion of perspective on how to shape children to be both good students and good people.

Faculty/Staff Sponsor
Lytton Smith
Faculty/Staff Sponsor Department/Office
English and Creative Writing

242 • Prehospital Care and Clinical Reasoning in the EMT Practice

Avery Baker

Abstract

Throughout my directed study in BIOL 395. I have successfully been able to combine hands-on emergency medical services with clinical reasoning and analysis under the mentorship of Dr. Newberry. I am a volunteer EMT with the Geneseo Fire Department. I have honored HIPAA compliance upon discussions with Dr. Newberry by the censorship of patient demographic information. This experience has aided me to analyze these calls in an academic framework in order to understand the importance of physiology and long term health plans. This project combines skills from prehospital care when patient contact was made all the way to being able to think like a physician under Dr. Newberry's guidance. Throughout the work of the semester I will be highlighting three patient cases that I have encountered. Each one is different in its own way while representing a unique medical scenario. The three I will outline are a dialysis patient, fall associated with dyspnea, and medication induced complications with a pediatric patient. For each case I developed an analysis that includes a summary of the emergency call and a hypothetical SOAP (Subjective, Objective, Assessment, Plan) follow up plan as if I was the physical physician within the hospital making a plan of action to help my patient. This experience has allowed me to think deeply about the EMT protocol and engage with the material on a larger scheme. To present these cases I can reveal my understanding about prehospital experiences and am able to lay a foundation for developing clinical skills.

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Sam Newberry

Faculty/Staff Sponsor Department/Office

Biology

119 • The Effects that Redlining has on Educational Outcomes in the Rochester City School District & Surrounding Suburban School Districts

Emily Rowe

Abstract

Redlining, a Federal policy that did not allow mortgage financing in "undesirable" areas, was discriminatory on the basis of race, ethnicity, and immigrant status. Still today it shapes the resources, funding, and services that are provided, thus the quality of education for places like Rochester, NY. The inequalities, compared to the resources of surrounding suburban schools, have a large effect on graduation rates, testing scores, and overall educational outcomes. Rochester City School District (RCSD) schools historically have a majority population of minority and low-income students due to redlining. Rochester's population decline, historic and continued discriminatory practices in housing, and racial & economic segregation continue to affect RCSD schools. In Monroe County's 18 school districts, educational outcomes and school funding vary based on location. Suburban school districts such as Brighton Central School District (BCSD), which has majority white and middle/high income populations, has more funding, as well as higher graduation rates and test scores, and lower dropout rates. On the other hand, we see formerly redlined residential areas like the City of Rochester with fewer resources, yet higher proportions of students with disabilities, ELL needs, and economic disadvantages. This study uses NYSED data to compare RCSD and BCSD, with a focus on demographics, graduation rates, test scores, and educational outcomes. Additionally, school budgets of Brighton and School No. 19 expose funding inequalities. Interviews with RCSD and BCSD teachers, along with the redlining map of Rochester will showcase how societal and political factors impact educational outcomes across school districts in Monroe County.

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Jennifer Rogalsky

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Geography and Sustainability Studies

3R (WELLES 123): NONVIOLENT PEDAGOGY FROM PHILOSOPHY TO THE WRITING CLASSROOM

Wednesday, 22nd Apr 26, 12:00-1:10 pm, Welles 123

Session Chairs

Jonathon Auyer and Brian Barnett, Philosophy

Track

325 • Teaching the Beloved Community: From Nonviolent Pedagogy to Nonviolent Polity

Alexis Flint

Abstract

This paper emerges from a directed study with Dr. Brian Barnett, through which I developed Nonviolent Pedagogy (NVP) and its political extension, Nonviolent Polity. The argument is foundational: democracy cannot actualize its highest aspirations through governance alone. Its realization must be cultivated first through education. This investigation into Dr. Martin Luther King Jr.'s Framework for Nonviolent Social Change applied to undergraduate philosophy education is forthcoming with Cambridge Scholars Press in the PJSA Post-Conference Book Series, "Leveraging Legacies of Peace Building in Precarious Times" (Spring 2026). Presented alongside scholars including Irfan Khawaja and Barry L. Gan, the work has completed peer review, undergone major revisions, and awaits final publication. NVP adapts King's six-step cyclical methodology to philosophy pedagogy, grounded in Gan's comprehensive nonviolence, Howard Thurman's Beloved Community, and Paulo Freire's critique of banking education. Drawing on Reva Joshee's ahimsa-centered teaching, Kazuya Ishii's Gandhian trusteeship, Philip Kitcher's epistemology of objective truth, and Bryan Van Norden's multicultural philosophical manifesto, NVP reconstitutes the undergraduate classroom as democracy's most radical and necessary site of formation. Nonviolent Polity emerges from this foundation as democracy's method of creation. Where the American Constitutional Republic privileges majority interests and capital above equity, Nonviolent Polity centers those most affected by injustice, asking: what best serves the affected, has relevant expertise been considered, has the community provided input? Education, this paper argues, does not precede democracy. It produces it. The Beloved Community does not begin in governance. It begins in the classroom.

Faculty/Staff Sponsor

Brian Barnett

Faculty/Staff Sponsor Department/Office

Philosophy

This presentation will also be presented at:

Peace and Justice Studies Association Annual Conference 2025

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Support from the Department of Philosophy

327 • Building Toward Revision: Metacommentary and Nonviolent Pedagogy in First-Year Writing

Alexis Flint

Abstract

What does it mean to occupy the space between student and instructor? This paper examines that question through a year-long pedagogical partnership in which I, a junior, served as student-instructor alongside a faculty member, Dr. Jonathan Auyer, in a section of WRTG 105, a First Year Writing Course. Drawing on Nonviolent Pedagogy (NVP), an original framework adapting Dr. Martin Luther King Jr.'s six-step methodology for nonviolent social change to undergraduate philosophy education, this paper presents both a theoretical account of the student-instructor role and a replicable classroom intervention that emerged from it. The intervention is a metacommentary activity in which students engage with and revise the arguments of their peers rather than defending their own, practicing the moves of philosophical revision on lower-stakes intellectual terrain. By removing that cognitive load, the activity creates

conditions for genuine intellectual risk-taking that traditional assignments rarely afford. What the student-instructor role made possible was a particular kind of pedagogical attentiveness: close enough to the student experience to anticipate where thinking breaks down, invested enough in the discipline to hold rigor as the standard. The paper argues that this position, when structured through NVP principles, generates pedagogical conditions neither instructor nor students alone can produce. The result is a model for understanding the undergraduate student-instructor not as supplemental support, but as a distinct and generative presence–one that, as this WRTG 105 collaboration demonstrates, can take root even beyond the traditional philosophy classroom.

Faculty/Staff Sponsor

Jonathan Auyer

Faculty/Staff Sponsor Department/Office

Philosophy

Special Topics

McNair Scholars

Funding Sources

McNair Scholars Program Support

POSTER PRESENTATION SESSION: Milne Library Multipurpose Room A/B

Wednesday, 22 April, 2026, 2:30-4:15 pm, Milne Library Multipurpose Room A/B

Posters will be available for viewing from 10:00 am-4:15 pm. Authors will be present from 2:30-4:15 pm.

OFFICE OF ADVISING

188 • Honoring Service Through Action: Expanding Veteran Support and Success at SUNY Geneseo

Joseph Shaffer

Abstract

Student veterans and military-affiliated students bring valuable leadership, discipline, and lived experience to higher education, yet they often face unique barriers when transitioning from military to academic life. This presentation examines the ongoing work of the SUNY Geneseo Veterans Affairs Team and the VALOR Program (Veterans Alliance, Leadership, Outreach, and Resources) in addressing those challenges through action-oriented, veteran-informed initiatives. Drawing on lived military experience and direct engagement with student veterans, this project highlights efforts to expand access to benefits education, including GI Bill options and Joint Services Transcript (JST) credit utilization, improve campus awareness of military-affiliated student needs, and strengthen peer connection and community belonging. Key initiatives discussed include outreach and recruitment efforts with military communities, such as at Fort Drum; the development of a dedicated veterans' lounge; advocacy for free parking for student veterans; and plans for enhanced academic advising and wellness resources. Rather than focusing solely on symbolic appreciation, this work emphasizes institutional change that reduces barriers and supports veteran persistence, retention, and success. By translating lived experience into policy recommendations and campus programming, the Veterans Affairs team and VALOR Program demonstrate how colleges can meaningfully honor service through tangible support and inclusive practices.

Faculty/Staff Sponsor

Jaime Arena

Faculty/Staff Sponsor Department/Office

Advising, Office of

ANTHROPOLOGY AND SOCIOMEDICAL SCIENCES

388 • Arteriosclerosis in Early 20th Century Rochester: A Cemetery-Based Study

Brennan Clark

Abstract

This study looks at the prevalence of arteriosclerosis in early twentieth-century Rochester, New York, using cemetery records from Mount Hope Cemetery. Arteriosclerosis was commonly referred to at the time as "hardening of the arteries" and was not well understood in the early 1900s. It became increasingly recognized as a major cause of death as chronic diseases began to replace infectious diseases. For this project, death records for over 18,000 individuals from 1837-1950 were analyzed, focusing on age, year of death, and recorded cause of death. Individuals with arteriosclerosis or related cardiovascular conditions were identified and separated for further analysis. The data was used to look at patterns in mortality, including age distribution and changes over time. The results show that arteriosclerosis appeared most frequently among older individuals and became more commonly recorded as a cause of death over the study period. Variation in terminology like "heart disease" or similar classifications suggests that some cases may have been underreported or categorized differently. The findings support the idea that arteriosclerosis became more prevalent as

life expectancy increased and medical knowledge improved, leading to more consistent diagnosis and recording of chronic conditions. The goal of this study is to show the historical transition from infectious to chronic diseases and demonstrate how the changes in medical understanding influenced the recording of causes of death.

Faculty/Staff Sponsor

Kristi Krumrine

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Anthropology

375 • The Causes of Chronic Illnesses Rising in Women

Kaylie Elliott

Abstract

Chronic illnesses have been dramatically increasing in the 21st century. Chronic Illnesses such as autoimmune diseases, diabetes, and chronic pain disorders are becoming more common. They are especially affecting women. While men and women can get chronic illness, research shows that women carry a greater burden of chronic illnesses. A combination of hormonal, genetic, social, environmental, and cultural factors could be disproportionately affecting women. This research explores different factors like biological and social causes that could be making up for the rise of chronic illnesses, why women are affected more than men, and what can individuals and society do to help these illnesses from worsening. This research collects data from podcasts to help better understand and get more information about chronic illness. Some of the podcasts used in the research were from actual doctors or from people who have experienced chronic illnesses and have learned how to heal. By exploring the causes of chronic illness this research tells us that we need to address how chronic illnesses are interconnected, individuals not only will need medical changes but also there are systemic changes in healthcare access, environmental policy, and social support systems that are needed to support those with chronic illness.

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Anthropology

263 • New York as a Safe Haven for Abortion Post-Dobbs

Olivia Jaworski, Shannon Lacy, Emily McCord, Alexis McGrory

Abstract

After the Supreme Court's decision in Dobbs v. Jackson's Women's Health Organization overturned the constitutional right to abortion in the United States, reproductive justice activists working in New York state prepared to meet an influx of patients. They knew the immediate bans on abortion in states with "trigger laws" would send floods of new clients into New York, where abortion is legal up to 24 weeks gestation for any reason, and after 24 weeks if the pregnancy threatens the life or health of the pregnant person. As a result, New York has become a top destination for people from states impacted by abortion bans. Support staff at the clinics who are receiving these patients are also becoming key figures in ensuring that a person seeking a legal abortion is able to get the care they need, especially when they are traveling to New York from another state and require extra support to pay for travel and lodging. Yet this increased volume of patients from Texas, Georgia, Florida, Pennsylvania, and South Carolina was not met with an equal increase in staffing, funding, or resources. Therefore, this moment is one dominated by strained resources and capacity in the "sanctuary state" for abortion. Through participant-observation, in-depth interviews with over 30 abortion access workers, and systematic qualitative content analysis, we explore how the changing political and legal climate for abortion access on a national level impacts reproductive healthcare access, workplace conditions, and social meaning at the state and local level.

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Brenna McCaffrey

Faculty/Staff Sponsor Department/Office

Anthropology

This presentation will also be presented at:

American Anthropological Association Annual Meeting

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

38 • "If We Don't, Who Will": The New York Abortion Access Fund as a Defender of Reproductive Justice Post-Dobbs

Tary Santelises, Brenna McCaffrey

Abstract

Since *Dobbs v. Jackson Women's Health Organization* which overturned Roe v. Wade and *Planned Parenthood v. Casey*, both of which allowed abortion to be federally protected, there has been a disconcerting increase in a lack of access to abortion on all fronts. Due to the mobilization and ongoing work of anti-abortion movements, abortion funds have stepped in to fill the gap and provide access–yet there are still tensions around how this work shows up. This research argues that by doing the groundwork to destabilize any progress of reproductive rights, anti-abortion movements have created the need for abortion funds which are now defending reproductive justice in this post-Dobbs era. Reproductive justice is a framework of principles, brought out by the work of SisterSong which reaffirms the human right to maintain bodily autonomy, to have children, not have children, and to parent the children we have in safe and sustainable communities. Drawing from ethnographic research in Dr. McCaffrey's ongoing project, this research uses interviews of volunteers from the New York Abortion Access Fund (NYAAF) to give a closer look into how an abortion fund is actively defending reproductive justice.

Faculty/Staff Sponsor

Brenna McCaffrey

Faculty/Staff Sponsor Department/Office

Anthropology

This presentation will also be presented at:

National Conference of Undergraduate Research

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), McNair Scholars Program Support

6 • Experiences and Quality of Health Services for Queer Youth

Heirut Miller

Abstract

For my research project, I will be honing in on the family identity-rejection of LGBTQ+ individuals – but more specifically, the long-term impacts on those individuals and how their personal experiences with queer-focused services improved or worsened their overall mental health, after a high-risk crisis. There's a lot of stigma and vulnerability within the LGBTQ+ community, and this can only worsen internal and external fears of harm. With the ongoing political environment in the United States, more of those queer individuals are finding it more difficult to find accessible queer-focused services that will greatly improve their overall health, because of changing policies and stigmatized social ideologies. So far, there is not much research on queer-focused services that have improved a person's mental health, or helped them move towards something more accommodating. Fully understanding how these various services and their qualities impact queer youth is essential to figuring out how to break down stigma, economic barriers, and other significant social barriers that prevent individuals from seeking further aid. Therefore, this research asks:

1. What were the individuals' experiences when receiving help after an urgent mental/physical health crisis?
2. How did individuals' mental, emotional, or physical health improve? How did their health worsen, if at all?
3. What were their responses to the level of quality service received?

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Anthropology

265 • Emotional Labor and Burnout among Abortion Providers in a Post-Dobbs New York

Shannon Lacy, Grace Hutton, Anna Marie Hondorf

Abstract
Following the Supreme Court's decision in Dobbs v. Jackson's Women's Health Organization, the United States is seeing a restructuring of abortion care and policy. New York is a safe haven state for abortions and, since Dobbs, has experienced a higher than usual volume of patients from out of state. Volunteers and abortion providers are forced to pick up the slack where resources, support, and care are in short supply. People traveling far distances to receive abortions may face issues obtaining childcare, funding, lodging, time off from work, and much more. Staff and volunteers are the front line advocates for these patients, ensuring their cohesive communication with abortion funds, providing them with resources, food, and emotional support. These tasks often fall outside of their job expectations and push abortion providers to take on extra work. Due to this, we are seeing an increase in emotional labor that abortion providers are doing and subsequent burnout of these essential workers. We conducted in-depth interviews with 29 abortion providers in New York State from May 2024 - May 2025. Initial analysis was done with a team of researchers through the qualitative data analysis software Atlas.TI. Our research with providers found that in post-Dobbs conditions in New York state, abortion providers are overwhelmed with the amount of work expected of them, resulting in feelings of helplessness, stress, and sadness.

Faculty/Staff Sponsor
Brenna McCaffrey
Faculty/Staff Sponsor Department/Office
Sociomedical Sciences
Funding Sources
Faculty Incentive Grant, Dean Johnston Student Research Assistantship

CENTER FOR INTEGRATIVE LEARNING

381 • The Geneseo Student Integrative & Applied Learning Portal

Melanie Medeiros

Abstract
The Geneseo Student Integrative & Applied Learning Portal showcases the incredible IAL experiences Geneseo students are having and enables students to share brief reflections on their IAL experiences. Students can embed links to their reflection page into their resume and/or share those links on LinkedIn and/or Handshake. Students from all majors are encouraged to submit reflections to the portal.

Faculty/Staff Sponsor
Melanie Medeiros
Faculty/Staff Sponsor Department/Office
Center for Integrative Learning

COMMUNICATION

281 • Relational Dialectics Theory: Understanding Differences in IRL vs. AI Relations 💡

Adryanna Arriaga

Abstract
The purpose of the present study is to explore differences between artificial intelligence and human relationships through everyday discourse. Guided by relational dialectics theory, this pilot study seeks to understand connection, authenticity, and emotion constructed or challenged when discussing AI use in human relationships. Through the analysis of five qualitative interviews with Generation Z residential college students, I'd expect to find discourses regarding ethical concern, emotional depth in response, and authenticity. Implications of the findings will be explored.

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Communication
Special Topics
Ideas That Matter: AI

234 • “A Lot of People Our Age Don’t Like AI, a Lot of People Say It’s Just Fine, or People Think AI Is Their Best Friend.” An Exploration of Communication Privacy Management Among Gen-Z Residential College Students 💡

Emma Binga
Abstract
This pilot study explores how the use of artificial intelligence (AI) influences personal relationships and communication, particularly with disclosure and privacy. Guided by the communication privacy management (CPM) theory, this research examined how Gen-Z residential college-aged individuals manage personal boundaries when AI is involved. AI’s function can be interpreting, advising on, or mediating relationship communication. Through analysis of five interviews several key themes emerged including; the convenience of speed, the usefulness of AI in communication and family contexts, the limitations with AI’s understanding of emotional relationships, and hesitation to fully trust AI with personal information. These findings highlight both benefits and challenges of integrating AI into personal and relational communion while maintaining privacy.
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Communication
Special Topics
Ideas That Matter: AI

237 • "Sometimes I Just Need to Talk to a Wall": How College Students Explore AI Through Symbolic Interactionism

Laurea D'Arpino, Kate Recine
Abstract
This pilot study explores how Generation Z residential college students are understanding and using AI in personal *and* academic contexts. Through symbolic interactionism this study explores how participants are managing issues with trust and personal boundaries when using these technologies. Findings overall demonstrate that AI is primarily seen as a tool for schoolwork-related efficiency during tasks. However, participants also expressed use of AI for personal reasons, such as confiding and seeking advice. Although there are varied uses, there is a common concern that questions AI’s accuracy and reliability. Accuracy, reliability, and privacy are a few main factors that shape how individuals choose to interact with AI as symbolic roles. As a result, participants actively create personal boundaries on which they rely on AI tools to create space to prioritize human relationships in the context of emotional connection and support.
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Communication

233 • "Ask AI First": How College Students Use AI to Navigate Personal Relationships and Avoid Face Threats 💡

Liberty Dodds
Abstract

Framed by Goffman's Facework Theory, this pilot study examines how college students use Artificial Intelligence (AI) to navigate their interpersonal relationships. Particularly focusing on how AI is used in/as preventative facework and when anticipating potential face threats. Through the analysis of five in-depth interviews, four central findings came forward regarding students' interactions with AI platforms: the shared recognition of AI's strengths and limitations, the feeling of a non-judgmental space for seeking advice, the ability to provide tools for self-reflection, and the assistance it provides in academic support. Results show that participants used AI to attempt to achieve better relationships, both within an academic and personal context. Implications of the findings surrounding participants' personal usage of AI and suggestions for future discussions are provided.

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Communication

Special Topics

Ideas That Matter: AI

236 • Spill or Stay Silent? How AI Shapes What We Choose to Share 💡

Emily Forbes

Abstract

Grounded in communication privacy management, this pilot study examines how using AI in conversations influences what information people share and how they manage their privacy and boundaries in personal relationships. Data were collected through the analysis of five interview transcripts from Generation Z residential college students. Through qualitative thematic analysis I were able to see four main patterns in the data. These patterns are using AI for information or practical support, valuing AI for faster accessibility and judgement free feedback, maintaining privacy boundaries, and preferring human support for emotional issues. Implications of the findings will be discussed.

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Communication

Special Topics

Ideas That Matter: AI

240 • An Exploration of Generation Z College Students Uses and Personal Interactions with AI Though the Communication Privacy Management Theory

Audra Hilker

Abstract

Framed by Communication Privacy Management theory (Sandra Petronia, 1991) this research study was intended to find certain ways as to how Generation Z college students interact and perceive communication with artificial intelligence. Throughout the research process I desired to find out how if college students may change the boundaries of their own personal beliefs when communicating with artificial intelligence based on privacy management. The data set consisted of five open ended qualitative interviews. Findings centered on the limits individuals have with artificial intelligence and how comfortable participants have become when interacting with non-human processes. Results indicate that participants perceive AI interactions as more private and discreet than human-to-human conversations. Findings also suggest participants are transforming boundaries between machine and human, creating a new sense of environment. Implications of these findings and other important points will be explored.

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Communication

239 • AI is Like What???: How Residential Gen-Z College Students Make Sense of AI

Simran Jassal

Abstract
Through symbolic interactionism, this study aims to find out how people make sense of AI and others' use of AI. To do this, we asked them many questions, including what they would compare AI to and if/how their use of AI affects their self-concept. There are five points in the data set and each topic focuses on themes that are prevalent in at least half of the interviews. The initial findings seem to suggest that participants use familiar comparison terms to conceptualize AI. The implications of this finding are further explored in the paper.

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Communication

238 • Relational Dialectics Theory and College Students in the World of AI

Miguel Jofre

Abstract
Framed by Relational Dialectics Theory, the present study sought to identify the communication processes that residential college students and their usage of AI may contradict when they use it to communicate in their relationships. Surprisingly a new discovery arose, rather than AI usage in terms of relationships students use AI more in an academic setting, but to sound more professional and make the workload easier. The study turned into how students may conflict with a relationship with themselves to ensure that they sound more appealing in an academic setting, despite none of them ever saying that they doubt their intelligence or their capability.

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Communication

231 • Connection vs Convenience: Maintaining Face in Academic Environments Using AI for Gen Z Residential College Students 💡

Cadence Panol, Emily Ye

Abstract
Framed by facework theory (Goffman, 1967; Cupach & Metts, 1994), this pilot study sought to identify the effects of artificial intelligence (AI) have on interpersonal relationships of Generation Z residential college students. Since the creation of AI, there has been an increase in concern regarding AI's role in the context of human relationships, but research is required on the developing dynamic between rising pressure in classroom environments and ability to use AI to complete assignments. This research presentation is a part of a class-wide research effort in the course COMN 410: Theory and Research in Relational Communication to understand the greater course theme of artificial intelligence's relationship in personal communication settings. The analysis was conducted based on a collective dataset of seventeen interviews provided by the course, with six interviews selected at random to consider within the greater analytical context of facework theory. Presented findings demonstrate the link between academic performance and desire to save face by turning to AI: AI enables students to look more polished and professional but in doing so, they fear admitting using AI for fear of looking incapable. Implications of this finding are discussed in the context of collegiate environments, and future considerations for research regarding AI and communication are noted.

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Communication
Special Topics

Ideas That Matter: AI

294 • Identifying the Use of AI to Avoid Peer Judgement Through Preventative Facework and the Recognition of AI as a Neutral, Emotionless Environment that Mitigates the Risk of Feeling Incapable

Ava Schillaci

Abstract
Framed by the facework theory (Goffman, 1967), the study aimed to identify why individuals choose to disclose insecurities to AI rather than within human relationships. Subsequently, the study sought to explore the specific ways AI users perceive digital spaces as a "lower risk" environment, to protect their face compared to human-to-human interaction. Through a qualitative analysis of participant data, the study was able to identify two primary themes regarding the use of AI as a took for facework. These are: The use of AI to avoid peer judgement through preventative facework, and the recognition of AI as a neutral, emotionless environment that mitigates the risk of feeling incapable.

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Communication

371 • Construction of Self and AI - A Symbolic Interaction Theory-Based Perspective on Generation Z

Lillian Scutt

Abstract
Framed by symbolic interaction theory, the present study seeks to understand how Generation Z college students make sense of themselves and their use of AI, and how college students make meaning of their conversations with AI. The suggested set of in-depth interviews is likely to yield some communication practices that can be useful in understanding the ways in which identity construction is affected by AI. The suggested findings are likely to reveal how AI can be seen as a tool for reflection and symbolic interaction. The implications of the current study can be seen in how AI can be seen to be affecting the construction of the self. Suggestions for future studies can also be seen.

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Communication

241 • Understanding College Students Use of AI in Relational Vs. Academic Settings 💡

Makenna Malec, Alexa Shenandoah, Camille Young

Abstract
Through Communication Privacy Management Theory, the current study sought to understand how college students manage private information through AI. A data set consisting of six interview transcripts showcased two primary ways participants navigate private information boundaries through AI use. These are: the use of AI for relationships and the use of AI for academic purposes. The presented findings showcase the link to Privacy Management by using AI as a nonjudgmental space to disclose private information while also in contrast of using AI for strictly academic purposes. Implications of these findings offer direction for future research.

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Communication
Special Topics
Ideas That Matter: AI

408 • Prestige Media Consumption and Self-Perceived Social Status

Camille Felipe

Abstract

Preference for prestige media, including critically acclaimed dramas, arthouse films, and literary fiction, may shape not only how consumers see themselves but also how they perceive others. This study investigates how preference for prestige media content shapes consumer's self-identity and their perceptions of others. While previous research has established connections between cultural taste and social class, less attention has been paid to how media preferences specifically influence self-perceived socioeconomic status and judgment of other consumers. This original research investigates three central questions. First, do consumers who prefer prestige media self-identify with higher socioeconomic status than consumers of less prestigious content? Second, do prestige media consumers hold negative perceptions of individuals who prefer content they deem lower quality? Third, is media taste more central to identity among prestige media consumers compared to non-prestige consumers? The study employs a survey methodology, measuring media preferences, taste centrality to identity, self-perceived socioeconomic status, and evaluations of hypothetical consumers with different media tastes. Findings from this research contribute to understanding how cultural consumption functions as a marker of social distinction in contemporary media environments. As streaming platforms and social media increasingly expose viewers to diverse content hierarchies, understanding the psychological and social consequences of taste-based judgments becomes increasingly relevant.

Faculty/Staff Sponsor

Sarah Brookes

Faculty/Staff Sponsor Department/Office

Communication

This presentation will also be presented at:

SUNY Undergraduate Research Conference West

EDUCATION

362 • Rochester Elementary Schools: Progress, Challenges, and the Path to Equity

Aimee Maoriello

Abstract

How does the first city in New York State to desegregate its schools now present one of the most segregated school districts in the nation? This capstone thesis investigates the persistent achievement gaps in Rochester's elementary schools, examining the enduring impacts of redlining, blockbusting, and racial covenants on educational outcomes of young learners today. Since its incorporation in 1834, Rochester's residential demographics have shifted dramatically, resulting in a diverse population. The post-WWII migration to northern cities contributed to an explosive growth in Rochester's Black population, by over 2,000 percent. This demographic shift, while vital to the city's cultural fabric, created challenges for the city school district, especially as the number of minority students increased. Despite Rochester's efforts to desegregate its schools, through programs like Project UNIQUE and the Urban Suburban Transfer Program, systemic changes have been slow and inconsistent. A high turnover rate in local desegregation policies has led to short-term success, and Rochester's inner-city schools still face significant disparities in educational access and outcomes. Competing with suburban development and exclusionary district boundaries, the Rochester City School District additionally grapples with a large student population living below the poverty line. With limited resources, the district struggles to support the holistic needs of its students, directly impacting their ability to succeed. This research explores modern approaches driven toward success, like district-wide instructional standards, professional development designed by local teachers, creating community resources consistent across district zones, and connecting students to these assets; and applies these methods to Rochester's elementary schools today.

Faculty/Staff Sponsor

James Oigara

Faculty/Staff Sponsor Department/Office

Education

Special Topics
Edgar Fellows
This presentation will also be presented at:
Society for Information Technology & Teacher Education (2026) & International Society for Exploring Teaching and Learning (2025)
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

109 • Generative Play and the SEEKING System; Reclaiming Curiosity from Commodified Schooling

Alexis Patrick
Abstract
Modern educational systems increasingly operate within a framework that treats learning as a measurable and exchangeable product. Within this paradigm, curiosity is often commodified through standardized metrics, reward systems, and tightly structured curricula that privilege compliance over exploration. This paper argues that such conditions produce a form of curriculum violence in which enacted curricula compromise learners' intellectual and psychological well-being through coerced participation and externally imposed goals. Drawing on affective neuroscience, particularly the work of Jaak Panksepp, curiosity is reframed as a biologically grounded emotional system rooted in the brain's SEEKING and PLAY networks. These subcortical systems generate anticipatory joy, exploratory behavior, and social trust, forming a neurological foundation for learning, creativity, and cultural participation.
Contemporary schooling frequently disrupts these intrinsic motivational systems. Gamified reward structures can hijack the SEEKING system by redirecting attention toward metrics such as points and badges, while rigid routines and pseudo-play activities dampen exploratory engagement by reducing play to stimulation followed by decontextualized recall. In response, this paper proposes Generative Play, a curricular design philosophy that aligns learning environments with the brain's intrinsic motivational architecture.
Generative Play integrates insights from affective neuroscience, games-based learning, and motivational theory to cultivate low-stakes exploratory environments where curiosity can develop into creativity. The framework is operationalized through practical mechanics including affective engagement, safe failure, just-in-time instruction, learner agency, and affinity spaces. Reclaiming curiosity from commodification reframes education not as the efficient production of measurable outcomes but as a generative process through which learners develop thinking, creativity, belonging, and competence.
Faculty/Staff Sponsor
Taylor Kessner
Faculty/Staff Sponsor Department/Office
Education

MILNE LIBRARY

306 • Evaluation of Representation of Disability in Picture Books Held in the TERC

Kaleighanne Athens
Abstract
Discussion of the representation of people with disabilities in books is a key topic for all educators. Many elementary students may not have experience with people with disabilities and, therefore, might know little or have an inaccurate understanding of disabilities. It is our responsibility as educators to introduce children to these books and thoroughly explain these topics. In Fall 2025, I engaged in a directed study focused on the picture books housed in the SUNY Geneseo Teacher Education Resource Center (TERC) that featured themes and representations related to disability. I read 50 picture books, assessed their portrayals, and tracked tropes and patterns using a rubric I created. Each week, I participated in discussions about the books I read, examining both positive and negative portrayals and their implications. I focused on the characteristics of the main character and/or characters with disabilities in each book, as

well as the background of the authors and their connection to the disability community. This analysis provided me with an overall view of the representation in each book. I also recommended both books for inclusion in the TERC that were not already part of the collection, and suggested removing books based on my findings. Finally, I researched book lists to find well-supported recommendations to expand our disability collection in the TERC. As a result, Milne Library added new titles to the collection and removed problematic titles to enhance disability representation in the picture book collection.

Faculty/Staff Sponsor
Alana Nuth
Faculty/Staff Sponsor Department/Office
Milne Library

ENGLISH AND CREATIVE WRITING

200 • Tick Bites: Consequences and Preventatives for Your Dog

Charlotte Sanson
Abstract
Ticks are parasites that feed on the blood of animals and humans. They are commonly found in wooded and grassy areas in New York and many other neighboring states. Ticks can spread diseases to the host it feeds on such as Lyme disease, Anaplasmosis, and Ehrlichiosis. Often overlooked, common household pets such as dogs are at risk for exposure to ticks and ticks found on pets should be removed quickly. It is important to consider your dog's exposure as some dogs can experience common symptoms including fever, lethargy, and decreased appetite. More severe symptoms can include cardiac problems, neurological problems, and renal failure. Pet owners should learn about the various preventative measures that can be taken to prevent infection from a tick bite. Over the counter and prescription preventives and vaccines can be given to the dog to keep them safe from tick borne diseases. The goal of this project is to educate dog owners on the risks of tick-borne diseases and how they can prevent them.
Faculty/Staff Sponsor
Lytton Smith
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English and Creative Writing

GEOGRAPHY AND SUSTAINABILITY STUDIES

162 • Eruption Disruption: A Spatiotemporal Analysis of Destruction from the 2018 Mt. Kilauea Eruption in Leilani Estates, Hawaii

Brandon Freedman
Abstract
On 2 May 2018, Mt. Kilauea began erupting and by early September, lava covered 35.5 sq. km (13.7 sq. mi) of southeast Hawaii. This project mapped and visualized effects of the 2018 Mt. Kilauea eruption in Leilani Estates, a neighborhood in southeast Hawaii. I focused on mapping the progression of building and road destruction by the lava flows. Using satellite imagery within geographic information systems (GIS) software, I identified and mapped buildings in Leilani Estates destroyed by lava flows. Utilizing existing GIS data layers from the USGS on lava flow rate, I also determined and mapped the date each building was destroyed. The destroyed roads were mapped using data layers from the Hawaii Statewide GIS Program. This study's results estimated that 323 buildings (e.g. houses, sheds, garages) in Leilani Estates were destroyed, representing approximately 27.2% of the neighborhood's 1,189 structures. The first four weeks of eruption had the most impact on buildings in Leilani Estates with lava destroying 303 of the 323 impacted buildings, representing 94% of the destroyed buildings. Of these 323 buildings, 57 buildings were destroyed in the first two weeks (2 May-15 May) and 246 buildings were destroyed in weeks 3 to 4 (16 May-29 May). Leilani Estates had about 47.8 km of road, of which roughly 14.8 km was destroyed, (31.0% of total). This visualization demonstrates the impacts that a volcano can have on communities in lava flow hazard zones.

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Geography and Sustainability Studies

176 • Young, Educated, and Running: A Spatial Analysis of Footrace Distribution in Western New York

Madison Moore
Abstract
Organized footraces (e.g. 5Ks) are popular events that provide social and economic benefits to local communities. This project examined the spatial distribution of organized footraces across Western New York at the city and town level. Using GIS software, 2022 U.S. Census American Community Survey (ACS) 5-year data, and data from the FBI, I analyzed potential demographic and socioeconomic predictors of race distribution. Explanatory variables tested were population density, median household income, percent of residents with a bachelor's degree or higher, percent of the population aged 20–44, percentage of White residents, crime rate, and presence of a college or university. Linear regression and other modeling techniques were used for testing the relationships between the number of races and the selected explanatory variables. Results indicated positive correlations between footraces and population density, proportion of residents aged 20-44, percentage of residents with a bachelor's degree or higher, and the presence of a college or university. These results suggest that communities with younger populations and higher levels of educational attainment are more likely to host organized footraces.
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Geography and Sustainability Studies

139 • Braided Spaces: a GIS Exploration of (In)accessible African Hair Braiding Salons in Monroe County, New York State

Sabrina Phillips
Abstract
Black hair care salons, including those that provide African hair braiding, are established in predominantly Black areas where demand is high. Proper Black hair care is defined as the
practice of combing and styling kinky coily hair, and using unique techniques and products to
maintain hair health and preserve natural curl patterns. In addition to providing hair care,
salons provide a community function as they structure and shape Black women's racial
identities. Within these spaces, conversations ("shoptalk") involve the informal sharing of personal experiences, cultural practices, and community norms, fostering social connection among individuals across different social positions. Simultaneously, salons educate customers about the culture and history of African hair braiding. This study mapped African hair braiding salons and examined whether access to salons is evenly distributed across Monroe County, New York State. Using GIS software, I first mapped salons using Google Maps, and acquired a streets layer from the NYS GIS Clearinghouse. I then calculated drive-time buffers from each salon across the county using service area network analysis tools. Buffers were then spatially compared with data on Black populations from the US Census. Results suggest that access to braiding salons is uneven, particularly for residents in southern Monroe County who experience greater travel times and fewer nearby salons. This study manifests that in Monroe County, Black residents who reside outside its primary urban city experience disparities in access to hair braiding salons, and therefore lack community hubs that shape racial identity and educate on proper cultural hair-care practices.
Faculty/Staff Sponsor
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Geography and Sustainability Studies

351 • Cooling Deserts: A Network Analysis of Public Access to Cooling Resources in the City of Rochester, New York State

Emma Samberg

Abstract
This project analyzed whether public cooling stations are effectively distributed for residents in the City of Rochester, New York State, and whether access is equal across neighborhoods with differing demographic and socioeconomic characteristics. Cooling stations are defined as public libraries, beaches, pools, splash pads, and recreation centers that provide public cooling options during hot weather, especially for those who lack residential air conditioning. The City of Rochester operates the Cool Sweep program, a public safety initiative activated during extreme heat events that provides residents with free access to cooling stations, often with extended hours. Understanding where stations are located and who can realistically reach them is an important part of making a program like Cool Sweep effective and equitable, and it will become more urgent under future climate change-induced heat waves. This analysis focuses on examining access to cooling stations for residents who lack automobiles. First, using geographic information systems (GIS) software, I mapped cooling stations listed on the Rochester Cool Sweep directory. Second, I applied network-based service area analysis to map areas within easy walking distance (i.e. 800 m, or a roughly 10-minute walk) of a cooling station. Third, I compared service areas to geographic data on heat vulnerability, neighborhood income levels, and racial characteristics to assess whether cooling stations are equitably distributed. Results suggested spatial gaps in station coverage and the existence of uneven access. Results can be utilized to more equitably place additional cooling stations within the City of Rochester.

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Geography and Sustainability Studies

GLOBAL LANGUAGES AND CULTURES

365 • Analysis of Carbon Emission Control: China Shanghai, Taiwan, and Hong Kong 💡

Chun Ngai Yip, Ryunosuke Tago, Denny Sheng

Abstract
Shanghai, Taiwan, and Hong Kong have different approaches to carbon control and carbon neutrality. Shanghai is establishing a total carbon emission and intensity dual control system and utilizing the national Emissions Trading Scheme (ETS) that is expected to cover 40% of China's CO2 emissions. Shanghai is targeting key industries, including the manufacturing and power sectors, to achieve carbon neutrality by 2059. But, it faces challenges such as limited land resources and the cost of renewable energy. Taiwan proposed its Pathway to Net-Zero Emissions in 2050, which consists of four transitions: energy, industrial, lifestyle, and social. It aims to reduce net greenhouse gas emissions by 28±2% by 2030 compared to 2005 levels, mainly by increasing renewable energy and introducing a carbon fee in 2025. Hong Kong is aiming to achieve carbon neutrality before 2050, with an interim target of reducing carbon emissions by 50% before 2035 compared to 2005 levels. The "Climate Action Plan 2050" features net-zero electricity generation, energy-efficient buildings, green transport, and waste reduction, with an emphasis on phasing out coal and increasing renewable energy in the electricity mix.

Faculty/Staff Sponsor
Jasmine Tang
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Global Languages and Cultures
Special Topics
Ideas That Matter: Climate Change & the Individual

HISTORY

122 • The Guerrilla Girls Feminist Art Movement

Payton Abbott, McKenna Fairley, Amaya Henderson

Abstract
We chose the Feminist Art movement, specifically the group the Guerrilla Girls. This movement has a long history, beginning around the 1970s and continuing in full force until around the 1990s. This movement originally gained traction because, throughout history, men have traditionally ruled the art world and been the only artists to be taken seriously. Artwork by men took up a majority of gallery spaces and men were mostly the ones who chose what art got to make it galleries in the first place. Women saw the unfairness in this and began to protest by putting explicit themes of female sexuality, gender, and inequality in their art. The Guerrilla Girls continued in this trend and launched their campaign on the streets of New York City in the early 1980s. They used humor and sarcasm to show the disparity between male and female artists and gained the attention of several galleries to present and display female art. The Guerrilla Girls ultimately created greater representation for female artists as well as artists of color and held institutions accountable for their lack of diversity.

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History

123 • The 1960s Liberation Movement

Norah Kirch, Max Mattice, Isabella Hernandez

Abstract
A modern representation of the 1960s Liberation Movement and how it would be shared today through social media platforms.

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History

124 • Abortion Rights in the United States

Marie Rough, Megan Lasher, Sequoiah Christian

Abstract
This project focuses on the Abortion rights movement that take places in the United States from the 1840s to modern day. This project not only highlights the history behind abortion but the people who were/are involved in the movement, and the legalization process that surrounds it.

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History

324 • From Factory Floors to Social Media Feeds (The Anti-Sweatshop Movement Goes Digital)

Riley Aldi, Kayleigh Wright, Carly Colicchio

Abstract
This project reimagines the Anti-Sweatshop Movement of the late 19th and early 20th centuries for today's social media. Led by reformers like Florence Kelley, the movement fought to end child labor, improve working conditions, and secure fair wages for women. Pivotal events, such as the Triangle Shirtwaist Factory Fire, drew public attention to unsafe factory conditions and fueled labor reforms.
Our campaign translates these historical struggles into a digital format using Instagram, TikTok, and X. Through visuals, mock posts, and short videos, we bring the movement's key messages: People Over Profit, Fair Hours. Fair Wages. Safe Workplaces, and No Child Belongs in a Factory, to life for modern audiences. Sample posts and engagement simulations explore how hashtags, trends, and digital storytelling could amplify awareness and foster community today.
By imagining the Anti-Sweatshop Movement on social media, this project shows how posts, hashtags, and online engagement could have amplified public awareness and built broader support for labor reform.

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History

409 • Women's Care and Activism in the AIDS Crisis: The San Diego Blood Sisters

Katie Carroll, Adelle Behara, RJ Marra

Abstract
We were given an assignment to use a social media format to depict a movement facilitated by women in US history. Our topic? The San Diego Blood Sisters: a group of around 200 lesbian women who stepped up to care for homosexual male HIV and AIDS patients by donating blood when the conservative Reagan Administration limited funding for the medical organizations to give them the help they needed. Through using modern platforms, we hope to reach modern audiences and show the significance of this movement today and how it connects to other social movements such as Roe V. Wade and the modern fight for gender affirming care for transgender youth.

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History

SOCIOLOGY

355 • Framing Poverty: Portrayals of Race, Class, and Poverty From Tinseltown to Your FYP

Kaelyn De La Cruz

Abstract
Media representations of race and class play a major role in shaping how people empathize with and understand poverty. We often rely on simplified and stereotyped narratives that overrepresent and misrepresent marginalized groups, while simultaneously individualizing the reasons for their poverty. For my case studies I examined three popular films and ten TikToks where I analyzed the presence of race, class, and poverty. Within the three films, Princess and The Frog, Bright and Sinners, the key themes that cut across all films were structural versus. Individual explanations of poverty; race organizing economic opportunity; and wealth equating to power and opportunity. I analyzed ten TikToks as it is a platform where many people today get their information. Within this case study I analyzed the content and conversations happening around what was posted and found themes framing poverty as structural, as an aesthetic and spectacle, and from the first-person perspective. Together, these case studies illustrate how representations of poverty manifest itself in media and its influence on public perception and engagement with the content.

Faculty/Staff Sponsor
Reece Torres
Faculty/Staff Sponsor Department/Office
Sociology

STUDENT AND CAMPUS LIFE

145 • Domestic Violence Awareness

Shyla Acevedo
Abstract
Creating Awareness and Providing Public Resources on the Subject of Domestic Violence/Abuse.
Faculty/Staff Sponsor
Sara Hébert
Faculty/Staff Sponsor Department/Office
Student and Campus Life

135 • Student-Athlete Mentorship: An Analysis of First-Year Athlete Anxiety and Adjustment

Owen Ellick
Abstract
This Data Analytics Capstone examined the Student-Athlete Mentor (SAM) program's effect on first-year SUNY Geneseo athletes. Participants self-reported anxiety and adjustment across academic, athletic, emotional, and social domains before mentoring sessions. Seven data waves were collected for cohorts 2023-2024 (n = 144) and 2024-2025 (n = 141), with four waves for cohort 2025-2026 (n = 155). Reliability testing produced strong internal consistency for anxiety and adjustment scales, with Cronbach's alpha values ranging from .819 to .884 for composite generalized anxiety (GAD) and .760 to .893 for Adjustment across all timepoints. A bivariate correlation illustrated a statistically significant negative association between students' GAD scores and the number of mentoring sessions attended. While fall attendance was modestly associated with lower anxiety ($r = –.095$, $p = .047$), this association strengthened in spring ($r = –.185$, $p = .003$). Aggregated mentoring attendance annually showed a consistent negative correlation ($r = –.181$, $p < .001$), suggesting sustained engagement in mentoring may provide cumulative protective effects against anxiety symptoms. Research Question 2 explored how an athlete's season affects GAD scores. A one-way ANOVA demonstrated that Season of Play significantly predicted GAD composite scores ($F(3,436) = 5.302$, $p = .001$, $\eta^2 = .035$). Post-hoc comparisons and descriptive means recognize that fall athletes reported significantly higher anxiety than spring, winter, and all-season athletes. Descriptive means supported these results, identifying fall as the highest-anxiety season and spring as the lowest. The practical implications of this research, as well as additional analyses, limitations, and future research, will be discussed.
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Student and Campus Life

POSTER PRESENTATION SESSION: MacVittie College Union Ballroom

Wednesday, 22 April, 2026, 2:30-4:15 pm, MCU Ballroom

Posters will be available for viewing from 10:00 am-4:15 pm. Authors will be present from 2:30-4:15 pm.

BIOLOGY

138 • Nuclear Genetic Variation and Endosymbiont Variation in the Introduced Ant-Mimicking Spider, *Myrmarachne formicaria*

Abigail Huchro, Sophie Rose

Abstract

We are examining nuclear and endosymbiont genetic variation in *Myrmarachne formicaria*, an ant-mimicking jumping spider native to Eurasia that has been introduced to North America. Analysis of genetic diversity in the invaded range can explain the history of *M. formicaria's* introduction in North America. Previous work found little genetic variation within several mitochondrial genes of North American samples. We found variation with several nuclear genes, 28s rRNA, and histone H3a. In previous research, one of the 28s rRNA primers produced low-quality sequences; a new primer set was designed using *M. formicaria* sequence data. We tested this new primer set to see whether it yields longer, higher-quality sequences and have expanded our sample size to detect geographic patterns. Additionally, we are assessing the incidence and genetic variation of bacterial endosymbionts in these spiders. Two endosymbionts detected in samples include *Cardinium*, present in all samples with little genetic diversity, and *Wolbachia*, found sporadically among samples. The sequencing of two Wolbachia genes, *wsp* and *ftsZ*, was used to identify the bacterial strain and reveal any geographic patterns in endosymbiont genetic variation. These sequences were aligned in MEGA12 and compared with reference sequences in GenBank using BLAST. The *ftsZ* sequences were identical across our samples, but only ~92% identity to *Wolbachia* sequences in GenBank, while the *wsp* sequences were too low quality for reliable comparison. The low genetic variation observed in nuclear markers and *Wolbachia* sequences across geographic locations supports the hypothesis of a single introduction into North America.

Faculty/Staff Sponsor

Jennifer Apple

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Biology

This presentation will also be presented at:

Ecological Society of America Great Lakes/Midwest Regional Chapter Meeting

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

105 • Cavity Nesting Bees and Wasps: Patterns in Phenology and Habitat Use 🌿 💡

Hanna O'Reilly, Sophia Stang, Elliott Stern-Frisenfelds

Abstract

Cavity-nesting bees and wasps lay eggs in hollow stems or other pre-made cavities during late spring. Larvae over-winter in the tubes and emerge the following spring. To observe nesting patterns of these insects, we placed boxes containing hollow reed “bee tubes” in five locations around the SUNY Geneseo campus. Additionally, eight nesting boxes were placed in a local nature preserve with native grasslands, wet meadow, and woodland. We photographed the tubes once a week throughout the summer and early fall as the cavities were sealed off by insects forming larval cells. We noted the type of material used to fill the tubes and analyzed trends in phenology and site preferences of different occupants using the photographic record. We kept some specimens as vouchers for identification to the species level, and we released

the rest. Commonly observed bee taxa in 2023 and 2024 included leafcutter bees *Megachile pugnata, M. rotundata, M. relativa*, and the mason bee, Osmia caerulescens. We also observed wasp taxa including the grass-carrying wasp*, Isodontia mexicana,* the spider-hunting wasp Trypoxylon lactitarse, and potter wasps *Ancistrocerus capra, A. spinolae,* and Euodynerus foraminatus. We are currently investigating reproductive success and how this relates to site characteristics. In this study we explore the identities of occupants, cavity fill types, site preferences, and timing of occupation across years and under different ecological conditions. This information gives us a better understanding of our local native bee and wasp ecology and the conservation efforts necessary to support their populations.

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Biology

Special Topics

Ideas That Matter: Climate Change & the Individual, Earth Day-related

This presentation will also be presented at:

Ecological Society of America: 2026 Great Lakes Chapter Meeting

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

114 • Behavioral Assays to Assess Personality in the Ant-Mimicking Spider, *Myrmarachne formicaria*

Emily White, Sierra Bleier

Abstract

The ant-mimicking spider, *Myrmarachne formicaria* (Salticidae), has behavior and morphology that are incredibly similar to ants, including body shape, gait, and lifting of its front legs to mimic an ant's antennae. Our study aims to determine if M. formicaria exhibit repeatable behaviors that differ between individuals that can be categorized as personality. To explore this, we performed assays to assess aspects of personality. One behavioral assay we used to examine boldness is a closed arena trial in which the path of *M. formicaria* is tracked using AnimalTA software to record the time spent at the outside of the arena and at the inside of the arena. We also measured the time M. formicaria takes to leave a safe shelter in the arena after acclimation. The third assay we used is the amount of time spent displaying in front of a mirror, analyzed with the BORIS event-tracking software. We have the expectation that bolder spiders will spend more time at the center of the arena, emerge from shelters earlier, and spend more time displaying. We performed two trials of each assay per individual to determine the statistical repeatability of the results, which indicates whether *M. formicaria* exhibits consistent personality traits. The results of the three assays will be compared to see if individuals show consistency in personality across all tests. We will also compare these results to measures of spider morphology. These traits may contribute to the outcomes of interactions between individuals, such as male-male confrontations or courtship displays.

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Jennifer Apple

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Biology

This presentation will also be presented at:

Ecological Society of America Great Lakes Chapter Regional Meeting

156 • Localizing Sonic Hedgehog in Zebrafish Retinal Regeneration

Sarah Allam, Gloriia Deda, Lauren Conover, Kathleen Brodeur, Sarah Karimi, Alexandra Sotek

Abstract

Zebrafish, unlike humans, possess the ability to regenerate their retinas, as well as sections of the heart and spinal cord, after being damaged. Observing their retinal development may provide insight into regeneration of other central nervous system tissues. Sonic hedgehog is a signaling molecule essential in embryonic development across species. Its binding to the Ptch-Smo receptor complex initiates the Sonic hedgehog signaling pathway and is responsible for cell

differentiation in retinal development and regeneration. The aim of this research is to localize the cellular origin of the Sonic hedgehog signaling during retinal regeneration. Using western blot on embryos between 24 and 48 hours post fertilization, we are validating anti-Sonic hedgehog protein antibodies for use in zebrafish (Danio rerio) embryos.

Faculty/Staff Sponsor

Travis Bailey

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

2026 Society of Developmental Biology Northeast Meeting

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

148 • Chromosome Assembly Factor 1b in Zebrafish Retinal Development

Olivia Gibeault, Thadar Noe, Nina Sheely, Titus Dimitroff, Travis Bailey

Abstract

Zebrafish retinal development is rapid, and the differentiation of retinal neurons confer functional vision within three days post-fertilization. Zebrafish homozygous for the *good effort* (gef/nt2) mutant allele of the chaf1b gene appear to develop normally for two days, followed by cell death in highly proliferative developing tissues, including the retina, brain, and pectoral fins. Wild-type and *gef* mutant retinal cells proliferate normally during the first two days post-fertilization, but after 52 hours, cell death is markedly increased in gef mutants. This suggests a requirement for Chaf1b at the time that retinal progenitor cells switch from cycling to post-mitotic differentiating cells. Chaf1b is a subunit of chromatin assembly factor (CAF1), which is responsible for the assembly of histones at the replication fork during S phase. It is proposed that *chaf1b* loss-of-function mutations are not immediately lethal due to maternal deposition of functional mRNA or protein in the egg. The sub-cellular location of Chaf1b protein has not been rigorously tested. We are validating an anti-Chaf1b antibody in gef-mutant and wild-type embryo lysates to determine whether maternally provided Chaf1b spares retinal cells from cell death in homozygous mutant embryos.

Faculty/Staff Sponsor

Travis Bailey

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

Northeast Regional Society for Developmental Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

170 • The Role of YAP and pYAP in Zebrafish Retinal Regeneration

Jennifer Ripa, Brennan Withers, Ryan Kirton, Kyle Saia

Abstract

Regeneration allows organisms to heal tissue that has undergone damage. Understanding this process in depth is important for future scientific applications to people, in the hope of potentially treating retinal injuries and diseases that are currently irreversible. Zebrafish display a remarkable feature of regeneration within their retinal cells, an ability that is not present in mammals. The Hippo (Hpo) pathway is a kinase cascade that regulates cell growth and organ size. Hpo regulates retinal regeneration and is highly conserved from invertebrates to mammals. The Yes-associated protein (YAP) is a downstream effector within the Hpo pathway. When phosphorylated (pYAP), it can no longer aid in the transcription of cell genes that are used in the regeneration process. YAP/pYAP ratios have been previously studied, but there is little knowledge of their role in retinal tissue. It is hypothesized that the Hpo pathway is active in the absence of retinal damage and downregulated when light damage destroys retinal photoreceptors. It is predicted that YAP levels will increase in the Müller glia of retinas damaged by light compared with undamaged retinas, while pYAP levels will decline as the damaged retina regenerates. Using immunohistochemistry, we tested antibodies proven to work in mice on zebrafish retinal extracts, and then the resulting YAP and pYAP concentrations across a variety of time points post-injury

were quantified. These results will be compared to YAP and pYAP immunohistochemistry images to determine if results align. Funding was provided by SUNY Geneseo through the Travel, Research, and Creativity (TRAC) grant program.

Faculty/Staff Sponsor

Travis Bailey

Faculty/Staff Sponsor Department/Office

Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

390 • Fluorescence In Situ Hybridization of *neurod4* in Zebrafish

Olivia Schnauder, Samuel Sunderland, Alex Rheude, Travis Bailey

Abstract

Zebrafish provide an efficient route to study the molecular mechanisms of neuronal regeneration. The *neurod4* gene is crucial for cell identity determination during neurogenesis and promotes the differentiation of amacrine cells and photoreceptor progenitors. Neurod4 function is implicated in the differentiation of regenerating spinal cord neurons. To further study this gene in living animals, we generated a zebrafish transgenic line containing a 4 kilobase genomic fragment immediately 5' to the *neurod4* start codon and fused to the coding region of *Green Fluorescent Protein* (*GFP*). The purpose of this study is to determine the fidelity of the transgene by analyzing colocalization of the *neurod4* mRNA with GFP expression. Hybridization chain reaction - fluorescence in situ hybridization (HCR-FISH) was used to label *neurod4* expressing cells.

Faculty/Staff Sponsor

Travis Bailey

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

Northeast Regional Society for Developmental Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

346 • From Coral to Algae: Evidence of Reef Phase Shift in San Salvador, The Bahamas

Gabe Bellamy, Maria Garcia Guntin, Amir Helms, Adriana Ledtke, Emily Rogo

Abstract

San Salvador, the easternmost island in the Bahamas, is best known for its blue waters, calcareous sands, and coral reefs. However, reefs around San Salvador have been losing coral cover since the 1980s, with diseases having a major role in recent coral decline. In 2024, students from SUNY Geneseo concluded that Stony Coral Tissue Loss Disease (SCTLD - an unidentified pathogen) had caused widespread mortality of corals in San Salvador Reefs. The present study aims to assess the extent of recovery of coral biodiversity across San Salvador reefs, two years after massive die-offs were documented. Three sites were sampled: Rocky Point Reef, Lindsay Reef, and Telephone Pole Reef. Each site was surveyed using two 18-meter transects. Video recordings of each transect were analyzed to determine coral species diversity, abundance, coral cover, algal cover, and disease prevalence. Observed coral species included mustard hill, lobed star, blushing star, symmetrical brain, knobby brain, maze coral, and finger coral. Disease rates were low, however coral diversity and percent cover have continued to decrease, while algal cover has increased compared to previous years. We conclude that San Salvador coral reefs have undergone a significant phase shift to a degraded, algae-dominated ecosystem from which recovery may be difficult.

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Biology

393 • Sight vs. Sound, The Biodiversity of Fish on San Salvador Island, Bahamas

Chris Miklitsch, Caroline Rumsey, Brynn Westlake, Katie Tothero, Max Krakowski

Abstract

San Salvador Island is a small, isolated island known for its diverse coral reefs. However, the health of San Salvador reefs has deteriorated dramatically since the 1980's, most recently due to coral diseases. Sampling in 2024 showed that more than half of the corals in San Salvador reefs had been damaged and/or killed by an unidentified microbial disease known as Stony Coral Tissue Loss Disease. Our research examined whether declining reef health since 2024 has altered the populations of important herbivorous or corallivorous parrotfish species. Video transects were to census fish populations in five different patch reefs around the island. Recordings were made at two of these sites. We counted an average of 25.6 parrotfish per minute (range 15-35). Stoplight parrotfish were the most abundant species of parrotfish by far. XXX was the least abundant parrotfish species. Since there are more stoplight parrotfish than any other total, we concluded that fishing pressure would not is In 2024 large parrotfish were dominant (>80% of the community) whereas the smaller species were more rare. Now the decline of larger species appears to be unrelated to fishing pressure as two of our sites were in national park no-fishing zones. A similar phenomenon was reported in 2020 for fished and nonfished patch reefs in Belize by MacClanahan and Muthiga, who suggested that loss of reef structural complexity and persistence of less palatable late successional algae in degraded reefs has had negative ecological consequences on the parrotfish community.

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Biology

54 • Forelimb Articulation of *Majungasaurus crenatissimus*

Christopher Morillo

Abstract

Majungasaurus crenatissimus is a species of theropod dinosaur that is exclusively known from the Maevarano Formation of Madagascar, which dates to the Maastrichtian age of the Cretaceous period (70-66 million years ago). *Majungasaurus* was a member of the family of theropod dinosaurs called Abelisauridae that is known for having reduced forelimbs relative to their body size. Given these reduced forearms, it is unknown if *Majungasaurus*, or other abelisaurids, had any forelimb mobility or if they were a vestigial structure. To test if *Majuangasaurus* had any mobility in its forelimb, a three- dimensional biomechanical model of the forelimb will be constructed. These types of models have been extensively used to study locomotion in non-avian dinosaurs, but have rarely been applied to studies of the forelimb. CT scans of the forelimb of one specimen of *Majungasaurus* including the manus, radius, ulna, humerus, and scapulacoracoid, were implemented into the 3D animation program Maya using polygonal spheres and cylinders to estimate joint surfaces and define the axes of joint rotation in three dimensions. When the model is completed, it will be transported to the 3D biomechanical modeling software OpenSim to then examine joint range of motion. This software will also allow reconstruction of the muscles of the forelimb so that further hypotheses of function can be tested.

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Biology

260 • Investigating the Avifauna of the Eocene Jebel Qatrani Formation, Fayum, Egypt

Connor Baird

Abstract

The Fayum of Egypt was a rich biodiversity hotspot in its heyday. It is now a known fossiliferous depression with multiple formations and sites. One well-studied locality is Quarry L-41 of the Jebel Qatrani Formation, containing fossils from the late Eocene (38-33.9 Mya). This site and those surrounding it are renowned for an exceptionally diverse collection of extinct primates, whales, manatees, even fish and turtles. In terms of avifauna, the Fayum has given us the earliest

recorded fossil pelican and identification of an extinct family of wading birds in Xenerodiopidae, underscoring the region's importance for understanding avian evolution. By investigating a collection of fossils found at L-41, we can help further our understanding of the ecology and evolution of birds in the Eocene of Egypt. The specimens examined in this study are housed at the Duke Lemur Center Museum of Natural History (DLCNMH). A total of 23 fossils were photographed and analyzed from multiple angles. Most lacked prior identifications and none were assigned a specific taxa. Digital measurements were taken to quantify morphological variation, the specimens were then classified into four size categories: Giant, Large, Mid-size, and Small. Outside data was then gathered from known and identified avian bones/fossils in order to use comparative methods for classification beyond preliminary sizing. The comparative approach provides a foundation for further taxonomic identification in hopes of further understanding the avian diversity in the Fayum.

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Biology

This presentation will also be presented at:

2026 Society of Vertebrate Paleontology Annual Meeting

108 • Patterns in the Evolution of Shoulder Musculature in Tetrapods

Cameryn Shultes

Abstract

Reconstructing soft-tissue anatomy in extinct taxa remains a primary challenge in vertebrate paleontology, particularly for the musculoskeletal system, which is not preserved in the fossil record. Our study investigated the evolution and functional morphology of the shoulder musculature in extinct tetrapods using a comparative phylogenetic framework. Using extant phylogenetic bracketing (EPB), muscle character states were identified and coded across a range of extant taxa, with a primary focus on birds, crocodilians, and lepidosaurs. Character state coding was informed by the investigation of published research on the shoulder musculature of extant taxa, combined with osteologically correlated and homologous structures used to infer the presence or absence and variation of specific muscles. A character matrix representing these musculature traits has been constructed and will be integrated into a phylogenetic framework to examine patterns of muscle evolution and distribution across taxa. This approach is expected to enable the reconstruction of likely muscle configurations in extinct species and provide a framework for the functional and evolutionary transitions within the tetrapod shoulder girdle. This work highlights the integration of literature-based anatomical coding with phylogenetic methods to improve reconstructions of soft-tissue anatomy in the fossil record.

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Biology

67 • Validating the Effectiveness of the Supplemental Instruction Program Through Analysis of Student Success Trends in SI Supported Courses.

Grace Carlucci, Trinity Trojanowski, Robert Feissner

Abstract

Geneseo uses a Supplemental Instruction (SI) program based on the University of Missouri model of SI to provide peer-led support for students in challenging STEM courses which are defined by historically high DEFW rates. SI session attendance is voluntary and anonymous; faculty members are not aware of which students attend sessions, nor is there any direct grade-based incentive associated with participating in SI sessions. This model helps address typical barriers that serve to limit access of support for students, increasing equity. For data collection purposes, SI leaders record attendees' Geneseo email addresses at each session. At the end of each semester, attendance data is cross-matched with final course grades and demographic information for all students including those that did not attend SI. The Office of Institutional Research removes all identifiers to yield a historical attendance database containing only anonymized student grades, SI attendance, and demographic information. In this study, we analyze this data spanning the Spring

2024 through Fall 2025 semesters. Through analysis of this database, we demonstrate a positive correlation between regular SI attendance and student success. We also provide data suggesting that attendance leads to reduced DEFW rates among SI participants in historically challenging STEM courses.

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Biology

151 • The Effects of Using Multimodal Teaching Methods in Science Education

Louis D'Ambro

Abstract

Science education is fundamental for all students, not just scientists or students entering the STEM field. Every student learns and applies science differently, and researchers are studying how to support every student's learning needs. Effective science education integrates problem solving and real-world contexts to build scientific literacy. Studies show that students learn best when they are in a mixed classroom that contain components of hands-on experiences, lecture, and active learning, resulting in “a rise in the students' motivational levels, an acknowledgment of good teaching practices, and an evident enhancement of felt positive emotions toward science teaching and scientific issues” (Zamora-Polo *et al.*, 2019). This research compares daily active learning with traditional lecture-based instruction in science education. Throughout the Fall Semester, I surveyed students in the Introduction to Ecology course to see how they learn best, and the learning styles that are the most effective. I analyzed two different ecology classes, each with a different professor. Data were collected by an anonymous exit ticket, and an anonymous post survey. Students shared opinions about lecture time, engagement time, exit ticket analysis, and peer learning. By collecting both exit tickets and student survey responses, this study aims to evaluate which method better supports learning and engagement. Survey responses highlight common themes repeated from above. This research highlights the importance of assisting students and professors in developing teaching and learning strategies that are more effective and engaging.

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Biology

253 • Feeding Mechanisms and Morphology of Deep-Sea Fishes

Chloe Kirgan, Jennifer Aguilera Fonseca, Zebulun Soper, Griffin Palen

Abstract

The deep sea is characterized by high pressure, cold temperatures, and low food abundance. To compensate for harsh environmental conditions, deep-sea fishes developed specialized feeding adaptations. Studying deep-sea fishes presents significant challenges due to a lack of available data. We used an ecomorphological approach which showed how physical structures in animals relate to the environment, to understand how depth correlates to feeding mechanics in suction and biter feeders. Fishes suction feed by generating a unidirectional movement of water by expanding buccal and opercular cavity. In contrast, biter feeders tear and rip flesh. In the deep sea, suction feeding is found in families of Ophidiidae (cusk eels), Liparidae (snailfishes), and Ipnopidae (tripod fish), whereas biter feeders include families of Synaphobranchidae (cutthroat eels) and Macrouridae (rattails). To examine the functional morphology of deep-sea fishes, we used micro-computed tomography (micro-CT) and 3D Slicer to model each fish skull. Through analysis of the digital models, we measured key aspects of jaw performance, including mechanical advantage, representing the ratio of force produced by the jaw to the force applied by the jaw. Suction feeders showed no statistically significant relationship between depth and opening or closing mechanical advantage. However, we saw that biter feeders exhibited higher mechanical advantages with increasing depth. For opening mechanical advantage, a moderate statistical significance was shown, and closing mechanical advantage exhibited a significant correlation. We found that suction feeders did not follow this trend. Further research from an evolutionary lens would give insight into how their feeding biomechanics withstand their environment.

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Biology
This presentation will also be presented at:
SICB: The Society For Integrative and Comparative Biology
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Other Source of Support
Please provide information on Other Source of Support
SICB: Charlotte Mangum Student Support Program SICB: Broadening Participation Professional Development Travel Award

378 • Proteins Under Pressure: Understanding Deep-Sea Adaptations

Annie Rieman, Martin Hernandez, Amanda Byer
Abstract
Although the deep sea is the largest habitable space on Earth, it remains one of the least studied environments. As water temperatures rise due to global warming, fish are forced to move deeper, where temperatures are lower and pressures are higher. Biological structures, such as cell membranes and proteins, may be affected by this pressure change. Thus, this work probes pressure effects on proteins from deep- and shallow-dwelling fishes. The snailfish, *Pseudoliparis swirei* is a deep-sea fish that dwells in temperatures around 1 °C with pressures as high as 80 MPa. The lumpsucker, *Cyclopterus lumpus*, is a shallow-water fish, living in temperatures around 10 °C and pressure around 5 MPa. Lactate dehydrogenase (LDH) and malate dehydrogenase (MDH) are enzymes found in all kingdoms of life. MDH is essential for the citric acid cycle and plays a key role in aerobic respiration. LDH is functionally connected to glycolysis and is critical for sustaining anaerobic respiration. LDH and MDH were over-expressed in *Escherichia coli* cells and purified by affinity chromatography. SDS-PAGE, Bradford, and enzyme activity assays assessed protein quality. To evaluate these proteins' structures under pressure, we used high-pressure small-angle X-ray scattering (HP-SAXS) which allows control of the pressure exerted on a protein. Thus, we can see when proteins denature, compress, or change oligomeric states. We performed this HP-SAXS at the Cornell High Energy Synchrotron Source. By examining how homologous proteins in deep- and shallow-water-dwelling fish respond to elevated pressure, we begin to understand protein structure to predict broader effects on organisms.
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Mackenzie Gerringer
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Biology
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

147 • Identifying Coleopteran (Dytiscid) Vocalizations in a Western New York Pond Using Machine Learning

John Hicks
Abstract
This poster will show the identification and analysis of acoustic vocalizations from two Dytiscid beetles collected from Indian Fort Pond in Geneseo, NY. In September of 2025, two individual beetles were collected from the pond and brought into the lab where their underwater vocalizations were recorded. These recordings were analyzed using Raven software to identify and categorize different sound types produced by the beetles. After identifying these vocalizations, over fifty examples of each sound type were spliced from the recordings using Ocenaudio to create a dataset of representative calls. These samples were then processed using BirdNET, which incorporates an AI-based algorithm to assist with faster and more efficient acoustic identification. Our hope is for this approach to allow us to explore the potential of machine learning tools for identifying and categorizing aquatic insect sounds, however, this is a relatively

new method of analysis and we are still learning how to best adapt the model. The results of these analyses along with suggestions on how to continue to improve this model will be presented on the poster.

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Kristina Hannam

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Biology

89 • Impact of Ketogenic Diet on the Inflammatory Profile of Mice

Chloe Girling, Jana Kamel, Ashley Biondi, Allison Bechard

Abstract

Background: This project seeks to identify the impacts on whole body inflammation as a result of biotic changes in the microbiome due to a ketogenic diet. We have assessed the impacts of the ketogenic diet on an organism's health, particularly how changes in diet may impact the levels of inflammation markers, Tumor Necrosis Factor Alpha (TNF-alpha), Interleukin 1-beta (IL-1B), and Interleukin-6 (IL-6). These pro-inflammatory markers are known to impact overall health of an organism and have been seen to be affected by a ketogenic diet. Methods: Mice were fed either a standard chow diet or ketogenic diet. Trunk blood was collected at the end of the experiment (Day 21). ELISA kits were used to assess the levels of each cytokine of interest present in the blood following manufacturers protocols. Blood samples were chosen based on previous data which indicated alteration in the gut microbiome based on the mice's diet. Changes in diet were then correlated with alterations to general inflammatory levels. Results: Mice fed the standard diet displayed a higher baseline for the inflammation markers TNF-alpha, IL-1B, and IL-6. The mice fed the ketogenic diet displayed a lower baseline of these inflammation markers. The levels of inflammation corresponded with changes in the microbiome composition previously observed in the microbiome analysis. Mice treated with amoxicillin expressed a reversion to standard diet levels of inflammation after treatment. This indicates a direct correlation between the gut microbiome and these phenomena.

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Biology

This presentation will also be presented at:

SUNY Undergraduate Research Conference

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Faculty Incentive Grant

97 • Changes in Gut Microbiome of Mice Induced by Ketogenic Diet and Antibiotics

Emma Doney, McKenzie Huntsberger, Ashley Biondi, Jana Kamel, Dr. Allison Bechard

Abstract

The gut microbiome plays a critical role in regulating metabolic and neuroinflammatory pathways, particularly in individuals carrying the APOE4 allele, a significant genetic risk factor for Alzheimer's disease. This study examines how a ketogenic diet (KD) and antibiotic treatment influence gut microbial composition in APOE4 C57BL/6 (BL6) mice. Mice were assigned to one of four groups: standard diet (SD), ketogenic diet (KD), standard diet with amoxicillin (SD+Amox), or ketogenic diet with amoxicillin (KD+Amox). Fecal samples were then collected longitudinally across the dietary change and analyzed using 16S rRNA gene sequencing targeting the V3/V4 region to assess microbial diversity and composition. Preliminary results from the fall cohort demonstrate that KD-fed mice exhibited an increase in Firmicutes, particularly Bacilli and Clostridia, from Day 1 to Day 22, accompanied by a decrease in Bacteroidota. Between Day 22 and Day 44, Firmicutes declined while Bacteroidota rebounded, indicating dynamic restructuring of the microbial community over time. Ongoing analyses aim to determine the precise onset of microbial shifts and to evaluate the additional effects of amoxicillin in the spring cohort. These findings suggest that ketogenic dietary intervention induces significant, time-dependent changes in gut microbial composition in APOE4 mice and may influence biological processes associated with the progression and underlying pathology of Alzheimer's disease.

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Biology
This presentation will also be presented at:
2026 SUNY Undergraduate Research Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

92 • The Effects of Ketogenic Diet and Antibiotics of Gut Microbiome in Mice Demonstrating Repetitive Motor Behavior

Hanna O'Reilly, Makayla French, Ashley Biondi, Jana Kamel, Allison Bechard, Matthew Hatkoff
Abstract
An organism's gut microbiome has been shown previously to be influenced by outside factors including diet and antibiotics. A ketogenic diet impacts a number of biochemical processes by improving clinical management of certain disorders. Diet changes have been shown to influence the composition of the gut microbiome of organisms and also affect neurological responses. As well, ketogenic diets have been proven to have beneficial effects in mice that have genetic modifications, as shown in a previous experiment. Here we explore the combined impact of diet and antibiotics on the microbial gut communities in mice. The effects of a ketogenic diet (KD), which is a low carbohydrate, high-fat diet, and a standard diet (SD), on the gut microbial composition of mice was analyzed over a 21 day time course. The impact of antibiotic administration on gut microbial communities was also analyzed. The stool of the mouse was collected at various time points over the time course of the experiment. Microbial DNA was extracted using a Qiagen FecalPro Kit. The 16S DNA of the samples were then sequenced via Illumina technology. A taxonomic analysis was performed to determine changes in the gut microbiome of the mice. Changes in the microbial composition were seen between KD and SD fed mice, as well as mice that were given amoxicillin. These results demonstrate that the gut microbial composition is influenced by diet and by antibiotics; however further research is needed to directly correlate changes in behavior and changes in microbial communities.
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Matthew Hatkoff
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Biology
This presentation will also be presented at:
SUNY Undergraduate Research Conference at SUNY Upstate Medical University
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Faculty Incentive Grant

131 • Plant Community Response Following Invasive Shrub Removal in the Kentucky Bluegrass Region

Summer Burton
Abstract
We explore the effect of invasive shrub removal on woody seedling communities and the potential for secondary invasion by Japanese stiltgrass (*Microstegium vimineum*). Our study was conducted at 5 sites in the Kentucky Bluegrass Ecological Region following the removal of invasive Amur honeysuckle (*Lonicera maackii*) and autumn olive (*Elaeagnus umbellate*). We established four circular plots, each 400 m2 , within each site. Located at the center of each plot was a circular 200 m2 subplot, and 6 m from the plot center in each of the four cardinal directions are four, 4 m2 micro-plots. Two plots at each site had invasive shrubs removed, served as our treatment, and two without shrubs removed, served as our control. At the plot level, all canopy trees (≥ 10 cm DBH), were measured and identified. At the subplot level, shrub and Japanese stiltgrass cover was assessed, and at the micro-plot level, woody seedlings (20-100 cm) were

measured and identified. A non-significant trend towards more diversity in shrub-removal sites exists. Results may help inform future research and management with regards to invasive species removal and secondary invasion.

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Biology

This presentation will also be presented at:

The Environmental Science & Studies Conference at SUNY College of Environmental Science and Forestry

301 • Using Dendrochronology to Assess the Role of Emerald Ash Borer-Caused Ash Mortality in the Potential Release of Invasive Shrubs

Brian Hoven, Bryan Friedel, Hunter Georgia

Abstract

The emerald ash borer (*Agrilus planipennis*, EAB) is an invasive wood-boring beetle first identified in New York State in 2009. EAB has caused widespread mortality in green ash (Fraxinus pennsylvanica) dominated wetlands, leading to extensive losses. EAB appears to have had a significant impact on these wetlands, but little historical data is available. We will be coring green ash, swamp white oak (*Quercus bicolor*), and collecting cross-sections from invasive shrubs in 24 wetland sites located throughout Monroe, Livingston, and Ontario Counties. Our goal is to construct a chronology with green ash, cross-dated with swamp white oak, which we will use to quantify growth responses to EAB-caused ash mortality. At each site, we will core approximately 25 green ash and 5-7 swamp white oak, taking two cores per tree at breast height. Depending on the most pervasive invasive shrubs at each site, we will collect cross-sections from honeysuckle (Lonicera spp.), buckthorn (*Rhamnus cathartica*), and multiflora rose (Rosa multiflora). Once samples are collected in the field they will be mounted, dried, and sanded in the laboratory. Samples will then be scanned and ring-width measured with CooRecorder. For crossdating, we will use CDendro to align ring-width patterns between ash and oak to build a reference chronology. We predict that there will be a correlation between EAB-caused ash mortality, and a growth release in co-occurring invasive shrubs. The resulting dataset would add to our understanding of how invasive species can facilitate one another in forests that are becoming increasingly dominated by anthropogenic influences.

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Brian Hoven

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Biology

This presentation will also be presented at:

The annual student research conference at State University of New York College of Environmental Science and Forestry

Funding Sources

Presidential Summer Research Fellowship

345 • Emerald Ash Borer and Forested Wetlands: Initial Community Structure and Ash Decline in the Finger Lakes Region

Leena Haskell, Sam Bonesteel, Brynn Mooney

Abstract

Emerald ash borer (*Agrilus planipennis*, EAB) is an invasive insect posing a major threat to regional forests. Green ash (Fraxinus pennsylvanica), a dominant canopy tree in western New York's forested wetlands, are particularly vulnerable. We established 24 long-term sites, each containing three circular 400 m2 plots across the Finger Lakes Region, during 2024 and 2025. Within each plot, all trees ≥10 cm DBH were identified, measured, and assessed crown position; we also recorded canopy openness and shrub cover. The following results refer to the 16 initial sites established in 2024. Mean canopy tree abundance, species richness, and species diversity were 26 ± 2, 3.0 ± 0.1, and 0.64 ± 0.04, respectively. The mean stand basal area (BA) for all species was 23,310 ± 1921 m2 ha−1, per plot, and of that 663 ± 64 m2 ha−1 was ash. Ash health (1 = healthy, 5 = dead) averaged 4.7 ± 0.1 in the canopy and 2.7 ± 0.2 in the subcanopy. Canopy stand BA, ash canopy BA, and ash health were used to calculate ash decline and ash mortality indices; the mean was 49 ± 0.04% and

47 ± 0.04%, respectively. Mean percent canopy openness was 44 ± 3.7% per plot. A correlation exists between ash size and canopy position and tree rating, where smaller-diameter, suppressed trees are more likely to receive a healthier rating. These findings provide a baseline for evaluating future EAB-driven changes in wetland forest structure and composition.

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Biology

Funding Sources

Presidential Summer Research Fellowship

216 • Riparian vs. Upland Forest Soils: Linking Nutrients, Parent Material, and Biodiversity

Hope Keifer

Abstract

Soil properties vary widely across landscapes due to factors such as flooding, erosion, and parent material. This study will investigate how soils differ between riparian (floodplain) environments and adjacent upland slopes, with a focus on how landscape position and parent material influence soil development and nutrient availability. Specifically, total carbon, nitrogen, and phosphorus concentrations will be compared between these two settings. Soil samples will be collected from a riparian site near a stream and an upland site on a nearby slope. Samples will be analyzed for soil texture, moisture content, bulk density, and organic matter using standard laboratory methods. Total carbon and nitrogen will be measured through combustion analysis, while phosphorus will be quantified using a digestion and colorimetric method. Field observations, including sediment characteristics, vegetation, and evidence of flooding or deposition, will also be recorded to provide geomorphic context. It is expected that riparian soils will exhibit higher nutrient concentrations than upland soils due to periodic flooding and the deposition of fine sediments and organic material. By linking soil chemistry with landscape processes, this study aims to improve understanding of how environmental factors shape soil properties and influence ecological patterns.

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372 • Production of Axenic Plant Material to Explore the Chemical Ecology of Urushiol in *Toxicodendron radicans*

Paul Kuehnert, Chris Skinner

Abstract

Poison ivy (*Toxicodendron radicans*) is widely recognized for its propensity to induce a rash. This is of growing concern as T. radicans prospers in and around human disturbed environments while also being projected to benefit from a changing climate, increasing the chances of human encounters. However, why these plants produce the toxin compounds, urushiol, remains largely unknown. One reason is the difficulty of replicating the plant in a controlled environment, limiting variables and facilitating focused research on its utilization of urushiol.To address this, seedlings of *T. radicans* have been collected from geographically and ecotypically distinct locations. Individuals from each location were over-wintered outside in pots, in the SUNY Geneseo greenhouse, or collected post winter. We will attempt to end dormancy early, using a growth chamber, to facilitate work with specimens ahead of their natural growing season. Non-dormant plants have active meristematic tissue that may be cultured to produce new axenic samples for testing. From this point, methods of quantifying urushiol production of tissue samples can be employed, and *T. radicans* genetic expression for urushiol production may be explored. Culturing axenic tissue will allow for production of many genetically identical samples of the tissue donor. Additionally, tissue culture inherently produces a mass of undifferentiated cells, known as callus. Multiple current methods of plant genetic manipulation utilizing callus tissue will be available to adjust expression of urushiol production in T. radicans. Ultimately, side by side comparative tests might determine physiological effects between individuals retaining their ability to produce urushiol vs without.

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Biology

352 • Comparing Ecosystem Benefits of Native and Non-native Trees on SUNY Geneseo's Campus and Implications for Future Landscaping Projects 🌿 💡

Joshua Lefkowicz, Nathan Walz, Brian Hoven
Abstract
Understanding that native trees and commonly planted street trees may differ in their ecosystem services is crucial in determining what trees offer the greatest ecological benefit to SUNY Geneseo, as well as making informed landscaping decisions. Currently, a spatial inventory of all trees on SUNY Geneseo's campus is being created, with each tree's species and DBH being identified. This is being completed in QField, a spatial application that fully integrates with QGIS. Ecosystem services are then recorded using iTree Design, which calculates estimations of storm water runoff intercepted, CO2 sequestered and air pollutants removed by each tree based on its size and species. These values are averaged amongst species, grouped by native status and compared. Previously, these analyses were taken over a hypothetical 25 years for each tree. However, to account for the trees age and landscaping practices, these values are now taken over the estimated time left until the tree reaches mature size in urban conditions using allometric equations. This new approach aims to give more realistic and justifiable data. Currently, the census includes ~250 individual trees and 38 species, and continues to grow. Ultimately, we hope to prove the benefit of planting native trees over non-native trees, and influence future landscaping decisions to be made through a holistic lens of ecosystem functionality. Additionally, through our work we hope to create a replicable ecosystem functionality analysis framework that can be applied to similar projects in the future.
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Biology
Special Topics
Ideas That Matter: Climate Change & the Individual, Earth Day-related

90 • Construction and Characterization of *fsd-1* Transcription Factor Mutants in the Model Fungus *Neurospora crassa*

Sophia Bahm, Leila Doerrer
Abstract
Neurospora crassa is a filamentous fungus that is widely used in genetics research, and it can reproduce both sexually and asexually. The genetic pathways that regulate mating behaviors in N. crassa remain widely uncharacterized. We focus specifically on how the transcription factor FSD-1 regulates mating behaviors in *N. crassa*, and Δfsd-1 strains are female sterile. To investigate the role of DNA binding in the function of FSD-1, we constructed a point mutant in a conserved DNA binding residue (R248A) and analyzed the phenotype. For the *fsd-1*R248A mutant strain, we found that males retained the ability to reproduce whereas females were sterile. These results were consistent with those found in the *Δfsd-1* strain. We investigated *fsd-1* gene expression patterns across wild-type, *Δfsd-1*, and *fsd-1*R248A strains. RNA was isolated from *N. crassa* using the Trizol method and purified using a Qiagen RNeasy kit and an Ambion Turbo DNase kit. Purified mutant RNA samples will be sent for Illumina RNAseq and analyzed using Galaxy Data analysis software. In addition, we are interested in characterizing strains that overexpress fsd-1. Our data indicates that constitutive overexpression of *fsd-1* inhibits sporulation and/or spore germination. To investigate this further, we have constructed a quinic acid inducible fsd-1 strain via double-jointed PCR and transformation in order to isolate homokaryotic overexpression spores for genome profiling and further phenotype characterization.
Faculty/Staff Sponsor
Elizabeth Hutchison

Faculty/Staff Sponsor Department/Office
Biology
This presentation will also be presented at:
2026 American Society for Biochemistry & Molecular Biology Annual Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Sorrell Chesin '58 Research Award

153 • Isolation and Genome Sequencing of Antibiotic-producing Bacteria from the Local Geneseo Environment.

Jacey Cappa, George Privitera, Andrea Rivera
Abstract
We collected soil, water, and plant samples from the Indian Fort Nature Preserve to isolate potential antibiotic-producing bacteria. Samples were suspended in water and plated in serial dilutions on bacterial growth medium. We extracted DNA from selected isolates and performed Illumina whole-genome sequencing through SeqCenter. This high-throughput sequencing approach allowed us to generate millions of short reads per isolate, providing a comprehensive view of the microbial genome. By assembling these reads using tools on the Galaxy platform, we reconstructed complete genome sequences and evaluated their quality based on contig number, contig length, and overall genome coverage. We also used genome annotation tools such as RAST, Prokka, antiSMASH, BAGEL, and ClusterBlast to predict various bacteriocins and non-ribosomal peptide synthases, enabling us to alter raw DNA into functional biological information. This process enabled us to identify genes potentially responsible for antibiotic production, predict metabolic pathways, and assess antibiotic resistance profiles. Through this genomic analysis, we were able to narrow down the genus of the isolates and assess their antimicrobial potential. The species identified belonged to the genera *Kocuria*, Bacillus, and *Pseudomonas*. Through our analysis, we can support the notion that our isolates have the genetic potential to assemble antimicrobial compounds. We also tested strains for their ability to inhibit gram positive and gram negative lab strains. We are currently conducting further tests to refine the identification of the microbial genus, investigate growth characteristics, and fully characterize their antibiotic activity and resistance profiles.
Faculty/Staff Sponsor
Betsy Hutchison
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Biology
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

332 • Elucidating the Structure and Kinetics of Trypanosoma Cruzi Malate Dehydrogenase

Meghan Geraghty, Michaela Cawley, Grace Sutherland, Ruhi Rahman, Christoper Berndsen, J. Ellis Bell, Varuni Jamburuthugoda
Abstract
The goal of this study is to characterize the structure and kinetics of *Trypanosoma cruzi* (*T. cruzi*) malate dehydrogenase (MDH). *T. cruzi* is a single celled parasite whose infection leads to chagas disease. It uses non-traditional pathways for survival, many of which involve MDH; this makes MDH a good target for potential therapeutics. *T. cruzi* expresses three distinct MDH isoforms localized to the mitochondria, glycosome and cytoplasm. Our study focuses on the cytoplasmic isoform. *T. cruzi* cytoplasmic MDH gene sequence was synthesized by GenScript and cloned into an expression vector containing a C-terminal 6-His tag. Following transformation into competent *E. coli* BL21 cells, the recombinant protein was expressed and purified via affinity chromatography using nickel resin beads. Protein purity was confirmed through SDS-PAGE and concentrations determined using the Bradford assay. To begin characterizing the enzyme's kinetic properties, we conducted continuous assay, OAA variation and NADH variation assays. These experiments used human MDH1 (hMDH1) as a control, which is also localized to the cytosol. We confirmed that *T. cruzi* MDH uses OAA as a substrate similar to hMDH1. However, preliminary analysis revealed that *T. cruzi* MDH does not exhibit the typical OAA-dependent substrate inhibition observed for hMDH1, suggesting potential mechanistic and regulatory differences

between the two cytosolic isoforms. In addition, small-angle X-ray scattering (SAXS) data was collected to determine the shape and quaternary structure of the protein. SAXS data was analyzed using RAW software and AlphaFold simulations, with the data suggesting that *T. cruzi* MDH exists as a dimer in solution.

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Varuni Jamburuthugoda

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Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Sorrell Chesin '58 Research Award

98 • Investigating the Role of Flexible Loop Mutations in Malate Dehydrogenase: Structural and Kinetic Impacts on Enzyme Catalysis

Andrew McFadden, Harshdeep Singh, Sara Scanlan, Jessica Bell, Christopher Berndsen, J. Ellis Bell, Varuni Jamburuthugoda

Abstract

Malate Dehydrogenase (MDH) is a key metabolic enzyme found in nearly all organisms. It catalyzes the reversible oxidation of malate to oxaloacetate in the Krebs cycle. MDH also plays essential roles in the malate-aspartate shuttle and in plants, the glyoxylate cycle (1). Because of its importance in parasite metabolism and metabolic plasticity during host transitions, MDH has emerged as a promising therapeutic target for parasitic species (2). Although the MDH structure has been well characterized by X-ray crystallography, regulatory mechanisms remain poorly understood (3). The flexible loop region consists of amino acids 119-137 in watermelon glyoxysomal MDH, including the two highly conserved arginine residues at positions 124 and 130, both of which contribute to the active site. We investigated the impact of mutations changing the conserved arginine residues to other amino acids, including lysine, glutamine, alanine, and glutamate (R124K, R124Q, R130A, R130E). We began with the R124Q and R130A mutants. Mutant plasmids were created using QuickChange site-directed mutagenesis and expressed in E. coli grown in LB-Ampicillin media, followed by IPTG induction. Proteins were then purified using affinity chromatography. Isolated proteins were then run on SDS-PAGE gels to determine the purity. Additionally, PyMOL structures of the mutants were examined. We hypothesized that substituting either residue would disrupt flexible loop dynamics, impairing substrate binding and catalytic efficiency compared to the wild-type wgMDH. In the future, we will investigate the substrate specificity of this mutation, as some reports indicate that this amino acid substitution resulted in the use of pyruvate as a substrate.

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Varuni Jamburuthugoda

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Biology

This presentation will also be presented at:

Annual Meeting of The American Society for Biochemistry and Molecular Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Sorrell Chesin '58 Research Award

74 • Structural Dynamics and Catalytic Regulation of Trypanosoma brucei Malate Dehydrogenase

Grace Sutherland, Ruhi Rahman, Christopher Berndsen, J. Ellis Bell, Varuni Jamburuthugoda

Abstract

Malate dehydrogenase (MDH) is a highly conserved enzyme that catalyzes the reversible interconversion of malate and oxaloacetate using NAD^+/NADH. As a key enzyme of the final steps of the tricarboxylic acid (TCA) cycle, MDH is essential for central metabolism in many organisms (1). Targeting MDH regulation represents a promising direction towards therapeutic development against various parasitic diseases (4). African sleeping sickness, caused by *Trypanosoma brucei*

(T. brucei), remains a major global health burden with limited treatment options and increasing concerns regarding drug resistance. Although *T. brucei* relies heavily on glycolysis for ATP production, its cytoplasmic MDH remains a critical enzyme for maintaining metabolic flux and redox balance making this enzyme a promising target for novel drug development. Our objective in this study is to characterize the structure and function of T. *brucei* cMDH using methods such as kinetic assays, tryptophan fluorescence spectroscopy, and small-angle X-ray scattering (SAXS), with human hMDH1 as a control. Recombinant expressions of both MDHs were induced with Isopropyl ß-D-1-thiogalactopyranoside (IPTG), followed by purification of 6x His-tagged proteins using affinity chromatography. SDS-PAGE verified protein purity and Bradford analysis determined 4mg/ml for *T. brucei* cMDH and 2.4mg/ml for hMDH. Initial rate kinetics were used to determine each protein's kinetic parameters, such as KM and Vmax. Both enzymes exhibited substrate inhibition in the presence of elevated OAA. The kinetic data for varying NADH concentrations were also determined.

Faculty/Staff Sponsor

Varuni Jamburuthugoda

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

American Society for Biochemistry and Molecular Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Sorrell Chesin ’58 Research Award, Dean Johnston Student Research Assistantship

379 • Morphological Effects of Cytokeratin 8/18 and Vimentin Coexpression in Vulvar Cancer Cells

Avinash Gopal, Sara Mongelli, Abby Stevenson

Abstract

Vulvar squamous cell carcinoma (VSCC) is a rare but aggressive malignancy that primarily affects women over the age of 60, with the earliest stages often obscured by vulvar lichen sclerosus (VLS). VLS is commonly treated with ultrapotent corticosteroids such as clobetasol. Past studies demonstrated that clobetasol treatment of A431 vulvar cancer cells results in the loss of the cell-cell junction proteins E- and P-cadherin and the subsequent gain of the intermediate filament protein vimentin. The resulting cells (referred to as A431D) do not form adherens junctions nor desmosomes. Loss of E- and P-cadherin and gain of vimentin expression is consistent with an epithelial-to-mesenchymal transition (EMT), a process associated with cancer progression and acquisition of a more aggressive phenotype. Despite these changes, A431D cells retain expression of the epithelial intermediate filaments cytokeratins 8/18. Analyses revealed colocalization of cytokeratin 8/18 and vimentin within A431D cells. In the absence of cadherin-mediated junctions, the organization of both filament systems, and the overall morphology of the cells, resembles that of fibroblasts. It is only upon exogenous expression of an E-cadherin-plakoglobin construct, that desmosome and adherens junctions form. In the studies presented we tested the hypothesis that vimentin is driving the morphology of the A431D cells in spite of continued cytokeratin 8/18 expression even when E- and P-cadherin or E-plakoglobin were exogenously expressed in these cells. A431D cells were transfected with plasmids containing E-, P-, or a construct of E-plakoglobin and the resulting cells were examined for localization of vimentin and cytokeratin 8/18 by confocal microscopy.

Faculty/Staff Sponsor

Jani Lewis

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

American Association for Cancer Research

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

158 • Identifying Changes in Cell Cycle Regulatory Proteins During Clobetasol-induced Quiescence in UMSCV-4 Vulvar Cancer Cells

Claudia Marsello, Trinity Trojanowski, Jani Lewis

Abstract

Quiescence is a reversible state in which cells temporarily exit the cell cycle in response to stress, with the capacity to re-enter the cycle once the given stress is relieved. Growing evidence suggests that quiescent cancer cells may underlie long-term tumor dormancy and late relapse. We found that a subpopulation of the vulvar squamous cell carcinoma line UMSCV-4 enters quiescence following exposure to the corticosteroid clobetasol (clob). Upon removal of clob, these cells re-enter the cell cycle. To characterize this process, we quantified changes in proliferation using BrdU incorporation and assessed the timing of cell cycle re-entry after clob withdrawal. We hypothesized that clob treatment would downregulate key cell-cycle-promoting proteins while upregulating cell-cycle inhibitors, and that these changes would reverse within three days of clob removal, coinciding with increased DNA synthesis and the reappearance of mitotic figures. Using Western blot analysis, we examined the expression of cell-cycle promoters (cyclin D1, cyclin D3, CDK2, CDK4, CDK6) and inhibitors (p21Waf1/Cip1 and p18INK4C). RNA seq analysis is being used to evaluate corresponding changes in mRNA abundance and to identify additional regulators associated with clob-induced arrest. Together, these studies aim to define the molecular mechanisms by which clobetasol promotes quiescence in vulvar cancer cells.

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Jani Lewis

Faculty/Staff Sponsor Department/Office

Biology

This presentation will also be presented at:

American Association for Cancer Research Annual Meeting 2026

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Faculty Incentive Grant

248 • The Impact of the DNA Methyltransferase Inhibitor CM-272 on Bacterial Mutation Frequency

Grace Carlucci, Kevin Militello

Abstract

The Militello laboratory is interested in the impact of DNA methylation on bacterial gene expression and physiology. San José-Enériz *et al*. successfully developed the drug CM-272 to block DNA methyltransferase and found significant anti-cancer activity. The Militello laboratory tested the effect of CM-272 on Escherichia coli and found no significant loss of DNA methylation. However, CM-272 exhibited unexpected antibacterial activity as it inhibited growth of bacterial strains with and without a DNA methylation system. Our goal this semester is to understand the mechanism by which CM-272 decreases bacterial growth. One hypothesis is that CM-272 inhibits bacterial growth by binding to DNA. To indirectly test this hypothesis, we are measuring mutation frequencies of cultures grown in DMSO and CM-272 dissolved in DMSO using a streptomycin resistance assay. We expected to see an increased mutation frequency in the samples treated with CM-272 because if CM-272 binds to DNA, it could disrupt replication and lead to increased copying errors. The observed mutation frequency for samples grown in DMSO, a low concentration of CM-272, and a high concentration of CM-272 were all around ~1x10-8 with no statistically significant differences in mutation frequencies. In the future, we will test a DNA repair knockout strain in the same manner, as the mutation frequency will be higher and thus easier to detect small differences.

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Kevin Militello

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Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

292 • The Novel DNA Methyltransferase Inhibitor CM-272 Inhibits Bacterial Growth via a DNA Methylation-Independent Mechanism

Kevin Militello, Alexa Colon, Dana Schoeps, Taylor Stolberg, Abigail Funk, Clare Douglas Douglass, Betsy Hutchison

Abstract

The *Escherichia coli* genome contains 5-methylcytosine at CCWGG sites. In eukaryotes, the role of DNA methylation is well-defined, and it impacts several processes including transcription regulation. However, the role of bacterial cytosine DNA methylation is less-well understood, with our laboratory's previous studies suggesting that cytosine DNA methylation is important for the bacterial stress response. In this study, we treated bacterial cells with cytosine DNA methylation inhibitors to elucidate the role of cytosine DNA methylation. The novel DNA methylation inhibitor and antitumor drug, CM-272, was used as it was previously successful in inducing DNA demethylation and disrupting cell cycle progression in cancer cells. Our data indicate that CM-272 does not block DNA methylation in *E. coli*. However, CM-272 blocks growth of *E. coli* and *B. subtilis* indicating that CM-272 possesses antimicrobial properties. CM-272 inhibited bacterial growth of strains with and without cytosine DNA methylation pathways indicating a novel, DNA methylation-independent mechanism of action. We are currently investigating the mechanism by which CM-272 inhibits bacterial growth. Microscopy experiments indicate that CM-272 treated cells are larger than untreated cells, suggesting CM-272 blocks cell division. CM-272 also blocks DNA replication as revealed by PCR experiments. Overall, CM-272 has unexpected antimicrobial activity and characterizing the mechanism of action will provide valuable information about not only CM-272, but antimicrobial compounds as a whole.

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Kevin Militello

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Biology

This presentation will also be presented at:

American Society For Biochemistry and Molecular Biology

Funding Sources

Sorrell Chesin '58 Research Award, TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

228 • Metagenomic Analysis of Ketogenic Diet on Mice

Caitlin Hughes, Jason Pun, Sophia Miner

Abstract

The human gastrointestinal tract is home to a diverse community of microorganisms, making up the gut microbiome. Recent research has suggested a link between the metagenomic content of the gut microbiota and brain function, in a relation termed the "gut-brain axis." This relationship suggests that the microbial composition of the gastrointestinal tract impacts the host's health. This study aims to identify differences in metagenomic content of mouse gut microbiota when exposed to the ketogenic diet using an assembly-free approach via shotgun metagenomics. The methodology involved giving both male and female mice either a standard chow diet (CD) or a ketogenic diet (KD) for 22 days. Fecal matter samples were taken on days 1 and 22 after exposure to their respective diets and sequenced using shotgun metagenomics. The sequences were filtered for quality, removing host DNA sequences. The remaining filtered sequences were then profiled for the abundance of microbial metabolic pathways and molecular functions. Described here, is the changes in functional potential of gut microbiomes of mice fed different diets over the course of 22 days.

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Nathan Morris

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Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

144 • Responses of Understory Microbial Communities to Emerald Ash Borer Recovery in Forested Wetlands

Sophia Barclay, Grace Engle, Inez Stangler, Abigail Edsall, Summer Burton

Abstract

Soil microbial communities are fundamental drivers of ecosystem structure and function, and it's important for us to characterize the community structure to determine key taxa responsible for biogeochemical cycling. Forested wetlands in western New York, which have experienced rapid ecological change due to widespread mortality of green ash (*Fraxinus pennsylvanica*) caused by the emerald ash borer (*Agrilus planipennis*, EAB) since its detection in 2009, provide an ideal system for investigating how invasive species–induced canopy loss influences the diversity and composition of belowground microbial communities. Although EAB has caused widespread disturbance in forested wetlands, few studies have examined how soil microbial communities respond to this disturbance in wetland ecosystems. Using amplicon sequencing of bacterial 16S rRNA regions and ITS2 for fungal, this project addresses this gap by investigating how EAB-driven canopy loss affects soil bacterial communities in forested wetlands. Soil samples collected in 2025 were processed for microbial DNA using the Qiagen DNeasy PowerSoil Pro Kit. DNA quantity and quality were assessed with a Thermo Scientific NanoDrop One, and samples were submitted to IMR.bio for 16S rRNA and ITS2 amplicon sequencing. Resulting sequence data will be analyzed in QIIME2 to characterize microbial community structure, including relative abundance, alpha diversity, and beta diversity. After sequencing, we expect to find differences in soil microbial communities between forested wetland sites with closed canopy versus open canopy. By comparing these patterns, we hope to identify microbial groups associated with sites that show signs of recovery, which may help inform future forested wetland restoration efforts.

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Biology

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

254 • The Effect on Biogeochemical Cycling due to Declines in Green Ash (Fraxinus pennsylvanica) Populations from the Emerald Ash Borer

Eliza Dawes, Haley Flynn

Abstract

Soil biogeochemistry cycling is an important process in any ecosystem, especially forested wetlands. Forested wetlands in western New York have experienced rapid ecological change due to widespread mortality of green ash (*Fraxinus pennsylvanica*) caused by the emerald ash borer (Agrilus planipennis, EAB). Since this was detected in 2009, these circumstances have provided an ideal system for investigating how invasive species that induce canopy loss influence the diversity and composition of soil biogeochemistry. EAB-affected wetlands show distinctions in nutrient and carbon pools that correlate with canopy openness. Although EAB has caused widespread disturbance in forested wetlands, few studies have examined how the belowground biogeochemical processes are affected by this loss. This then subsequently affects microbial and plant communities. These communities are vital to the functioning of any ecosystem, and with their decline, the entire ecosystem would likely decline as well. To study the biogeochemistry of the soil, soil samples were collected from eight sites in 2025: four open-canopy wetlands and four closed-canopy wetlands. Total carbon (TC), total nitrogen (TN), and total phosphorus (TP) were quantified from the soil samples at each of these sites. TN and TC were quantified using the PerkinElmer Elemental Analyzer, and TP was quantified using the Shimadzu UV-Vis Spectrophotometer. Results are expected to show differences in TP, TC, and TN across canopy conditions. These patterns would suggest that EAB-driven ash mortality is altering biogeochemical cycling, with implications for microbial and plant communities. Understanding these relationships will help inform restoration strategies in forested wetlands.

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Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

269 • Early Plant Community Dynamics in a Created Wetland: Assessing the Effects of Leaf Litter Compost Amendments

Graceann Gropp, Talia Weidberg, Aneesa Mirza

Abstract
Wetland creation and restoration are important strategies for recovering ecosystem services lost due to widespread degradation. One approach to enhance restoration outcomes is the addition of soil amendments such as leaf litter compost (LLC), which can increase organic matter and improve conditions for plant establishment. This study examines plant community changes from 2020–2025 at a restored wetland in Bergen, NY, where four -4 × 50 m transects were established, with two amended with LLC and two serving as untreated controls (CTR). Amended transects received LLC annually from 2019–2024, and vegetation surveys were conducted each year since 2020. These data were used to calculate Shannon diversity and native and invasive plant cover, thereby characterizing early successional trajectories. Initial diversity metrics did not differ among treatments, likely reflecting the young age of the system, but plant communities have begun to diverge. Phalaris arundinacea was consistently greater in LLC transects ($p = 0.04$) and varied among years ($p = 0.0009$), with higher cover in 2024 and 2025. In contrast, Typha spp. varied by year ($p < 0.0001$) but not by treatment. Native species showed signs of recruitment, with Scirpus spp. and Sium suave increasing in compost transects before leveling off, and Alisma subcordatum rebounding in 2025, particularly in CTR transects ($p < 0.0001$). These patterns suggest gradual native establishment, potentially supported by community seed dispersal efforts. Overall, LLC may accelerate early vegetation establishment but may also promote invasive species, highlighting the need for continued monitoring to assess long-term outcomes.

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Biology
This presentation will also be presented at:
CNY Conference for Environmental Science & Studies

309 • Improving Wetland Restoration Success Using Community-Based Seed Collection and Propagation

Kyah Henry

Abstract
Wetlands are an important part of our ecosystems, but historically have been destroyed by human activities. Wetlands are critical to water filtration, flood control, global carbon cycle, and wildlife habitat. Restoration and creation of wetlands are solutions to replace these ecosystems. Buying seeds is expensive, and therefore, finding ways to increase plant diversity in these created wetlands is crucial. One way is to collect seeds, propagate them in a greenhouse, and replant them in the wetlands in the spring. This approach improves plant survival rather than direct planting. The larger research project is to help improve created wetlands success. In the fall of 2025, we collected seeds to propagate in the greenhouse and to spread them into the wetland. There were two goals: one to create a community to spread seeds in the created wetlands. Spreading seeds is not enough and may not achieve restoration goals, compared with growing plants in the greenhouse and then planting them in late spring. Our second goal is to grow enough plants to be viable for a spring planting. I collected *Alisma, Asclepias tuberosa*, Asclepias syriaca, *Asclepias incarnata, Juncus torreyi, Verbena* spp., and *Carex lurida.* I stratified them in the refrigerator after seed removal. I planted them in two soil types: a control and an experimental. So far, Asclepias tuberosa,*Asclepias incarnata*, *Asclepias syriaca* germinated. Overall, the aim of the research is to determine a method that is cost-effective, increases plant diversity in wetlands, and helps these restored systems succeed in the long term.

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Biology

268 • Soil Physical and Organic Matter Responses to Emerald Ash Borer–Induced Canopy Loss in Forested Wetlands

Erin Skinner, Adrianna Ledtke, Inez Stangler, Shebeke Thompson

Abstract
Forested wetlands in Western New York are undergoing rapid ecological changes due to green ash (*Fraxinus pennsylvanica*) mortality caused by emerald ash borer (Agrilus planipennis), first detected in New York in 2009. The loss of green ash can alter plant communities, soil properties, and ecosystem processes. For this reason, we established 24 long-term monitoring sites across the Finger Lakes region of New York to document changes in plant communities and soil characteristics. In our research, our focus is on soil moisture, soil organic matter, and soil texture. Within each plot, three soil cores were composited for texture analysis, while soil moisture and soil organic matter were analyzed from two cores divided into 4 depths. To do this, soil moisture was determined gravimetrically after drying at 60°C, and soil organic matter was quantified using loss-on-ignition at 550 °C. For soil texture, the samples were sieved and pretreated with sodium hydroxide, which can disperse organic-rich material. This was then oven-dried and analyzed using the Bouyoucos hydrometer method to quantify the percentages of sand, silt, and clay. Preliminary results showed that site canopy openness levels significantly affected both soil moisture and soil organic matter. The differences in soil texture likely contribute to variability, such as coarser soils enhancing drainage, while finer soils increase water and nutrient retention. Understanding these soil physicochemical factors will help explain how different plant communities establish, change, and respond to environmental changes within these wetlands.

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Biology
This presentation will also be presented at:
Environmental Science and Forestry Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

338 • Comparative Genomics of Myrmarachne Formicaria and Salticid Spider Family

Grayson Clark

Abstract
Myrmarachne Formicaria commonly known as an ant mimicking spider, it is a part of the salticid spider, better known as jumping spiders. *Myrmarachne Formicaria* was introduced to the United States around twenty years ago. There was little known about the genome of the species and other salticid spiders. We began with transcriptome sequences or RNAseq data from 5 salticid spiders, including *Myrmarachne Formicaria* data which was acquired from previous work. The sequences were assembled, translated to proteins and compared to a curated gene set from model species *Argiope Bruennichi.* We used Blast to compare one to one reciprocal best hit in species resulting in 845 protein matches allowing us to identify the role of genes in M. Formicaria. The protein T-cell leukemia homeobox protein 1 was identified in *Myrmarachne Formicaria* from the Argiope Bruennichi curated data set. OrthoFinder was used to find gene families present across the salticid spider family which helped identify gene families of various sizes including comparing many to many, one to many, many to one, and one to one. Gene trees and species trees were produced showing differences across species. The data produced by OrthoFinder was then filtered in order to remove genes that are not useful towards identifying orthogroups and for eliminating gene families that do not have a gene present in *A. Bruennichi*. This data was used to identify genes and gene families that were particularly rapidly evolving for use in gene marker design in M. Formicaria.

Faculty/Staff Sponsors
Josephine Reinhardt
Jennifer Apple

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Biology

168 • Selfish Genes and Their Consequences: Expression and Sequence Variation in Reproductive Tissues of Meiotic Drive *Teleopsis dalmanni* 💡

Sophia Lee, Josephine Reinhardt

Abstract
Sex-ratio meiotic drive (SR), a trait in X-linked selfish genetic element, causes carrier males to produce mostly female offspring, violating the law of segregation. One species known to exhibit SR is the stalk-eyed fly, *Teleopsis dalmanni*. To understand the genetics underlying SR, RNA sequencing was performed on reproductive tissues from five SR, four standard, and three heterozygous T. dalmanni individuals. We used RNA sequencing data to identify drive-associated sequence differences (SNPs) and gene expression differences. To compare differences in gene sequences, reads were mapped to the reference genome using STAR Aligner and individuals' genotypes were identified using GATK. SNPsift was used to identify drive associated SNPs. GATK recommended hard filtering parameters were applied. However, a substantial number of SNPs were filtered out, limiting results. Investigation revealed two adjustment-requiring parameters. First, examination of the variant calling step revealed the majority of SNPs were labeled nonsignificant; accordingly, thresholds are being revised to maximize SNP retention. Second, samples are being stratified by sex to enable independent processing of haploid and diploid data to improve analytical accuracy. Pooled sequencing (PoolSeq) analysis will be done in conjunction to help identify SNPs. FeatureCounts was used to measure the level of gene expression for genes in each sample, and DESeq2 was used to identify genes that were expressed differently. Consistent with prior results, many genes were differentially expressed in the gonads of SR males, however, we found 109 genes expressed differently in the ovaries of SR females, suggesting females could be indirectly impacted by presence of SR.

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Josephine Reinhardt
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Biology
Special Topics
Ideas That Matter: Myths and Science
This presentation will also be presented at:
2025 Rochester Academy of Science

246 • The Effect of Ano1 on Cell Proliferation

Kiara Barney, Charlotte Senson

Abstract
Ano1 is a transmembrane protein that functions as a calcium-dependent chloride channel. Ano1 is heavily expressed in human gastrointestinal cells, which can serve to guide peristalsis. Additionally, Ano1 expression is upregulated in gastrointestinal tumors and can be used to help diagnose gastrointestinal tumors. The elevated expression of Ano1 in tumors suggests it may promote cell proliferation and contribute to the development of cancers. As such, we hypothesized that Ano1 causes proliferation of cells. To test this hypothesis, we are overexpressing Ano1 in CHO-k1 cells and using a CCK8 assay that measures cell metabolism as a correlate of cell number. As part of the project, we will evaluate the effect of activating and inactivating mutations of Ano1 on the proliferation in cells.

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Funding Sources
Kodak Geneseo Partnership

182 • Comparing Zebrafish and Mouse Calcium-Activated Chloride Currents

Uzoma Ikeanusi, Owen Hatala, Kiara Barney

Abstract
Anoctamin 1 (Ano1) is a calcium-activated chloride channel that regulates epithelial ion transport, cell volume, and membrane excitability. Increasing evidence has implicated Ano1 as a key contributor to tumorigenesis and cancer progression. We would like to study Ano1 in zebrafish models of cancer. As a first step, we need to understand whether there are species-specific differences in channel behavior that may influence its physiological and pathological functions. This study compares Ano1-mediated chloride currents in mouse and zebrafish systems to evaluate functional divergence between mammals and fish.

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Tara Sweet
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Biology
Funding Sources
Kodak-Geneseo Partnership, TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

172 • Question Framing in Ecology Tests: Student Preferences and Perceptions

Jude Lofton, Hannah Loughner, Alex Chimera, Suann Yang

Abstract
In ecology courses, the format of tests can have unintended impacts on students. For example, test questions framed with a self-referential format may have a positive impact, compared to framing questions with scientists as the actors, because self-referential framing is perceived to have a lower cognitive load. However, the impact of self-referential vs. scientist framing has not yet been examined in an authentic testing situation or for ecology classes. In our study, we allowed students to select their test framing format, and asked students the reasons for their choices through post-test surveys and follow-up interviews in the subsequent semester. Overall, students equally preferred the two formats. Survey responses (n=49 subjects), revealed that the prominent reason for the test format chosen was for reducing cognitive load (easier to understand, visualize, and read). Preliminary results from follow-up interviews (n=9) suggest that the biggest reasons for test format choice were comprehension or anxiety. Interviewees selected the format that they thought would allow more efficient comprehension while taking the test. Participants also described selecting the format that they thought would reduce anxiety; however, most agreed that anxiety was similar in both test formats, with anxiety mainly resulting from tests being generally stressful. Given that students in a class can differ in their preference for the format of question framing, we suggest that allowing practice with both formats could help reduce unintended impacts on test takers.

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Biology
This presentation will also be presented at:
Ecological Society of America (ESA) Great Lakes Chapter Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

115 • Parasitism Between Insect and Fruiting Plants Novel Partners May be Generalist Interactions in Forest Communities

Nolan Miller, Ian MacKenzie

Abstract
Plant-consumer interactions in forest communities, such as parasitism, can have a strong influence on forest species composition. Furthermore, while some insect parasites specialize on a few plant species, other parasites are generalists that can develop within the fruits of many plant species; thus, different parasites may vary in their relative influence on the community. The goal of our project is to characterize the degree of generalization in this host-parasite interaction in forest fragments of western New York. To establish the relationships between the insects and the plants with fruits in which they develop we are using DNA barcoding to identify which species each larva belongs to. We first collected fruits from plots across seven different sites. For host plants that bore fruit, we sampled up to 20 fruits and took them back to the lab. Berries were then put into a rearing chamber where the larvae were able to develop to a point that they would exit the berry. Preliminary results based on the morphology of the larvae revealed that parasites belonged to the orders Coleoptera, Diptera, and Lepidoptera. Of the total of 39 insects that we found, the majority of the larvae were within one host species, the invasive Glossy Buckthorn (*Frangula alnus* Mill). We will also discuss an analysis of the network of relationships among the interacting species, as well as implications for the better understanding of parasite relationships on both indigenous and non-indigenous plants in forest communities in western New York.

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Suann Yang
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Biology
This presentation will also be presented at:
2026 Great Lakes Regional Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

112 • Long-Term Monitoring Reveals Stream Water Quality Differences Between Neighboring Watersheds 🌿

Maya Tucci, Callaghan Oberst

Abstract
Studying temporal and geographic trends in stream water quality is important in New York because freshwater streams are vital habitats for many species, including trout, and provide key services for human communities. Our focus was to assess long-term chemical and biological trends in Wyoming County streams and compare eastern (Lake Ontario) and western (Lake Erie) watersheds. Using standardized data from the RIBS Program, we analyzed trends in nutrients, dissolved oxygen, macroinvertebrate metrics, and land use relationships. Higher nutrient levels were associated with agricultural land use and lower dissolved oxygen. We found decreasing nitrate in eastern streams and decreasing phosphorus in western streams over the last few decades. However, increasing NBI-P levels in both regions suggest declining conditions over the same time period, despite the reduction in nitrogen and phosphorus pollution. These results highlight regional differences and reinforce the need for watershed-specific management and informed monitoring efforts.

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Biology
Special Topics
Earth Day-related
This presentation will also be presented at:
State University of New York Environmental Studies and Forestry: Environmental Science and Studies Conference, Ecological Society of America: Great Lakes Chapter Meeting

Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

103 • Species-Specific Responses to Elevation in a Temperate Forest

Katelyn Starego, Suann Yang

Abstract
Forest composition is shaped by both biotic interactions and fine-scale environmental variation, including elevation and local topography. This study uses forest census data from 2003, 2008, and 2014 from the Michigan Big Woods plot in Pinckney, Michigan to examine how elevation influences the spatial distribution of tree species. Census plot locations and individual tree coordinates were mapped in QGIS and integrated with elevation data to estimate the elevation associated with each tree. Results indicate that species differ in their elevational distributions across the site. Mesophytic species such as Acer rubrum (red maple) and Prunus serotina (black cherry) are more frequently associated with lower-elevation areas, whereas oak and hickory species are broadly distributed across the landscape. Bitternut hickory exhibits distinct spatial patterns, suggesting that subtle topographic variation may influence the distribution of this long-lived canopy species. Across census years, long-lived canopy species show relatively stable adult distributions despite limited regeneration in some areas. Invasive shrub species, including Japanese barberry and autumn olive, are present throughout the site; however, preliminary analyses suggest that competition from invasive species does not have a strong detectable effect on individual tree growth or population-level patterns of native canopy species over the study period. These results show that small differences in the environment matter for how forests grow and change, and they help explain why the forest has changed over time.

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CHEMISTRY AND BIOCHEMISTRY

367 • Enhancing Calcium Phosphate Cement: Evaluating the Influence of Collagen Addition 💡

Lindsay Flick, Olivia Wesolek, Josh Bandemer, Max Nilsen, Cody Thompson

Abstract
Bone fracture healing complications remain a significant clinical challenge, particularly in older adults with compromised bone health. Calcium phosphate bone cements (CPCs), especially those incorporating hydroxyapatite due to its structural similarity to native bone, have emerged as a promising minimally invasive treatment option. This study investigates the effect of bovine collagen incorporation on the mechanical and structural properties of CPCs. Samples were prepared with varying collagen concentrations, and their properties were evaluated comparatively. Preliminary results indicate that samples containing 2.5% and 5% collagen exhibit improved strength and overall material quality relative to controls without collagen. These findings suggest that collagen-enhanced CPCs may improve the efficacy of bone cement applications, though further investigation is required to confirm long-term performance and clinical relevance.

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Special Topics
Ideas That Matter: Myths and Science
This presentation will also be presented at:
State University of New York Research Conference at the State University of New York At Fredonia, New York and Pittcon Conference and Exposition

Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

27 • Optimizing Growth of Chlorella vulgaris and Biodiesel Production from Algal Lipids

Hannah Klein, Annabel Rupp, Colden Grossman, Zoe Hanna

Abstract
Fossil fuels are the largest contributors to global climate change, accounting for nearly 75% of total greenhouse gas emissions. A green energy solution can be found in autotrophs, which both sequester carbon in their growth and can be made into biodiesel. *Chlorella vulgaris* has been studied for lipid extraction and biodiesel production, both of which were made more efficient through means of culturing the algae in different media and by evaluating the biodiesel produced via IR spectroscopies. Growth of C. vulgaris was observed in a variety of media and it was determined that sterilized chicken feces fosters the most prolific growth. Growth was also tested with sterilized rabbit feces, as well as nutrient-lacking water, in order to determine if differing nutrient sources affects yield. *C. vulgaris* phospholipids were then extracted from dead cells and converted into biodiesel using a transesterification process. Finally, we compared our results from C. vulgaris with previous studies on *C. vulgaris* and Synechococcus to determine which organism is the better source of biodiesel.

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Chemistry
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

404 • Second-Generation Biofuel Production from Rice Husks: Quantification of Glucose Utilizing Dinitrosalicylic Acid Analysis

Omar Mohamed, Dylan Herstek, Neva Rembowksi, Olivia Sannes, Molly Flanagan, Madeline Grieff

Abstract
For decades, dependence on fossil fuels has led to excessive greenhouse gas emissions, significantly advancing global warming. Greenhouse gases trap heat within Earth's atmosphere, ultimately preventing its escape into space and intensifying climate change. As concerns over climate change grow, the search for renewable energy alternatives has become increasingly more urgent. Biomass energy presents a promising and sustainable resolution. First-generation biofuels, derived from carb-rich crops (rice and potatoes), pose challenges due to their competition with food supplies, increasing prices globally. To address this issue, researchers have turned to second-generation biofuels, which utilize lignocellulosic materials-inedible structural parts of plants-as a renewable source of ethanol. Our study focuses on rice husks, one of the most abundant agricultural byproducts, to evaluate its potential as an efficient biofuel source. The biomass is pretreated with 1-butyl-3-methylimidazolium chloride to drive glucose extraction. The resulting glucose concentration is then measured using dinitrosalicylic acid analysis and glucose refractometry. The quantified glucose levels serve as an indicator of potential ethanol yield through fermentation, offering a viable and sustainable energy alternative

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Chemistry
This presentation will also be presented at:
ACS Fall 2026
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

191 • Pretreatment and Fiber Content Analysis of *Cannabis sativa L.*

Gannon Kelly, Yahya Nishan, Ivan Dejesus, Marcelle Schoell

Abstract

Hemp and marijuana, both subspecies of *Cannabis sativa L.* are often generalized into one group but are very different in chemical constituent levels of delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD). Hemp contains only 0.3% THC, compared to marijuana which contains 17.1% THC. This makes hemp a useful and safe consumer crop differing from its co-species, which is harvested for psychoactive and pharmaceutical reasons. Comparing hemp to other crops (corn, beets, etc.), this is one of the fastest growing plants and its refined products have incredible commercial value, including biofuels, biodegradable plastics, textiles, dietary supplements, paper, clothing, and much more. Additionally, Construction and manufacturing applications have been seen to include hemp to strengthen their composite products. Its status as a high yielding, sustainable, and environmentally friendly crop due to its various qualities gives it the potential to yield valuable raw materials for a large number of applications. The research evaluates the pretreatment of hemp along with the comparative analysis of the fiber content with the goal of determining the suitability and the potential use of ionic liquid-based pretreatment (1-Butyl-3-methylimidazolium chloride) for the breakdown of hemp lignocellulosic biomass as presented and discussed in the following sections.

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

342 • Ionic Liquid Synthesis and Hemp Decomposition and Fiber Analysis

Elise Skermont, Danielle Lachacz, Lauren O'Connor, Maureen MacKenzie

Abstract

Hemp *(Cannabis sativa)* is a lignocellulosic biomass with increasing importance and potential as a sustainable and abundant material for biofuels, biochemicals, textiles, and other fiber-based products. Efficient pretreatment is necessary to remove lignin and hemicellulose and improve accessibility of cellulose, and ionic liquids have shown promise as an effective solvent. This study examines the synthesis of ionic liquids derived from amino acids, and their effectiveness in the pretreatment of hemp prior to acid hydrolysis. Hydrophobic and hydrophilic ionic liquids were synthesized from imidazolium-based liquids through anion exchange followed by amino acid functionalization. IR spectroscopy analysis indicated partial formation of the desired ionic liquid structures. Hemp samples pretreated with unmodified ionic liquids showed significant structural decomposition and fiber separation after acid hydrolysis, whereas samples treated with amino-acid derived ionic liquids showed minimal breakdown. These findings suggest that amino acid modification reduced pretreatment effectiveness. Further optimization of hydrolysis conditions may be required for amino-acid derived ionic liquids to be effective in biomass processing.

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Chemistry

290 • Beyond Toluene: Evaluating 2-Methyl THF and Ethyl Lactate in the Sustainable Synthesis of Maleanilic Acids.

Alexandria DePan, Kristen Heard, Cooper Murray, Mykenzie Prevost

Abstract

Maleimides serve as vital building blocks in polymer chemistry, yet their industrial synthesis frequently relies on hazardous solvents such as toluene, chlorobenzene, and DMF. To align with the principles of green chemistry, there is a critical need to replace these toxic reagents with sustainable, bio-renewable alternatives without sacrificing

efficiency. In this study, we developed a green synthetic route for a library of maleanilic acids—the key precursors to maleimides. Reactions were performed using 2-methyl tetrahydrofuran (2-MeTHF) and ethyl lactate as environmentally friendly solvent systems. We explored the impact of various functional groups and substitution positions on the aromatic ring to determine the scope of the method. A library of 27 maleanilic acids were successfully synthesized and characterized via 1H and 13C NMR spectroscopy. Preliminary data indicates that these green solvents support competitive reaction rates, with yields ranging from 40 % to 92%. Notably, the 2-MeTHF system showed particularly high efficiency for Fluoroaniline compounds. These results demonstrate that 2-MeTHF and ethyl lactate are viable, "green" replacements for traditional solvents in maleanilic acid synthesis. This work establishes a foundation for the subsequent ring-closing step to produce maleimides, moving the entire process toward a more sustainable, closed-loop industrial application.

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

173 • Targeting of Oncogenic G-Quandruplex DNA by Napthalene Diimides; An Isothermal Titation Calorimetry Study

Christopher Bulan

Abstract

G-quadruplex (G4) DNA has become of increasing interest and intrigue to the scientific community as a novel anticancer therapeutic target. This intrigue is due mainly to the fact that G4 DNA represents viable targets to both inhibit the telomerase enzyme and to block the expression of cancer promoting oncogenes such as c-*myc*, c-*kit* and *bcl-2*. This makes G4 DNA a versatile and feasible target for anticancer therapeutics to treat previously “undruggable” genes targets. In this work, the binding of naphthalene diimide (NDI) derivatives to selected G4 DNA (*telomeric*, c-*myc*, c-*kit* and *bcl-2*) was investigated using primarily isothermal titration calorimetry (ITC). The NDI scaffold is a versatile template for the design of many promising DNA targeting derivatives, with good permeability, pharmacokinetics and toxicity profile. The NDIs of this study are expected to adopt a threading intercalation mechanism in which side chains on either side of the main intercalating moiety provide the potential for specific recognition sites on the DNA. Our ITC results show that the NDI derivatives of this study bind to all four of the G4 DNA with strong affinities. The NDI derivatives also show differences in binding to the G4 structures associated with the different genes; this has implications in specific targeting of different genes by these NDIs. ITC also revealed NDIs binding to all G4 DNA structures was enthalpically driven with large negative enthalpy changes and relatively small entropy changes. Our findings have implications in the SAR (structure-activity-relationship) of these NDIs in terms of their anticancer therapeutic potential.

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

192 • Circular Dichroism and Fluorescence Spectroscopy Studies of Drug-Oncogenic G-Quadruplex DNA Complexes

AnaSophia Lee, Ruel McKnight

Abstract

Ever since it was discovered that G-quadruplex (G4) DNA are transiently formed in guanine-rich telomeric regions, G4 DNA has been a sensible target to inhibit telomerase, an enzyme known to facilitate one of the original six hallmarks of cancer. Later, it was also established that guanine-rich regions proximal to (in the promoter) certain oncogenes also

form (G4) DNA structures, therefore direct targeting of oncogenes are also possible. G4 DNA now represents a viable structure for targeting these oncogenes using drugs, in an effort to downregulate their expression and to produce favorable anticancer outcomes. The causative guanine-rich sequences of some of these oncogenes are known; these include c-*myc*, c-kit and *bcl-2*. The goal of this work is to investigate the possibility of targeting and stabilizing several known G4 DNA using naphthalene diimide (NDI) derivatives and rapamycin. The NDI scaffold is a versatile template for the syntheses of many promising DNA targeting derivatives, with good permeability, pharmacokinetics, and toxicity profile. Similar NDI derivatives have been studied by other groups for their interaction with G4 DNA. Rapamycin is a natural product originally isolated from the Streptomyces hygroscopicus bacteria as an antifungal and later found to have antiproliferative (i.e., anticancer) properties. In this work, the binding of rapamycin and two NDI derivatives to the G4 DNA formed in the *telomeric* region and in selected oncogenes (e.g., c-kit and *bcl-2*) were investigated using circular dichroism (CD) spectroscopy and ThT (thioflavin-T) fluorescence displacement assay.

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Biochemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

208 • GC-MS Method Development for the Analysis of BeanBoozled Jellybeans

Nicole Gretzinger

Abstract

BeanBoozled are candies that come in pairs of jellybeans with similar color and appearance, but two distinct flavors, one appetizing and one extremely unappetizing. The goal of this game is to test jellybeans with the expectation that there will be either a good taste (YUM) or a bad taste (YUCK). This past semester (Fall of 25') we attempted to separate, identify, and quantify the analytes in BeanBoozled jellybeans using LC-MS. This was originally used to develop a method capable of separating the analytes associated with the tastes, however this approach was not successful. Given the limitations, a new approach was attempted to shift away from LC-MS and instead to GC-MS (gas chromatography mass spectrometry). GC-MS can be used to study liquid, gaseous or even solid samples. GC-MS is suited for the analysis of volatile and semi-volatile compounds and can be used by vaporizing a sample into the gas phase and then separating it into various components using a column. By separating the analytes in each bean, we will be able to compare our results to a library of compounds.

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

323 • Synthesis and Optical Characterization of Cadmium Telluride Nanoplatelets

Logan Sargent, Jackson Neidert

Abstract

Cadmium Telluride (CdTe) nanoplatelets (NPLs) are a unique kind of semiconductor nanoparticle (NP) that permit much greater tuning of their optical properties compared to other shapes of NPs. For example, their absorption and emission energies can be independently adjusted from their absorption efficiency by controlling the NPL thickness and lateral size, respectively. This flexibility renders them attractive candidates for multiple photonic technologies. Here, we describe the synthetic and purification processes for 3 monolayer (ML) CdTe NPLs of varying lateral sizes. It was found that by varying the growth time, the lateral size of the nanoplatelets could be changed. The optical properties of the NPLs were analyzed using absorption spectroscopy and emission spectroscopies and indicated the presence of a persistent impurity that obstructed analysis to the NPL extinction coefficient. To account for impurity, room

temperature and low temperature (80 K) excitation spectra were measured. Due to their extremely high absorbance, tunability, and low emission, CdTe NPLs make a great candidate for highly efficient solar cells.

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

297 • Investigating the Role of Surface Ligands in Gold Nanoparticle Fluorescence Quenching

Ella Sosnowski, Jeffrey Peterson

Abstract

This project explores the use of gold nanoparticles (NPs) for biosensing technologies that could be applicable in the medical field. Gold NPs are known to be highly efficient quenchers of fluorescent dyes that are attached to their surface. This phenomenon has been utilized to develop highly sensitive and selective “molecular beacon” biosensors. Previous work in the Peterson research lab hinted at an unexpected effect of the NP surface ligand on the quenching behavior in gold NP-fluorescent dye complexes. We aimed to investigate this finding further by preparing complexes with a single size gold NP but with three different capping surface ligands: Tetramethylolphosphonium chloride (THPC), citric acid and tannic acid were synthesized. The impact of synthesis process conditions (eg, time, temperature, pH, ligand concentration) on NP size and concentration was determined. Preliminary measurements of fluorescence quenching in the resulting complexes and the implications for the role of the surface ligand in gold NP fluorescence quenching will be described.

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

341 • Studies of How Cells with Large-scale Mitochondrial DNA Deletions Grow in Culture

Lauren Kulpa, Bianca Pietrangeli, Emily Quinn

Abstract

Mitochondria contain their own DNA (mtDNA), which is found in multiple copies in each cell. Human mtDNA is structured as a double-stranded circle of approximately 15,000 units of base pairs (15 kb). The mechanism of mtDNA copying is error-prone, and thus copies will often contain large-scale deletions, or missing portions of the genome. Individual cells will often contain both normal and deletion-bearing copies, a condition known as heteroplasmy. Greater concentration of deletion-bearing mtDNA in localized tissues can lead to various diseases, such as Pearson’s Syndrome. The goal of our study is to understand and quantify how the size and level of deletions affect cell metabolism and growth. This semester, we began growing lymphoblasts (white blood cells) that contain a 4.4 kb deletion. The growth of these cells will be compared to previously grown cells containing a slightly larger 4.9kb deletion. Both deletions remove genes that encode subunits of Complex I and ATP synthase of the oxidative phosphorylation chain. Deletion-bearing cells were derived from patients with Pearson’s Syndrome and were compared with a normal control. Our data indicate how these mtDNA deletions affect cell growth in culture and show initial results about cell growth and metabolism that can be built upon in future studies.

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Biochemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

347 • Identifying and Measuring Contaminants to Assess the Safety of Geneseo Drinking Water

Mitsuki Tabei

Abstract

This research project is designed to test and analyze several components of drinking water in the Integrated Science Center at SUNY Geneseo, NY, by comparing local contaminant presence and quantifying levels against established state and federal guidelines, while also comparing results against stricter health-based guidelines from the Environmental Working Group (EWG). The investigation focuses on disinfection byproducts, a result of the chemical treatment of Conesus Lake water, bacterial contamination and heavy metals (such as iron, copper, lead, cadmium, and chromium). Using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES), mass spectrometry, and bacterial culturing, the project will assess water samples collected from multiple floors of the ISC. Furthermore, the study will test the efficacy of commercial water filters by comparing contamination levels between filtered and non-filtered samples. By providing a transparent, independent assessment, this research seeks to identify potential contaminants and determine the most effective filtration methods for ensuring campus water safety for drinking purposes.

Faculty/Staff Sponsor

Wendy Pogozelski, Jeffery Peterson

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Chemistry

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

215 • Developing a Portable DNA Surveillance System to Monitor the Microbiome of *Chanos chanos* Under Different Environmental Conditions

Jackson Boslet, Sofiya Yurashova, Jillian Cynar, Morgan Mucha, Sofia Stasio

Abstract

Within the coral reefs encompassing the Philippine Islands, a myriad of diverse marine species can be found. The *Chanos chanos* (also commonly known as the “milkfish”) is an euryhaline species which can commonly be located among these waters. Their resiliency to a wide variety of host conditions—specifically, different salinity levels in the environment—distinguishes them from other aquatic species and makes them efficient indicator organisms for climate change. This study aims to determine if there are any metagenomic differences found within milkfish tissue developed under distinct salinity conditions, and how external factors can influence its microbiome. The methodology for this experiment was also done in a manner that is both cost-effective and easily replicable for use in third-world countries, like the Philippine Islands, who are less acclimated to the rapidly detrimental effects of climate change. An initial study was conducted by isolating DNA from milkfish tissue raised in three different simulated environments: freshwater, brackish water, and marine environments. Purified DNA was evaluated through the use of an eDNA surveillance device known as a Nanopore minION to determine the genetic makeup of each tissue sample. This third-generation DNA sequencing technology can be brought into the field for almost immediate eDNA surveillance and is significantly more affordable when compared to other modern DNA sequencers. Using WIMP software, comparisons of known sequences to the multiple DNA isolates were analyzed to understand the effects of environmental factors on epigenetics within the milkfish species.

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Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

358 • Assessing the Use of Next Generation MinION Nanopore DNA Sequencing in Obtaining High Quality Data from Zebrafish to Inform Round Scad Fish Epigenetics under Global Climate Stress 💡

Mark Moroz, Bryan DiLeo, Berfin Gul, Alison Judway, Kadence Haines, Nordel Delma, Alice Tarun, Salvador Tarun

Abstract
The issue of climate change has been gaining increased awareness and attention globally in recent years. It is having various impacts on ecosystems all over the world, causing many species to become environmentally stressed. Epigenetics is a concept that is being studied more prevalently regarding climate changes. Due to the changing environment, stress-induced heritable traits may appear without changes to the genomic code, known as epigenetic alterations. One such epigenetic alteration is DNA methylation, which occurs in cellular responses to environmental stress. One major source of affordable protein in the Philippines comes from the Round Scad fish, which has recently been facing rapid decline in both its population and body size. This study aims to explore the patterns of DNA methylation in wild Round Scad to determine whether these changes are associated with an epigenetic response to global climate stress. Samples of Round Scad DNA were collected and isolated from the Philippines. Using the nanopore MinION Flongle, a portable third-generation DNA sequencing technology, we are able to obtain a high yield of quality DNA sequences required for detection of methylation sites and optimize library preparation by iteratively refining the library preparation chemistry. With optimized chemistry, the study is investigating comprehensive data analysis on Zebrafish samples to identify methylation patterns against known sequences. Here, we shall report on the data collected and our process navigating this technology. We anticipate long-term findings from this project will provide critical information to manage wild Round Scad and other marine fish facing similar environmental stressors.

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Chemistry
Special Topics
Ideas That Matter: Climate Change & the Individual
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Sorrell Chesin ’58 Research Award

64 • Developing a Portable System of Environmental DNA (eDNA) Surveillance to Monitor Fish Population Dynamics and Detect Invasive Species in Conesus Lake and The Philippine Seas 💡

Seth Schoenthal, Anastasia Dejesus, Alexa Kosier, Reese Morris, Peter LaJeunesse, Sara Hulbert, Alice Tarun, Salvador Tarun

Abstract
Climate change is an increasing threat to many ecosystems worldwide. Due to global warming, many species are under threat of extinction while others are forced into unusual patterns of migration. For example, the ‘Round Scad’ fish in the Philippines, which is a cheap source of protein in the diet of common citizens, is rapidly declining in both population and body size. In this project, we aim to develop a cheap, rapid, and sensitive method of monitoring the population dynamics of this fish and other marine species in the wild. Recently, a new method called environmental DNA (eDNA) metabarcoding has been developed as a cost-effective way to monitor species richness and the presence of invasive species in marine ecosystems simply by detecting DNA released by dead tissues shed from organisms in the environment. Combined with the recent development of Nanopore MinION, a portable and cheap 3rd generation DNA sequencing technology, we hope to build a portable system of eDNA surveillance that can be used in the field to monitor ‘Round Scad’ population dynamics, marine biodiversity, and invasive species in the Philippine Seas both from water and soil. As a ‘proof of principle’ study, we present our first attempt at examining the potential of the MinION technology to identify fish biodiversity in our local Conesus Lake. The technology holds promise of deployment in the Philippines for

rapid, simple and cheaper means of monitoring marine biodiversity and informing sustainable management and conservation strategies of marine species facing global climate change stress.

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Special Topics
Ideas That Matter: Climate Change & the Individual, McNair Scholars
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), McNair Scholars Program Support

380 • The Serendipitous Discovery of a Potent Antibacterial Agent

Kayla Benoit
Abstract
We are in the midst of an antibacterial crisis with the rise of resistant bacterial strains and the absence of new agents to treat such infections. This creates a great need within the medicinal community for novel agents with unique modes of action, such that resistance is not immediately available to the microorganism. Metal complexes are ideal for such studies, given their diverse geometry and unique modes of action, including redox behavior, in contrast to classic organic antibacterial agents. In particular, copper complexes are promising for investigation given their biological utility and established cytotoxicity. We have prepared a small series of 5 copper complexes (CuCl2L), where the L group is a variable 1,10-phenanthroline (phen) group. For the complexes, investigations into their antibacterial activity towards five clinically relevant pathogenic strains were performed, where substantial activity was observed. Further investigations into the possible mechanism of action were also conducted, the results of which will be presented.
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Chemistry
This presentation will also be presented at:
Rochester Academy of Sciences Fall Paper Session
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

256 • Cu Later, Bacteria

Nicholas Devine, Xavier Canaple, Kendall Lawson, Michael Webb
Abstract
The growing prevalence of antibiotic-resistant bacterial strains, coupled with the limited development of new antimicrobial therapies, has created a significant global health challenge. This situation highlights an urgent need to develop novel therapeutic agents to avoid or delay the development of resistance. Metal complexes are ideal for the development of these agents, given their diverse geometry and unique modes of action, including redox behavior, in contrast to classic organic antibacterial agents. In particular, copper complexes are promising for investigation given their biological utility and established cytotoxicity. We have prepared a small series of copper complexes ($CuCl_2L$), where L group is a variable ligand with established antibiotics incorporated into a Schiff base scaffold. For the complexes, investigations into their antibacterial activity towards clinically-relevant pathogenic strains were performed, where previous compounds such as CuBath have performed excellently. The results of this screening against bacteria will be presented.
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Chemistry

This presentation will also be presented at:
Canadian Chemistry Conference and Exhibition
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

315 • From Sugar to Metal: Glucosamine-Derived Ligands for Ruthenium(II)-Mediated Control of Amyloid-β Aggregation

Natalie Dietsch, Madison DiNieri
Abstract
Protein aggregation is a defining feature of neurodegenerative diseases such as Alzheimer's disease, where amyloid-β (Aβ) peptides form insoluble plaques in neural tissue. Metal-based complexes, particularly ruthenium systems, have emerged as promising candidates for modulating these aggregation pathways through coordination to the Aβ peptide. In this study, we aim to synthesize and evaluate functionalized ligands for incorporation into Ru(II) complexes designed to inhibit Aβ aggregation. Glucosamine hydrochloride was used as the starting material and selectively modified where the alcohols were protected through a series of reactions. Following the preparation of the protected glucose, its incorporation into a Schiff base ligand was investigated, with the ultimate goal of creating a novel ruthenium(II) complex. Once prepared, the Ru(II) compounds will be evaluated for their abilities to interact with and modulate the aggregation of the Aβ peptide.
Faculty/Staff Sponsor
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Chemistry
Funding Sources
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198 • Ru to the Rescue: Ruthenium Complexes that Modulate the Aggregation of the Amyloid-Beta peptide of Alzheimer's Disease

Emma Grabowski, Tyler Miller
Abstract
Alzheimer's disease (AD) is the most common form of dementia, where a hallmark of the disease are protein deposits consisting primarily of the peptide amyloid-beta (Aβ). Metal-based compounds have been shown to form stable interactions with Aβ, thereby limiting its aggregation. Previous studies within our group have identified several ruthenium-based complexes that modulate the aggregation of Aβ, where a primary amine on the ligand was essential for activity. Within the current studies, neutral ruthenium(II) complexes have been prepared, where the primary amine has been retained. Each complex was investigated for its stability under physiological conditions, and partitioning. Further preliminary evaluation of peptide binding, and the resultant impact on Aβ aggregation was performed, the results of which will be presented.
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Michael Webb
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Canadian Societies for Chemistry and Chemical Engineering 2026 Conferences and Exhibition
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GEOLOGICAL, ENVIRONMENTAL, AND PLANETARY SCIENCES

207 • How Heating Impacts the Crystalline Structure of $CaCO_3$

Oliver Herrmann

Abstract

In ancient pottery, CaCO3 is often added as a temper to prevent cracking when firing. It is likely that ancient potters used seashells, which are primarily composed of CaCO3, as an additive to their pottery. This study analyzes how the atomic structure of seashells might alter during the firing process. Three genera of seashells, *Anadara*, Spisula, and *Anomia,* were gathered from SUNY Geneseo's sample collection. They were then crushed into a powder utilizing a ball mill, with each shell type being crushed to the same particle size. All samples were analyzed with x-ray diffraction (XRD) to understand their crystalline structure. Two of the shells, Andara and *Spisula*, are aragonite while Anomia is calcite. The powdered shells were then heated in a furnace to 100°C. XRD analysis after heating indicated that there were no noticeable changes to any of the shell's atomic structures. Further heating studies were conducted up to 500°C to observe changes to the shells. Based on the findings, if a shell in pottery has lost its crystalline character, it is known that it must have been fired to over 100°C.

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Geological, Environmental, and Planetary Sciences

56 • Analyzing the Mineralogy of Bethlehem Steel Slag Found on the Lake Erie Shoreline

Simon Skowron

Abstract

Bethlehem Steel Co. was founded in Pennsylvania in 1899. One of its plants was located near Buffalo, NY and, at its peak, produced more than 20 million tons of steel annually. The steel-making process generates piles of a byproduct called slag, a hardened lava-like material. Some of these piles were used to expand Bethlehem Steel's property into Lake Erie. Wave action in the lake causes these unconsolidated deposits to travel and spread, so it is no surprise that we find slag in locations such as Woodlawn beach (Blasdell, NY). One slag sample from Woodlawn beach consists of blue, coarsely crystalline clasts (between 2-4 cm wide) surrounded by light blue, fine-grained rinds floating in a brown, vesicular matrix. The exterior of the slag is light beige, which may be due to weathering. X-Ray diffraction (XRD) and microscopy indicate that gehlenite/akermanite, wollastonite, pure iron, and iron oxides dominate the sample. Compared to the clasts, the matrix is significantly more vesicular and has less developed crystal morphologies. Understanding the chemistry/mineralogy of slag is important to determine its potential environmental impact. For example, if we know that a slag contains toxic elements, we can investigate if those elements are held in easily weatherable minerals. The Woodlawn Beach slag contains high amounts of calcium, silicon, and oxygen. None of these elements are highly toxic and the slag does not appear to be intensely weathered.

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Geological, Environmental, and Planetary Sciences

159 • Quantitative Analysis of the Color Green Using a Reflective Spectrometer

Pierce Young, Cate Doxsee

Abstract

Color is used every single day and is everywhere. Geologists have long described the color of minerals, rocks, and even soils, but are often subjective and are never the sole basis for identification. This project aimed to test the use of reflectance spectrometry to quantify color in paint chips and in natural mineral samples. The color green was used because of the abundance of green in the geological world. Spectral analysis between 4000 nm and 10000 nm was done

on paint chips and mineral samples. The wavelength of the highest peak in each spectrum was collected. Flat, uniform, and opaque paint chips produced unique and repeatable results across multiple tests. The range of the highest peaks was between 525.75 nm and 894.97 nm. The minerals gave fluctuating spectra due to the roundness, translucency, and non-uniform nature of each sample. The waveforms were much more rounded, but the peak of each spectrum fell between 550 nm and 700 nm. Translucent samples produced flat spectra. This technique worked well for uniform colors that are opaque and not curved, and can be applied across multiple fields of science where color is important.

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Geological, Environmental, and Planetary Sciences

329 • Locating the Source Volcano of a Rock from the Banks Peninsula, South Island, New Zealand

Sara Baker, Timothy O'Rourke

Abstract

The Banks Peninsula, South Island, New Zealand, is composed of the eroded remnants of two basaltic shield volcanoes, Lyttleton and Akaroa, formed during the Cenozoic. Although the lava compositions are similar, both transitional basalt to trachyte, discrimination between the volcanic episodes is possible based on differences in bulk chemistry, specifically the total alkali (Na2O + K2O) and SiO2 content. We completed the textural and chemical analysis of a rock with the field name “Olivine Andesite” to refine its description and determine the volcanic episode in which it formed. Using petrographic microscopy and scanning electron microscopy with energy-dispersive X-ray spectroscopy (SEM/EDS), we found phenocrysts of Plagioclase, Augite, and Olivine within a groundmass of the same minerals plus ilmenite, apatite, and glass. The plagioclase phenocrysts exhibit oscillatory zonation around partially resorbed cores, all within the Labradorite composition range, and also have rims with An40. The Olivine phenocrysts (Mg# = 80) and groundmass olivines have variable degrees of iddingsite alteration, which has a strong effect on the Mg#. The bulk rock total alkali content is 7.2 ± 0.3 wt%, and the SiO2 content is 48.3 ± 1.0 wt%. The bulk-rock chemistry indicates that this rock is a trachybasalt (hawaiite) and lies within the compositional range of the Akaroa volcanic episode. Future work should focus on the complex zoning of plagioclase phenocrysts, which may contain evidence for both magma mixing and fractional crystallization in the South Island, New Zealand.

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Sarah Gaudio

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Geological, Environmental, and Planetary Sciences

50 • A Paleomagnetic Study of a Diabase Dike in Charlottesville, Virginia

Laurel Buxton, Allison Linne

Abstract

This project aims to determine the age of a dike formed in Virginia by using paleomagnetic data. This experiment was conducted by heating thirteen selected samples from 100°C to 600°C and measuring the change of magnetic orientation as temperature increased. Demagnetization revealed that only 3 of the samples experienced some degree of weathering after their initial cooling indicating the samples were likely made of either magnetite or titanite. Demagnetization also revealed that emplacement occurred at a period when the poles were reversed. Comparing the orientations alongside a recorded apparent polar wander indicates that these samples likely underwent some event leading to a deviation from the North pole's wandering path. Were the collected data to be rotated 90˚ to properly align with the apparent polar wander, it could be assumed these samples would date to roughly 170 Ma. The rocks present might have rotated 90˚ in response to tectonic forces during the opening of the Atlantic or weathering of the outcrop resulted in a block detaching and rotating 90˚. Additional research is needed to properly understand the possible event that occurred to the dike after formation.

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Geological, Environmental, and Planetary Sciences
Funding Sources
Faculty Incentive Grant

62 • Modeling Erosion in a Convergent Boundary Setting

Naod Daniel
Abstract
Understanding how mountains grow, and collapse requires examining not only tectonic forces but also the surface processes that modify them. Physical sand-box models offer a simple yet powerful way to explore how erosion and deformation influence one another. This project investigates how introducing erosion affects fault development and structural evolution in a convergent mountain-building setting. The experiment uses a standard sand-box compression apparatus with dyed sand layers to visualize deformation. Erosion is simulated by removing roughly 1 cm of material from the uplifted left side and brushing it toward the developing fault zone, while the right side remains untouched for comparison. Throughout compression, the experiment tracks changes in faulting, folding, and surface lowering as both tectonic shortening and gravity-driven collapse shape the system. Across multiple trials, the eroded side consistently lags the uneroded side, developing faults more slowly and failing to keep pace with ongoing deformation. Additional configurations highlight how sensitive the system is to initial conditions. For example, when the sand layers taper from thick to thin, the model initially behaves normally before a fault suddenly jumps forward due to reduced overburden and lower resistance to motion. Together, these results show that even simple erosional adjustments can significantly alter deformation timing and style, underscoring how tightly linked surface processes and tectonics are in shaping real mountain belts.
Faculty/Staff Sponsor
Scott Giorgis
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Geological, Environmental, and Planetary Sciences
Funding Sources
Faculty Incentive Grant

300 • Educational Lab Design Demonstrating the Greenhouse Gas Effects of Carbon Dioxide 💡

Hannah Leichtner
Abstract
Carbon Dioxide is a dynamic gas in Earth’s atmosphere. Recently, drastic increases in this gas in the atmosphere has resulted in great shifts in the climate. This project aims to create an educational experiment demonstrating that carbon dioxide acts as a greenhouse gas. The basis of this project is grounded in the experiments done in 1856 by Eunice Foote, a female scientist who recorded evidence of the heat trapping properties of carbon dioxide in the atmosphere. Two plastic 2 liter bottles were partially filled with water. In one bottle, two alka seltzer tablets were added to increase the carbon dioxide concentration in the trapped air. No tablets were added to the second bottle. Both bottles were sealed and included a thermometer to measure the internal temperature before and after an incandescent bulb warmed the bottles. Duration of experimental runs ranged from 40-60 minutes. 2 samples were collected in 1 second intervals. Multiple iterations were completed manipulating different variables, such as different sealants, the concentration of carbon dioxide (i.e. number of alka seltzer tablets), the distance of heat source, and the type of light used. The results were inconclusive as factors such as pressure, evenness of heat intensity, presence of water vapor, and the nature of the endothermic reaction need to be addressed. Future experiments require alterations to the experimental design so that focus is on capturing infrared radiation and measuring carbon dioxide changes.
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Geological, Environmental, and Planetary Sciences

Special Topics
Ideas That Matter: Climate Change & the Individual
Funding Sources
Dean Johnston Student Research Assistantship

51 • Smartphone-Based Water Sensing: Comparing Glacial Signatures in New Zealand and New York

Baily Flynn, Edie Jones
Abstract
This project uses smartphone-based hydrological measurements to compare water bodies in New York with those on the South Island of New Zealand. HydroColor, a field-based smartphone application, allows scientists and technicians to collect data on water quality, including turbidity, suspended particulate matter (SPM), and red, green, and blue spectral reflectance. Turbidity measures the cloudiness of water caused by suspended particles and is reported in nephelometric turbidity units. Suspended particulate matter refers to organic and inorganic particles in the water, while reflectance measures the amount of light scattered from the water's surface at different wavelengths. These measurements make it possible to compare proglacial water bodies with those formed from glaciation roughly 10,000 years ago. Elevated blue and green reflectance produces the characteristic turquoise color of silica-rich glacial waters. In contrast, increased red and green reflectance indicates turbidity associated with coarser sediments or organic material, which gives the water a murkier appearance. Sampling sites in New Zealand included Lakes Tasman, Tekapo, and Pukaki, along with the Callery River. Waters closest to glaciers often appear milky blue due to suspended glacial flour, which is reflected in spectral values with relatively balanced red, green, and blue measurements. Downstream rivers, such as the Callery River, show higher red and green reflectance. New York sampling locations included Conesus Lake, Lake Ontario, and Oatka Creek, a tributary of the Genesee River. Unlike New Zealand's glacial systems, New York waters lack glacial flour and therefore tend to show higher red and green reflectance associated with mud-dominated sediments.
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Geological, Environmental, and Planetary Sciences

48 • Smartphone vs. Satellite: Quantifying Glacial Water Turbidity in Southern New Zealand 🌿

Sawyer Barron, Jack Olszewski
Abstract
Remote sensing measures electromagnetic radiation at a distance to acquire information about the Earth. Landsat provides continuous medium-resolution satellite imagery, processed using software such as ENVI to quantify visible light reflectance properties of water bodies. This data enables estimation of sediment content. However, ENVI requires an expensive license, substantial user training, and depends on additional software like ArcGIS for data manipulation. In contrast, the HydroColor smartphone application allows users to analyze water sediment using their phone's built-in camera. Users capture images of the water body, an 18% reflectance grey card, and the sky; HydroColor then utilizes this data to estimate water turbidity. We evaluated the capabilities and limitations of these two remote sensing methods for assessing glacially influenced water bodies on New Zealand's South Island west coast. Our objective was to determine whether HydroColor's simplified, mobile-based workflow can accurately measure water clarity compared to ENVI's rigorous processing pipeline and to assess which method yields more reliable data. HydroColor measurements were collected over eight days in January 2026 (peak summer, high glacial melt). ENVI data were derived from Landsat imagery on February 6, 2026, when melt rates remained consistent with late-summer conditions, ensuring comparable turbidity levels. Across three study sites, HydroColor produced turbidity estimates consistent with ENVI, demonstrating its accessibility and potential for field-based water quality research. However, HydroColor is susceptible to user error, physical constraints, and environmental variability. With appropriate technique, many limitations can be mitigated, making HydroColor a practical alternative with only a modest reduction in data precision.

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Geological, Environmental, and Planetary Sciences
Special Topics
Earth Day-related

39 • Impact of Calcium Availability and Whiting Events on Subfossil Preservation in Conesus Lake, New York 🌿

Emily Szczublewski, Justin Ronzoni, Jacalyn Wittmer Malinowski
Abstract
Conesus Lake, a mesoeutrophic lake in Western New York, is a critical archive for studying the play between lake chemistry and biological preservation. This study integrates water column data from Citizens Statewide Lake Assessment Program (CSLAP) with lake sedimentary archives. Piston and bolivia cores were collected from the south basin of Conesus Lake, 1.8 meters deep, resulting in a composite core of 154 cm. The core was split, imaged, and analyzed using a Geotek multi-sensor core logger for magnetic susceptibility and x-ray fluorescence (XRF). Sediments were subsampled at one-centimeter intervals and processed for calcareous subfossils. Subfossils were identified to the lowest taxonomic rank, and taxon counts were based on preservation of partial or complete material. Five peat and organic-rich sediments were subsampled for radiocarbon analysis (C-14) at Beta Analytic. Long-term monitoring (1986–2022) identifies Conesus as a "very hardwater" lake, with specific conductance values consistently between 235 and 366 umho/cm. The lowermost sediments of the core (~ 1422 BP) record repeating calcium levels (over 10,000 ppm) along with abundant calcareous fossils. However, mid-core (750 to 130 BP) reveals rapid and sustained decline in calcium (less than 2,000 ppm), coinciding with a near-total absence of subfossils. During this period, only ostracodes persist, suggesting that biogenic calcite production in the lake shutdown. Over the last 100 years, higher abundances bivalves and gastropods occur coinciding with a return in higher calcium levels.
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Jacalyn Wittmer Malinowski
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Geological, Environmental, and Planetary Sciences
Special Topics
Earth Day-related
Funding Sources
Sorrell Chesin ’58 Research Award

249 • The Hanover-Dunkirk Formation Transition, Late Devonian, Western New York

Sophie Adorante
Abstract
The transition across the Late Devonian Hanover-Dunkirk Formation of western New York records the Frasnian/Famennian mass extinction event, one of five major Phanerozoic extinctions in the marine realm. The Hanover Formation is characterized by bioturbated light gray silty shale and interbedded dark gray organic-rich silty shale, and the Dunkirk Formation is characterized by black, laminated, and sometimes pyritic shale, often grading into or interbedded with gray shales and silt laminae. This study examines a continuous core spanning the Hanover–Dunkirk Formation transition to assess lithologic changes and magnetic susceptibility as proxies for short-term climate fluctuations proximal to the extinction horizon. Primary outcomes will include stratigraphic trends in lithology and magnetic susceptibility, used to infer changes in sediment input and environmental conditions that will allow recognition of millennial-scale climate fluctuations proximal to the mass extinction horizon.
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Special Topics
None
This presentation will also be presented at:
Geological Society of America, Denver
Funding Sources
National Science Foundation Award Number 2348811

46 • New Studies in the Los Monos, Iquiri, and Itacua Formations, Chaco Basin, Bermejo (Lajas) Section, Devonian, District of Santa Cruz, Bolivia

Ryan Britt, Jamie McCarthy
Abstract
In the tropical to sub-tropical epeiric seas of North America and Europe, the Devonian-Carboniferous transition is recorded by metal- and organic-rich transgressive black shales corresponding to the Hangenberg mass extinction event overlain directly by coarser-grained, organic-poor strata deposited during eustatic lowstand, marking a major climatic shift at the onset of the Late Paleozoic Ice Age. Little is known about this transition of extinction and glaciation at high paleo-latitudes, which would be expected to respond earlier than equatorial basins to a cooling climate. Here, we investigate dark gray and black shale of the Los Monos and Iquiri formations overlain by glacial diamictites of the Itacua Formation in the Chaco Basin of southcentral Bolivia, collected in the Bermejo (Lajas) section. Preliminary observations and magnetic susceptibility (MS) results from the Iquiri-Itacua transition show decimeter- and meter-scale cyclic patterns in the silty gray shales, while clay-rich black shales, presumably deposited farther offshore, have uniform MS values. The overall MS values in the shales and diamictites are positive. This is in contrast to Upper Devonian black shale strata in Alberta and Oklahoma which are generally negative, approximately 1 to 1.5 lower in δMS values, indicating distinct sediment sources and local climatic conditions between these equatorial and high-latitude sites. Black shale of the Iquiri Formation contains numerous dropstones indicative of sea ice prior to the Devonian-Carboniferous boundary. A tephra bed in the upper Los Monos Formation yielded numerous zircons which, when dated, may better resolve the absolute age of the formation.
Faculty/Staff Sponsor
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Geological, Environmental, and Planetary Sciences
This presentation will also be presented at:
Geologic Society of America Connects, San Antonio, 2025
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Geneseo Foundation Undergraduate Summer Fellowship

55 • Depositional Environment of Middle Devonian Springvale Sandstone at the Schooley Quarry, Auburn, New York

Maddox Gorney
Abstract
The Springvale Sandstone is a thin, discontinuous unit of phosphatic and glauconitic sandstone located at the base of the Middle Devonian Onondaga Formation throughout the Appalachian Basin of central and western New York. At the Schooley Quarry in Auburn, New York the Springvale represents sands of the Oriskany Formation that were transported and deposited in a muddy marine shelf. Lithology of the Springvale was analyzed using field sampling, thin section petrography, X-ray diffraction (XRD), and scanning electron microscopy (SEM). This study aims to interpret the depositional environment of the Springvale Sandstone at the Schooley Quarry and improve understanding of the Early–Middle Devonian transition within the Appalachian Basin.
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Geological, Environmental, and Planetary Sciences

86 • Dacryoconarids from the Genundewa Limestone, Frasnian (Upper Devonian), western New York 💡

Emma Johnson, Allison Linne, Kaitlyn Magerle, Liam McAneney, Chloe Rayburn, Rory Salter, Colleen Strong, Ethan Gilfus, Jamie McCarthy

Abstract
The Genundewa Limestone, “The Styliolina Limestone" of (Grabau 1898-1899) is a 30-50 cm thick carbonate bed between the Penn Yan and West River formations of the Genessee Group that outcrops from the shores of Lake Erie to the western Finger Lakes of western New York State. The GenundewaLimestone consists almost entirely of current aligned dacryoconarids that represent a winnowing of fine clastic material and concentration of pelagic shelly fossils, interpreted as a very offshore accumulation during a deepening phase in the Appalachian Basin. The dominant taxon is *Styliolina*, also recovered were Nowakia, Striatostyliolina, and *Viriatella*. There were no significant differences between taxa from the western or more offshore samples collected along EighteenmileCreek and the eastern or more shoreward samples collected in the Genesee River Valley.

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Geological, Environmental, and Planetary Sciences
Special Topics
Ideas That Matter: Myths and Science
This presentation will also be presented at:
Geological Survey of America Connects 2025 and Rochester Academy of Sciences 51st Annual Fall Paper Session
Funding Sources
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245 • Bivalve Predation in Patch Reef and Grass Flat Sands, San Salvador, The Bahamas 🌿

Emily Szczublewski, Ava Simmons, Jacqueline Horsch, Hannah Leichtner, Justin Ronzoni

Abstract
San Salvador is a small island in The Bahamas located on an isolated carbonate platform. Samples were collected from unconsolidated sand around patch reefs and areas vegetated with turtle/manatee grass at three locations: Dump Reef, a patch reef environment, Grotto Bay, a patch reef environment, and North Point, a grass flat environment, to determine if the rate of snail predation on bivalves is facies or species dependent. Naticid gastropods use the radula to drill holes into bivalves, leaving a hole in the shell. By examining the presence or absence of holes in micro-bivalves the rate of predation can be compared across facies. It was found that snail predation upon bivalves occurred in all environments, with higher rates in the grass flat environment. Initial observations suggest all species of bivalves were equally preyed upon. Similar predation rates were found in micro-bivalves in strata across the Pliocene-Pleistocene boundary in coastal North Carolina, that suggests that the proposed extinction can be explained by a facies change.

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Geological, Environmental, and Planetary Sciences
Special Topics
Earth Day-related

36 • Atypical Preservation of Middle Devonian Dacryoconarids Indicating Anoxic Basin Conditions

Jade-Angelina Tankersley

Abstract
The Oatka Creek Formation is the uppermost part of the Marcellus Shale in the lower Hamilton Group, dating to the earliest stage of the Middle Devonian. The Oatka Creek Formation records a shift in oxygenation toward anoxic conditions when basin deepening occurred. Well preserved dacryoconarids in black shales as well as concentrations of pyrite are potential indicators of anoxic conditions. Bedding surfaces of samples were examined for microfossils and pyrite content. Scanning electron microscope images and element maps were taken and yielded data correlating the atypical preservation of dacryoconarids to a shift in basin oxygen content.

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Geological, Environmental, and Planetary Sciences

43 • Impact Crater Morphometry of Pathfinder and Tianwen-1 Landing Sites on Mars

Rachel Bibler, Marissa Abbott

Abstract
Mars has two different lithologies on its surface, basaltic lava and clastic sedimentary rocks. Finding clastic sedimentary rocks on Mars is important for understanding the aqueous history of the planet. Impact craters demonstrate different morphologies depending on lithology. This project uses topography data from landing sites with both well known and poorly-constrained lithologic context to evaluate the morphometric properties of craters in different target rock types. A further goal is to use crater morphology elsewhere on Mars as a predictive tool for lithology. This could help narrow the search for evidence of water and potential evidence of life on Mars. The landing sites analyzed here are from Mars exploration missions Pathfinder and Tianwen-1. The lithology at these locations is not well understood. The data is compared against other well-studied landing sites, including Insight, Elysium, Gale, Gusev, and Viking 1. The only known sedimentary locality is Gale Crater, the landing site for the Curiosity rover. The other locations are basaltic. 1-meter digital elevation models (DEMs) from the HiRISE instrument were examined in ArcGIS Pro. Craters on the scale of >100 m to < 1 km were analyzed with 70 python scripts. From this process, crater diameter, depth, cavity volume, rim height, ejecta thickness, and ejecta volume were calculated and compared across the landing sites. After compiling the data from all craters analyzed by ArcGIS Pro, the Pathfinder and Tianwen-1 landing sites display patterns very similar to Insight, Gusev, and Viking 1. This means that these landing sites are most likely basaltic.

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Geological, Environmental, and Planetary Sciences

276 • High Resolution LiDAR Terrace Mapping to Find Implication of Terrace Preservation of Castle Hill Basin, New Zealand

Lillian Kohlmeier

Abstract
Fluvial terraces are preserved floodplains of rivers and show the history of the rivers previous position and the overall landscape evolution. They also record episodes of sediment aggradation during periods of uplift. In the Castle Hill Basin of South Island New Zealand, there is exceptional preservation of terraces in multiple watersheds. Terraces were mapped in ArcGIS Pro using a 1 m/pixel LiDAR dataset to evaluate their preservation and identify aggradation episodes in the region. The relationship between watershed slope, terrace level abundance, preservation area of terraces and aspect ratio of the watersheds were analyzed. Graphs showed the lower sloped watersheds generally preserve more terrace area. Steeper sloped watersheds showed limited preservation of terraces and a small preservation area of them.

The aspect ratio of watersheds seemed to show no relationship with the slope as well as terrace preservation area, meaning watershed shape is not a strong influence in the preservation of terraces. Floodplain width shows a general inverse relationship with slope but has a lot of variability which may indicate local geomorphic controls for the floodplains. Results showed that overall, river slope is the primary control on the preservation of terraces with lower sloped watersheds having a higher chance for terrace preservation, recording thirteen different aggradation episodes within the region.

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Geological, Environmental, and Planetary Sciences

247 • Geomorphic Analysis of Mass Wasting Events in Castle Hill, South Island, NZ

Olivia Wideman
Abstract
This project aims to map various types of mass wasting events that have occurred in Castle Hill, South Island, New Zealand in ArcGIS using a new 1 meter per pixel LiDAR digital elevation model. The project region is approximately 279.46 square kilometers. The heads of failure zones were first mapped using a point file and were then classified based on type of mass wasting event. 105 landslide heads were mapped, which consisted of 2 earth slumps, 7 rotational slides, 44 surficial debris deposits, and 52 rock fall/grain flows. The landslides are concentrated in the western portion of the project area, due to the higher elevation and steeper slopes. The elevation of the failure zones ranged from 688m to 1937m, and the slope failure angles ranged from 7.7 to 64.1 degrees. Shallower failure slope angles correspond mostly with rotational slides underlain by Quaternary Alluvium and steeper failure slope angles correspond with debris flows and rock falls/grain flows underlain by Triassic age Torlesse Greywacke. Most of the landslides were shallow failures on the Torlesse Greywacke.

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PHYSICS AND ASTRONOMY

9 • Quantum Mechanics for High School Students: Educational Resources for Teachers

Bradley Casto
Abstract
In this directed study we developed a learning module to introduce AP physics 1 students to quantum mechanical concepts and applications, using existing digital resources. The module is approximately two weeks long and is intended for use after AP exams, when teachers cover supplementary material. The goal is to introduce high school students to Quantum mechanics topics at an introductory level and generate excitement for the topic. Learning outcome questions include: What is Quantum Physics and how did it develop historically? How does the wave model and the particle model combine to describe light and matter? Why are bound energy states so important to studying QM? How are the questions we can ask in quantum physics different from the questions we ask in classical physics?

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Physics and Astronomy

76 • Development of Ten-Inch Manipulator-Based Particle Time-of-Flight Spectrometer for the OMEGA-EP Laser System

Crey Lenox, Caitlin Miller, Grant Jeroszko

Abstract
The Ten-Inch Manipulator (TIM) based particle Time of Flight (pToF) detector is intended for use in experiments designed to determine the reaction cross-section for interactions that create short half-life activation products. The first planned use of the TIM based pToF uses two of the OMEGA EP laser beams at the Laboratory for Laser Energetics (LLE). The OMEGA EP laser pulse strikes a deuterated laser target generating a short intense pulse of deuterons with energies up to 12 MeV via Transverse Normal Sheath Acceleration (TNSA) . These deuterons activated a 7Li target which reacted to produce the nuclear product 8Li to be counted using the Short-Lived Isotope Counting System (SLICS). To determine the cross-section, it is also necessary to know the count and energy spectrum of the deuterons generated by the TNSA process. The pToF detector is designed to accomplish this.

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George Marcus
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Physics and Astronomy
This presentation will also be presented at:
American Physical Society Division of Plasma Physics Annual Meeting
Funding Sources
Department of Energy [National Nuclear Security Administration] University of Rochester “National Inertial Confinement Fusion Program” under Award Number(s) DE-NA0004144.

8 • Solar Thermal Storage System for Seasonal Temperature Stabilization in a Greenhouse at SUNY Geneseo’s eGarden 🌿 💡

Alexander Boucher, Aidan Nichols, Noah Ofri-Akman

Abstract
To extend the effective growing season of a greenhouse into early spring and late fall, a passive solar heating system has been developed and deployed at SUNY Geneseo’s energy garden (eGarden). The system employs a solar air heater to collect thermal energy during daylight hours, which is transferred to a thermally insulated capacitor consisting of approximately four tons of high-thermal-mass rock aggregate with a low packing fraction. The low packing density facilitates efficient airflow through the rock matrix, enhancing thermal exchange. During the day, solar-heated air is circulated through the rock bed, raising its temperature above 100 centigrade. At night, the control system isolates the solar collector and redirects cooler greenhouse air through the heated rock bed, which releases stored thermal energy to maintain internal temperatures above freezing. This prevents potentially harmful temperature drops that could damage plant life. A network of microcontrollers and sensors monitor in real-time temperature gradients and autonomously regulates airflow between the collector, thermal storage, and greenhouse interior. This system offers a sustainable, low-cost method for stabilizing greenhouse temperatures during colder months.

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Physics and Astronomy
Special Topics
Ideas That Matter: Climate Change & the Individual, Earth Day-related
This presentation will also be presented at:
Previously at Council of Public Liberal Arts Colleges Conference
Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Dr. Stephen Padalino

369 • Determination of Naturally Occurring Radioactive Materials in Household and Supermarket Items

Michelle Woods

Abstract
An investigation was conducted to observe the radioactivity in everyday items such as food, radioactive sources in smoke detectors, and cat litter; these objects contain trace amounts of radioisotopes. Two coaxials, positioned along the z-axis of the Gamma X apparatus, high-purity germanium (HPGe) detectors were calibrated with radioactive sources of known photopeaks, creating a quadratic energy-to-channel relationship. With the calibrated detector system, gamma-ray spectra were taken of these everyday objects like lantern mantles, potassium chloride salt, cat litter, bananas and banana powder, walnuts, Brazil nuts, and an americium source from smoke detectors. The characteristic energy peaks and count rates were determined for each sample, demonstrating measurable amounts of some radioisotopes, including potassium-40, americium-241, and decay products from thorium and uranium decay chains.

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Physics and Astronomy

35 • Combining Photometric Data Sets of Open Cluster NGC 6811

Carson Harth, Marisa Mazzacco, Christopher Desiderio, Aaron Steinhauer, Constantine P. Deliyannis

Abstract
Our goal is to derive accurate magnitudes of stars in and near the open cluster NGC 6811 by combining two photometric nights of data (nights 3 and 4 of the May/June 2014 observing run), as compared to those from a single night, in five broadband filters (U, B, V, R, I). The WIYN 0.9m telescope at Kitt Peak National Observatory captured the data on the nights of June 1st and 2nd. This combined catalog was used to determine cluster parameters and will be useful for follow-up spectroscopic studies.

Faculty/Staff Sponsor
Aaron Steinhauer
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Physics and Astronomy

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Funding Sources
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Please provide information on Other Source of Support
Geneseo's Office of Sponsored Research

PSYCHOLOGY AND NEUROSCIENCE

337 • Altruism before Empathy? Applying Batson's Model of Human Altruism to Environmental Attitudes 💡

Anthony Carvalho

Abstract
A previously theorized model of human altruism by Dr. Daniel Batson predicts helping behavior as requiring concern for another, perceiving another as in need, empathy, and altruistic motivation sequentially before people decide to help another. Batson's theory has been applied by some to examine altruistic motivations for environmental concern. However, constructs like affect and attitudes like empathy and altruism may operate differently when applied to environmental concern, rather than concern for other humans. Part of a larger study applying Batson's full model to environmental attitudes, I tested if a smaller portion of the model revealed a different mediation pathway. I examined if

feeling concern for the natural environment predicted empathy, which predicted biospheric altruism, which would predict environmental attitudes. I sampled 131 college students from a public liberal arts college in New York (90 women, 11 participants who failed an attention check excluded). Participants read a brief narrative about a fictional natural landscape named “Forest Creek Highlands” facing pressure from developers. I intended the description to be ambiguous about how serious the threat was to the natural environment. I tested the model using Hayes’ (2025) PROCESS macro for SPSS, version 5, with 5,000 bootstraps. All analyses controlled for social desirability. Contrary to predictions and the theorized model, empathy did not predict altruistic motivation. However, altruistic motivation did predict empathy, which then predicted environmental attitudes. This suggests that empathy may not always be a precursor to altruistic motivation, an area that may need to be addressed with future research.

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Psychology and Neuroscience
Special Topics
Ideas That Matter: Climate Change & the Individual
Funding Sources
McNair Scholars Program Support

344 • Preliminary Evidence that Children Prefer Equal Distributions of Resources in Groups of Both Humans and Animals 💡

Anthony Carvalho
Abstract
Children tend to prefer egalitarianism in in-group settings, before being more open to hierarchical allocations of resources and decision making in adolescence. At the same time, children value entities found in the natural world like plants and animals, but these valuations become more human centered as children age. The strength of these valuations has not been tested with regard to children’s moral judgements in groups that are composed of both humans and animals. Therefore, we tested if children would judge distributions of resources differently when they believe that humans are in the same group as animals. I sampled 51 children in the United States for online interviews. Participants were shown three groups of both humans and animals that each shared resources differently (human-centered, egalitarian, and animal-centered) and were asked to morally judge the resource distribution, as well as rank each group. Data was analyzed using R into descriptive statistics. Consistent with predictions, children believed that the egalitarian group was far more just than any other group, with a slight preference for when humans received more resources over when animals received more. Children also consistently ranked the egalitarian group as the best, with no preference between either hierarchical group. While still in piloting, this is evidence that egalitarianism extends toward children’s attitudes toward animals, in the context of humans being in the same group.

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Special Topics
Ideas That Matter: Climate Change & the Individual, McNair Scholars
This presentation will also be presented at:
The Next Big Ideas Conference, 2026

175 • Mortality Salience and Materialism: Alternative Pathway Models of Death Anxiety and Reflection, and the Authentic Self

Natalie Casey
Abstract

This poster examines mortality salience (MS) and materialism, highlighting the psychological processes that mediate and moderate this pathway. Supported by terror management theory, MS often triggers death anxiety, resulting in seeking security, meaning, and status from culturally valued symbols. In Western culture, this is often material goods, and the accumulation of wealth. Empirical findings demonstrate that MS increases financial greed and materialism by buffering death anxiety (Kasser & Sheldon, 2000; Zaleskiewicz et al., 2013). However, this pathway becomes complex when other factors are considered. Recent research highlights the dual system of death awareness, such that depending on presentation, death-related stimuli triggers either death anxiety or reflection. Death reflection is a cognitive state in which individuals reflect on life meaning and what may be thought of them after death. This kind of thinking induces lower materialism (Liu et al., 2023). Additional moderators disrupt the original pathway as well: core value affirmation reduces identity-driven consumption (Xiao et al., 2024), supporting evidence that individuals who reflect on the life meaning experience reduced consumption. Priming saving thoughts produces a more significant anxiety buffer than spending behavior (Zaleskiewicz et al., 2013), suggesting that a financial perspective different from our popular Western consumerism may be more effective at reducing anxiety when exposed to death. Understanding these models has important implications for well-being. Materialism and extrinsic motivation that is associated with these values negatively impact well-being. As thoughts of mortality are inevitable in our lives, individuals should be encouraged to engage in death reflection rather than death anxiety.

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129 • No Moderated Effects, but Altruistic Motivations Mediate the Relation between Environmental Threat and Environmental Concern

Jim Allen, Anthony Carvalho, Sarah Brunskill, Carly Chupick, Riley Griffin, Alexandra Gaboury, Ethan Moore, Emily Lopez

Abstract

Batson found that valuing another person's welfare moderated the relation between perceiving that person in need and helping that person via the mediator's empathy and altruistic motivation (Batson, 2023). Batson's theory has inspired research in environmental psychology (Bereguer, 2010), although the model has not been fully tested. We sampled 131 college students who read a narrative about a fictional landscape named "Forest Creek Highlands" (FCH) facing pressure from developers. The description was ambiguous regarding the severity of the threat. Participants indicated their perception of threat and concern for FCH. Measures of empathy for FCH and altruistic motivation to protect it were also included. Results indicated that valuing the environment did not moderate the relation between perceiving the environment as threatened and the first mediator, empathy for the environment. Additionally, perceiving the environment as threatened indirectly predicted environmental concern via the mediator altruistic motivation to protect the environment. Empathy for FCH did not mediate the relation. There was also a larger direct effect. Lack of variability in Environmental Concern, Environmental Threat and Empathy for the Environment might explain why the full model was not confirmed. Ceiling effects may have also influenced the results. Future research should address these problems using an experimental design. This research has important potential implications for ways to address the current environmental crisis. If Batson's model predicts Environmental Concern, this suggests that appealing to altruistic motives is an effective way to meet the environmental crisis.

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This presentation will also be presented at:

2026 Association for Psychological Science Annual Convention

257 • Effect of Empathy Moderation on Mediated Relationship Between Concern, Threat, and Ecological Altruistic Motivations 💡

Alexandra Gaboury

Abstract
Prior research connects altruistic models of helping behaviors to environmental helping behaviors. These models typically involve concern for the natural environment, perceptions that the natural environment is threatened, and empathy as predictors for ecological altruistic motivations (to protect the environment). This poster tests a novel configuration of these predictors in a moderated mediation, using past altruism research as a theoretical framework. 131 college students reacted to a description of a fictional forest facing threats of development. Results indicated perceptions of threat to the environment partially mediated the relation between concern for the environment and altruistic motivation to protect it. However, the model becomes more supported when empathy is a moderator of the relation between perceptions of threat (mediator) and ecological altruistic motivations (outcome variable). Surprisingly, the primary effect of the moderated mediation was found among low empathy reported participants. Lower empathy scorers who perceived more threat recorded a higher ecological altruism than perceived lower threat–an effect not experienced by high empathy scorers. Finally, this model was only supported when altruistic motivation to protect the environment was used as an outcome variable. The model was not supported if egoistic motivations to protect the environment or even altruistic motivations to protect other humans was used as an outcome variable. These results do require replication as this has not been tested as a model of environmentally friendly behavior, but include some promising potential and theoretical implications.

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Special Topics
Ideas That Matter: Climate Change & the Individual

185 • Health and Well-Being Differences Between "Red" and "Blue" States in the U.S.

Samantha Marriott

Abstract
I conducted a literature review of health and well-being differences between "Red" and "Blue" states in the United States. I used terms like “political affiliation life expectancy,” “red vs blue states health results,” “marital satisfaction political ideology,” “regional well-being United States,” and “suicide and overdose rates by state politics” in Google Scholar. Eight relevant peer-reviewed articles were then selected from this search. The literature defines “Red” and “Blue” states based on consistent voting patterns in presidential elections or dominant political affiliation at the state or county level. The results support several main conclusions. First, Blue states and counties tend to have stronger public health outcomes, including higher life expectancy, lower rates of chronic disease, and reduced mortality from suicide and drug overdose. Second, Red states show higher levels of certain forms of social and relational well-being, such as higher marriage rates and greater reported marital satisfaction, though some studies also note higher divorce rates. Overall, the research shows that well-being varies across multiple factors. Blue states perform better on a broad physical health indicator. Red states show strengths in interpersonal and community-based measures. These relationships are all correlational and are shaped through factors such as religion, rurality, and socioeconomic status, rather than by political affiliation alone. Future research should further examine the links between community political affirmation and life satisfaction.

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Psychology and Neuroscience

166 • Looking at the Effects of E2 on Memory in APOE4 Mice

Sam Bellis, Saphala Khanal, Merve Yoruk

Abstract

Alzheimer's Disease (AD) is a progressive neurodegenerative disorder characterized by cognitive decline, memory deficits, and neuroinflammation. In addition to cognitive deficits, AD is associated with altered stress and fear responses, reflecting dysfunction in limbic circuits such as the hippocampus and amygdala. Recent studies have suggested that female sex hormones, such as β-estradiol (E2), play a crucial role in the neuroprotectivity of areas affected by AD. To further investigate this, AD-model mice were assessed for fear-related behaviors following E2 exposure. Innate fear responses were measured using 2,5-dihydro-2,4,5-trimethylthiazoline (TMT), a component of predator feces with an odor that induces freezing behaviors. Each mouse underwent two trials in an enclosed area: a control trial without TMT and a test trial with TMT exposure. Freezing behavior was quantified to evaluate stress responsivity and fear processing across treatment groups. Brain tissue was collected and analyzed using cresyl violet staining was used to assess neuronal integrity by quantifying surviving Nissl bodies across experimental cohorts. Preliminary findings suggest that E2 alters fear-related behavior and enhances neuronal preservation on brain areas associated with stress and memory, supporting a role for estrogen in modulating behavioral and cellular outcomes in AD. These findings highlight the importance of hormone-dependent modulation of stress circuitry and neuronal survival.

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Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

94 • Mechanisms of Ketogenic Diet Intervention in APOE4 Mice: from Gut to Brain

Ashley Biondi, Matthew Hatkoff, Allison Bechard

Abstract

Alzheimer's disease (AD) is characterized by progressive cognitive decline, neuroinflammation, and behavioral alterations, with the APOE4 allele representing a major genetic risk factor. Emerging evidence suggests that dietary interventions such as the ketogenic diet (KD) may exert neuroprotective effects by reducing neuroinflammation. In prior studies, KD has been shown to improve cognition and reduce markers of neuroinflammation in mouse models of AD. One hypothesis is that these effects are mediated, in part, by shifts in gut microbial composition that influence central inflammatory pathways and neurotransmitter systems. To examine this, we conducted a small study using aged APOE4 knock-in mice maintained on either a KD or standard diet for three weeks and then assessed for locomotion, anxiety-like behavior, and sociability. Longitudinal fecal samples were collected to evaluate microbiome changes across diet conditions. To assess neuroinflammation in the striatum, immunohistochemistry (IHC) was used to visualize glial fibrillary acidic protein (GFAP) as a marker of astrocyte reactivity, and tyrosine hydroxylase (TH), a precursor to dopamine, to examine catecholaminergic pathways involved in motivation and exploratory behavior. If our hypothesis is correct, we will see KD benefits of increased sociability, cognition, and memory associated with a shift in microbiome composition, reduced astrocyte reactivity, and altered catecholaminergic signaling. Findings may provide insight into gut-brain mechanisms that contribute to behavioral modulation and potential therapeutic strategies for AD.

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This presentation will also be presented at:

SUNY Undergraduate Research Conference (SURC) 2026 and Cornell Undergraduate Psychology Conference

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Geneseo Foundation Undergraduate Summer Fellowship

197 • Effects of Ketogenic Diet and Amoxicillin on Microbiome Composition and Behavior in APOE4 Male Mice

Ashley Biondi, Yovanka Nunez, Mia Fredrick, Jude Luther, Matthew Hatkoff, Allison Bechard

Abstract
Emerging research suggests that the gut-brain axis plays a crucial role in mediating relationships between diet, the gut microbiome, and behavior, particularly in neurological disease models. The APOE4 allele is a genetic risk factor for Alzheimer's disease and has been associated with increased neuroinflammation, cognitive decline, and behavioral alterations. Dietary interventions, such as the ketogenic diet (KD), and antibiotic-induced disruptions may influence these outcomes by altering the gut microbiome. This study investigated the combined and independent effects of KD and the antibiotic, amoxicillin, on microbial composition and behavior in APOE4 male mice. Mice received their respective diet interventions for three weeks, with amoxicillin administered orally in drinking water. Fecal samples were collected every three days to assess changes in microbial composition. Behavioral assessments included a social assay to measure sociability and the elevated plus maze to evaluate anxiety-like behaviors. We hypothesized that KD promotes beneficial shifts in microbiome associated with improved sociability and reduced anxiety-like behaviors, while amoxicillin treatment will disrupt the balance of gut bacteria and reduce behavioral benefits. By studying mice that receive both a KD and amoxicillin, we hope to better understand whether changes in the gut microbiome cause the diet's behavioral improvements. This research could help us better understand how diet and gut bacteria affect behavior and may point to new ways to treat neurological disorders linked to the APOE4 gene.

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Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

59 • Can Diet Treat Alcohol-Related Cognitive Deficits? Behavioral Effects of a Ketogenic Intervention

Yovanka Nunez, Jana Kamel, Allison Bechard

Abstract
Alcohol use is associated with adverse health outcomes, including impairments in memory. Dietary interventions show potential due to their accessibility and non-invasive nature. The ketogenic diet (KD) is a high-fat, low-carbohydrate diet that has been used for decades to reduce seizure frequency in children with epilepsy. In this study, we examined the effects of three weeks of KD on alcohol use and anxiety, and post-alcohol anxiety, sociability, and memory in C57BL/6J mice. In Experiments 1 and 1a, mice were given alcohol for eight weeks using the intermittent drinking in the dark paradigm. During the final three weeks of drinking, mice were fed either KD or the standard chow diet and were assessed for spatial memory using the Barnes maze. In Experiment 2, mice were fed either KD or standard chow for three weeks and evaluated for anxiety-like behavior, social behavior, and memory. Experiment 2a extended these findings by examining a small cohort of male mice that received alcohol injections for one week prior to behavioral testing. Overall, the findings suggest a therapeutic effect of KD on alcohol consumption and post alcohol deficits. These benefits were independent of effects on generalized anxiety, but instead support a more specific role for KD in enhancing exploratory behavior and reducing behavioral inhibition. Finally, we assessed Tyrosine hydroxylase (TH) expression, a dopamine metabolite, in the striatum as a potential mediator of these behavioral differences.

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This presentation will also be presented at:
SUNY Undergraduate Research Conference 2026

275 • Comorbid Caffeine and Alcohol Use in Adolescent and Adult Mice and Subsequent Cocaine Preference

Marissa DeMeritt, Mia Fredrick, Allison Bechard

Abstract
Binge drinking and other alcohol use disorders (AUDs) are a major risk to people's health, with it being a leading cause of premature death worldwide. There are many other negative health effects attributed to binge drinking, including impulsive decision making and memory impairments, and a greater risk for consuming other drugs (comorbid use of alcohol and drugs). In humans, drinking alcohol in adolescence leads to an increased likelihood of stimulant usage. The comorbidity of stimulants and alcohol leads to riskier behaviors than alcohol or caffeine alone. Caffeinated alcoholic beverages (CABs), such as Four Loko or vodka Redbulls, have become increasingly popular, especially in younger generations. In this study, we investigated the potential for comorbid caffeine and alcohol use to predict later cocaine use in adolescent and adult mice. We exposed adolescent and adult mice to ethanol for two weeks, then a mixture of ethanol and caffeine for two weeks, both via oral administration. We hypothesized that adolescent mice would drink more ethanol than adult mice. Mice that preferred caffeine were expected to also prefer the cocaine. Future research will explore neurobiological mechanisms that mediate differences in preferences. New comorbid animal models will add important data for the understanding of increasingly popular drug combinations.

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This presentation will also be presented at:
SUNY Undergraduate Research Conference 2026

Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

169 • Gut Microbiome Modulation and Behavioral Changes in a Mouse Model of Autism

Jana Kamel, Madisyn Martino, Azan Ashcraft, Mary Feck, Renee Spencer, Sara O'donnell, Matthew Hatckoff

Abstract
Autism spectrum disorder (ASD) is characterized by impairments in social and communication behaviors, and the presence of repetitive behaviors. One hypothesis for ASD involves dysbiosis in the gut microbiome. The gut and brain are interconnected via the gut-brain axis, meaning that changes in diet and gut bacteria can influence brain function and behavior. The Ketogenic diet is a high-fat, low-carbohydrate diet intervention that has been used to alter metabolic pathways and proven to affect neurological activity. Previously, the ketogenic diet has been used to improve behaviors associated with ASD. The antibiotic, Amoxicillin, disrupts gut bacteria and may indirectly change brain signaling through changes in the microbiome. To assess the effects of gut microbiome on ASD behaviors, we administered Amoxicillin in an oral solution and fed a ketogenic diet for 3 weeks. Using a sample size of 45 mice, half that showed repetitive spinning, our study aimed to investigate the effects of both the ketogenic diet and amoxicillin on the behavioral changes in a mouse model of ASD. The behavioral tests being conducted are the locomotor, which measures activity levels and coordination, and light dark box to evaluate anxiety-like behaviors, and social behavior. Fecal microbiome samples taken every three days will be examined for changes in microbial composition associated with behavioral changes.

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This presentation will also be presented at:
SUNY Upstate Research Conference

Funding Sources
TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

96 • Timing Matters: Estrogen Exposure and Alzheimer's Disease Risk in APOE4 and B6 Females

Annabelle Laibe, Hiromi Takeda, Allison Bechard

Abstract

Alzheimer's disease (AD) disproportionately affects women, with risk increasing sharply after menopause. The APOE4 allele is the strongest genetic risk factor for late-onset AD and may alter estrogen responsiveness in the brain. This study investigated whether beta-estradiol (E2) therapy is more effective when initiated during premenopause versus postmenopause in female APOE4 knock-in and B6 mice. Unlike prior models using surgical ovariectomy, this study employed a physiologically relevant aging model to capture natural hormonal decline. Estrous cyclicity was tracked longitudinally, and circulating hormone levels were monitored using quantitative urine assays. E2 was administered orally via drinking water, and behavioral outcomes were assessed using the Barnes maze for spatial memory and the elevated plus maze for anxiety-like behavior. Estrogen treatment did not significantly alter anxiety-like behavior. However, spatial memory outcomes were age-dependent: E2 improved task acquisition in postmenopausal mice but impaired performance in premenopausal mice, suggesting a restricted therapeutic window. Ongoing analyses include immunohistochemical assessment of estrogen receptor and tyrosine hydroxylase expression in the hippocampal CA1 and locus coeruleus to examine estrogen-dependent regulation of memory and noradrenergic signaling. These findings support the timing hypothesis of estrogen therapy and highlight genotype and age-specific considerations for AD prevention strategies in women.

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This presentation will also be presented at:

SUNY Undergraduate Research Conference 2026

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TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant), Geneseo Foundation Undergraduate Summer Fellowship, Sorrell Chesin '58 Research Award

250 • Effects of Environmental Enrichment on Optimism (Judgment Biases) in C57BL/6 Mice

Hiromi Takeda, Jude Luther

Abstract

Environmental conditions can influence optimism and processes that affect how ambiguous cues are interpreted. In animal models, judgment bias tasks are used to assess optimism-like and pessimism-like behavior by measuring whether animals respond to uncertainty by predicting a more positive or more negative outcome. Environmental enrichment (EE), a paradigm that introduces novelty and complexity to the home environment may alter optimism. This study examines whether EE affects optimism in C57BL/6 mice using a novel tunnel-odor-based judgment bias task. Mice housed in enriched or standard conditions will first complete pretraining to learn to associate a short (10 cm) tunnel with a positive reward stimulus (honey-vanilla almonds), whereas a 50 cm tunnel predicts a negative reward stimulus (wasabi almond). Mice will then complete judgment bias testing with ambiguous unrewarded tunnel lengths of 20, 30, and 40 cm. Choices toward the side associated with the positive reward will be scored as optimistic, while choices toward the side associated with the negative reward will be scored as pessimistic. We hypothesize that mice housed in EE will show more optimistic responses to ambiguous cues than standard-housed mice. This study may improve understanding of how environmental conditions shape cognitive biases and will lead to future work that explores how optimism and drug use are associated.

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194 • The Effects of Caffeine and Adenosine on Repetitive Behaviors

Renee Spencer, Madisyn Martino

Abstract

Repetitive behavior is characterized by rhythmic, purposeless, and uniform movements that can be an indicator of autism spectrum disorder (Lewis et al., 2007). Despite clinical importance, the underlying mechanisms causing repetitive behavior remain poorly understood. Repetitive behaviors have been linked to a malfunction in the inhibitory pathway of the basal ganglia. A role of adenosine in the basal ganglia has been implicated in the regulation of repetitive behaviors, as activation of adenosine receptors reduces these behaviors. Caffeine, a nonselective antagonist of adenosine receptors, used in animal models can lead to an increase in motor activity, and a decrease in behavioral fatigue and depressive symptoms. This study looks to reduce repetitive behavior through the use of adenosine and caffeine. To examine this, 11 mice were placed in a baseline locomotor test for 30 minutes, given an intraperitoneal injection of caffeine, then were placed back in the locomotor test for another 60 minutes. After a washout week, this testing process was repeated with the same group of mice, and this time given a subcutaneous injection of adenosine. Six additional mice followed the same protocol, but with an intraperitoneal injection of saline as a control group. Our results did not appear to find any significant differences in repetitive behavior after the administration of caffeine or adenosine.

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Psychology and Neuroscience

Special Topics

McNair Scholars

Funding Sources

McNair Scholars Program Support, TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

180 • Examining the Relationships among Alcohol Use Behavior, Emotions, and the Ketogenic Diet

Nicolette Faller

Abstract

The ketogenic diet (KD) is a high fat, low carbohydrate diet designed to force the body into a state called ketosis, in which the body starts to burn fat for energy instead of glucose. This diet has been known to reduce seizures in children with epilepsy, creating an interest in potential behavioral effects of KD. Recent research using rodent models suggests that KD may play a role in reducing alcohol consumption and post-alcohol deficits (Bechard et al., 2025). Despite the growing body of research examining this interaction in rodent models, there is limited data observed in humans. This study aims to investigate the association between KD and alcohol consumption in humans. Data will be collected through an online survey on Prolific. Participants will complete a questionnaire consisting of demographic items, measures of KD adherence, and standardized scales for alcohol consumption and cravings, emotion regulation, diet adherence, eating disorder symptomatology, physical activity, and behavioral inhibition/activation. Findings from this study will provide evidence of whether adherence to a KD is associated with differences in alcohol consumption when comparing populations of individuals currently on KD, previously on KD, or who have never been on KD. These results will add to this new field of study and provide support for future research on the effect of KD on drinking behavior in humans.

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Psychology and Neuroscience

Funding Sources

Pre-tenure Faculty Research Support Award #: 15625

302 • Examining the Relationship Between Alcohol Use, Motives, and Boredom Proneness

Gianna Hennessy, Caroline Fruck

Abstract

College students' drinking habits are often characterized as unhealthy and problematic. There are several factors that influence alcohol consumption frequency, including alcohol motives and boredom proneness. Boredom proneness refers to an individual's tendency to experience feelings of boredom or disinterest, while alcohol motives describe one's reasons for consuming alcohol. Alcohol motives are typically broken into four categories: social, coping, enhancement, and conformity. However, the relationship between boredom proneness and alcohol motives remains unclear. This study aimed to assess the way in which alcohol motives and boredom proneness are related to drinking frequency. Participants (N = 300) are being recruited from introductory psychology courses receiving course credit for participation in an online survey conducted through Qualtrics. A subset of the data (n = 141) for analyses were drawn from earlier findings in this investigation of factors influencing college student drinking habits. Correlational analyses will be conducted to examine the relations among alcohol motives Drinking Motives Questionnaire-Revised Scale (DMQ-R; Cooper, 1994), Short Boredom Proneness Scale (SBPS; Struk et al., 2015), and the Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993). Prior research from this laboratory found a significant relationship between boredom proneness and binge drinking (Exp(B)=1.08 , 95%CI = [1.02, 1.15], *p* =.006). Therefore, a positive association is expected among all four variables. Examining drinking motives is expected to further explain the relationship between boredom proneness and alcohol use frequency.

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Psychology and Neuroscience

140 • Cannabis Affective Attitudes, Motivation, and Modality in College Students

Bridget Maddigan, Sabrina LaRosa

Abstract

Cannabis attitudes and modes of ingestion (*modality*) remain understudied after cannabis legalization, and more diverse modalities have emerged. Common cannabis modalities include vaporizers, edibles, and bongs (Waddell, 2025). Affective cannabis attitudes reflect emotional evaluations that individuals hold toward cannabis–positive (i.e., excitement) or negative (i.e., hate). Affective attitudes influence motives behind substance use (Wycoff et al., 2024); we will test if such relationships are influenced by cannabis modality. We hypothesize that a) cannabis use modality moderates the relationship between positive affective attitudes and coping motives, with faster-onset modalities (e.g. smoking) strengthening this association, and b) modality moderates the relationship between positive affective attitudes and social motives, with less-odorous modalities (e.g. vapes, edibles, pens) strengthening the association. Participants were students (N= 112) in PSYC-100 during the 2021-2022 academic year. Participants completed an online survey including the Marijiana Motives Measures (MMM; Simons et al. 1998), and the Daily Sessions, Frequency, Age of Onset, and Quantity of Cannabis Use Inventory (DFAQ-CU; Cutler & Spradlin, 2017). Attitudes were assessed using 8 items, assessing affect (e.g. Cannabis makes me feel relaxed/angry), using semantic differential scales adapted from Crites et al., (1994) and Breckler and Wiggins (1989). Preliminary findings suggest a positive correlation between positive cannabis affective attitudes and cannabis coping (r = 0.54, $p < 0.01$) and social motives (r = 0.52, $p < 0.01$). Planned multiple regressions will test whether modality alters the strength of these relationships. Findings and future research will inform the understanding of motives behind cannabis use.

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This presentation will also be presented at:

SUNY Undergraduate Research Conference (SURC)

Funding Sources

TRAC Grant (Geneseo Foundation and Student Association Travel, Research and Creativity Grant)

179 • Impulsivity and Alcohol Use: Urgency, Binge Drinking, and Hangover Frequency

Madelyn Robinson, Sage Asquith

Abstract

Impulsive alcohol use constitutes a consequential public health concern among young adult populations, particularly university students. Young adults engage in sustained binge drinking at higher rates, making them more susceptible to health risks and alcohol use disorder (Wellman et al., 2014). However, there is limited comprehension of how specific facets of impulsivity differentially modulate drinking behaviors. The present study investigated the association among positive and negative urgency, binge drinking, and hangover frequency. Participants were undergraduate students (N=141), predominantly underclassmen (83.2%), who completed a survey on impulsivity and alcohol use. Bivariate correlations were used to analyze the relationship between the UPPS-P subscales: positive and negative urgency (Whiteside & Lynam, 2001; Smith & Cyders, 2007), and the AUDIT scale to measure alcohol consumption behaviors. Results revealed a significant correlation between positive urgency and hangover frequency (r = .276, p <.01), binge drinking (r = .272, p <.01), and between negative urgency and binge drinking (r = .223, p <.05). A mediation analysis was conducted to elucidate the mechanisms underlying the relationship between urgency and hangovers. Binge drinking mediated the relationship between positive urgency and hangovers (p= .0486; bootstrapped LLCI= .0088, ULCI= .0746), but not between negative urgency and hangovers. These findings corroborate prior research, indicating that acting impulsively in response to strong emotions increases binge drinking behavior and hangover occurrence. Results indicate emotion-based impulsivity is a potential target for alcohol risk-reduction programs for university students.

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Psychology and Neuroscience

273 • Does Coloring Frightening Images Reduce Anxiety?

Jack Aufderheide, Talbot Baldwin, Riley Bowersox, Peyton Cartwright, Christine Gelose, Ashley Ilarraza, Naomi Minniefield

Abstract

The purpose of the present study was to assess the impact of coloring frightening images on state anxiety. Two hundred eighty-three participants were randomly assigned to one of two induction conditions: nonanxiety and anxiety. Participants in the anxiety induction condition either watched frightening clips of horror movies or were asked to think about a real-life event that caused them anxiety. Immediately afterwards, participants completed an assessment of their current level of fear. Participants in the control condition completed the fear assessment without experiencing a mood induction. Next, participants were randomly assigned to color a frightening image or mandala for 15 minutes. Afterwards, participants completed a measure of state anxiety. Results indicated that participants in the anxiety induction condition reported more fear than those in the non-anxiety induction condition. The two anxiety induction conditions were not different from one another. Participants in the non-anxiety induction condition reported significantly higher levels of state anxiety after coloring a frightening image than after coloring a mandala. For those in the anxiety induction condition, no differences were evident between those coloring frightening images and those coloring mandals. These findings will be discussed in terms of desensitization to violent imagery.

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Psychology and Neuroscience

53 • Mental Health Correlates of Coping Flexibility

Ariana D'Onofrio, Isabella Wong, Carly Valerino, Olivia Popielarski, Ayishetu Ibrahim, Sophia Rounds, Ella Clark, Adele Lanphear, Michael Lynch

Abstract
The current study examines the flexible deployment of coping strategies and their association with mental health. In addition, we examine factors that may influence coping flexibility, including: “resting state” brain activity, a person’s history of stressful life events, their perceptual sensitivity to threat, and their general cognitive flexibility. Coping will be assessed using a self-report measure of approach and avoidant coping strategies. The flexibility of coping will be determined by comparing coping strategies used across three different contexts: academic, interpersonal, and family. Resting-state neural activity is measured using functional near-infrared spectroscopy (fNIRS), which allows us to estimate changes in blood oxygenation across the dorsolateral prefrontal cortex. Perceptual sensitivity to threat will be assessed using an emotional Stroop task, while cognitive flexibility will be assessed with the Wisconsin Card Sort Task. In addition, participants will provide a self-report of their history of stressful life events. Finally, several well-validated measures of mental health and symptomatology will be administered. We hypothesize that unique profiles across the predisposing factors will help account for variability in coping flexibility. Specifically, individuals exhibiting elevated resting state activation in the dorsolateral prefrontal cortex may demonstrate heightened threat sensitivity and reduced flexibility in coping deployment, potentially leading to less adaptive coping strategies. In contrast, individuals with lower baseline activation and greater cognitive flexibility may demonstrate more context-specific coping responses across academic, interpersonal, and family domains. We further anticipate that greater flexibility in coping will be associated with positive mental health outcomes.

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209 • The Effects of Cannabidiol on Rest/Activity Cycles in the Long-Evans Rat.

Matisse Domeck, Yasmin Betula, Vincent Markowski

Abstract
The marijuana legalization trend implies that cannabinoid drugs are safe and effective over-the counter treatments for behavioral concerns such as anxiety, depression, and sleep impairments. Cannabidiol (CBD) is often promoted as a safer alternative to THC for sleep regulation. Although CBD binds to a different neurotransmitter receptor than THC (CB2 vs CB1), little else is known about its effects on the brain or if any empirical evidence actually supports its use as a sleep aid. The current study used a noninvasive infrared activity-monitoring system and VitalView software to examine the effects of CBD on locomotor activity/rest cycles in the home cage. Oral doses of 0, 4, 6, and 10mg/kg were administered to male and female rats in a counterbalanced order and circadian activity was examined over a 10-day period. The duration of the CBD effect immediately following dosing was measured, as well as any chronic changes that emerged over the course of the test period. Data analysis is ongoing to determine if CBD produces a beneficial dose-related effect on the sleep/wake cycle.

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Special Topics
McNair Scholars
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243 • Optimizing the Novel Object Recognition Task to Assess the Impact of Psychoactive Drugs on Learning and Memory.

Sarah Gusefski, Teagan Griffin, Karla Colley, Erin Howlett, Vincent Markowski

Abstract
The Novel Object Recognition (NOR) task is a popular research technique used to study learning and memory behavior in laboratory rodents. The procedure relies on the natural tendency of rats and mice to recognize and explore novel objects that they discover while foraging. More time and interaction with a novel object implies that the animal remembers its surroundings from previous visits. Although the procedure is typically conducted in 3 consecutive steps, a habituation stage, a familiarization stage, and a test stage, there is much inter-laboratory variability. The objective of the current study was to systematically vary key characteristics of the 3-step NOR task until we observed consistent novel object preference in our animal cohort. We found that three characteristics were of critical importance: the duration of the memory retention interval, differentiation between object size and material, and the size of the test arena. Now the NOR is optimized in our laboratory, it will be used to assess the impact of psychoactive drugs such as gabapentin and cannabinoids.

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266 • The Combined Effects of Psychosocial Stress and Cannabinoid Consumption on Maternal Care Behaviors in a Rat Model

Renee Spencer, Yasmin Betula, Teagan Griffin, Luna Del Aguila, Naomi Minniefield, Atoria Hamm, Matisse Domeck

Abstract
Many young adults are increasingly accepting of the purported medical benefits of some cannabinoids. Attitudes toward recreational cannabis are also softening. Such changes suggest increased risk of maternal use during pregnancy and/or breastfeeding. Previous research in our lab found that maternal THC use was associated with increased pup neglect and death in a laboratory rat model. The goal of the current study was to examine maternal care behaviors following the combined effects of cannabinoid use and a psychosocial stressor. To examine this, female rats caring for their litters were administered a dose of tetrahydrocannabinol (THC) or cannabidiol (CBD). Two hours later, an intruder male rat, separated from the female and her pups by a mesh divider, was introduced into the female's cage. Animal behavior was video recorded for 30 min. Video analysis is currently underway to compare the effects of CBD and THC on the female's response to the stranger male and the extent to which this psychosocial stressor disrupted nest maintenance, nursing, and pup retrieval behaviors.

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165 • Empathy and Conflict Resolution in Autonomy-Supportive Youth Environments

Megan Howard, Ella Ross, Marissa Clarke, Christine Merrilees

Abstract
This study examined how cognitive and emotional empathy relate to adolescents' conflict resolution experiences. Thirty-four campers (ages 9-17) completed post-camp surveys assessing empathy, positive and negative affect, and

perceptions of conflict resolution. Path analyses showed that higher emotional empathy predicted lower perceived conflict resolution with other campers, whereas higher cognitive empathy was marginally associated with lower perceived conflict resolution with friends. Across both models, positive affect significantly predicted greater perceived conflict resolution. Findings highlight nuanced socio-emotional processes shaping adolescents' conflict experiences.

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This presentation will also be presented at:

Eastern Psychological Association

Funding Sources

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163 • Prosocial Development Through Autonomy-Supportive Youth Programming

Georgia Ross, Natalie Casey, Christine Merrilees

Abstract

Prosocial behavior is an essential element in developing a peaceful society, making it crucial to understand the development of these behaviors throughout adolescence. The current study uses a post-camp survey of adolescents following a two week sleepaway camp that aims to foster radical empathy and use restorative justice to promote prosocial behaviors and civically minded youth. Self determination theory (SDT) is a key component of this relationship which highlights autonomy as one of three basic psychological needs (along with competence and relatedness) that are essential for optimal motivation, psychological growth, and well-being. Youth programming that revolves around these practices through autonomy based activities (campers can choose which activities they want each day, and can create and/or lead activities) may facilitate prosocial behaviors and civically minded values in campers. The survey used for data collection was a post-camp survey, meaning the specific aim of the study was to test if this relationship between the variables that camp promotes and prosocial behavior still exists past the time campers are at camp. Relations between variables were assessed through a path analysis in R with youth prosocial behaviors and social conscience as outcome variables. Campers' experiences with restorative practices (i.e. circle spaces), their intrinsic motivation to engage in camp activities, and their expression of creativity were the predictors in the model. The findings suggest that youth programming should center autonomy and creative expression for the promotion of prosocial behavior and social conscience in youth.

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Eastern Psychological Conference

Funding Sources

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187 • Romantic Relationship Involvement: Patterns of Relationship Quality and Associations with Adjustment

Elise Cleary, Grace Morichelli, Lily Finnegan, Tori Zavatkay, Rachael Garvey

Abstract

Previous research examining romantic relationships and adjustment outcomes has found that young adults in a romantic relationship tend to have better adjustment outcomes in comparison to those without a partner, such as higher well-being (Grundstrom et al., 2021), higher love life satisfaction (Watkins et al., 2023), and general life satisfaction. According to research examining the association between quality in romantic relationships and adjustment outcomes in college students, single individuals had better outcomes than those in low quality romantic relationships (McCabe et al., 1996). However, little research has investigated how the quality of other close peer relationships plays a role in

the association between single individuals and those in a relationship. We used cluster analysis to group 130 college students without a romantic partner into four profiles based on their reported quality in their same-sex (SS) friendship and their other-sex (OS) friendship. One hundred forty-three students with a romantic partner were grouped into five clusters based on their reported quality in their SS friendship, their OS friendship, and their romantic relationship. Analyses of variance indicated that those without a romantic partner reported having lower romantic competence than those with a partner, replicating previous research. However, there were no significant differences in other aspects of well-being for those with or without a romantic relationship. We did find some other differences in well-being between the clusters, but these differences were related to specific aspects of relationship quality, not the presence or absence of a romantic partner.

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316 • When Hands Speak Louder Than Words: The Memory Advantage Produced by Sign Language

Ashley Merz, Paravi Mandowara, Habiba Byrd

Abstract

The production effect is the memory advantage that occurs when words are read aloud rather than silently. Speaking is believed to enhance memory because it adds distinctiveness: the sound of one's own voice, articulatory movements, and additional perceptual cues create a richer, more memorable trace. If this account is correct, non-verbal languages should also enhance memory, to the degree they involve distinctive actions. We hypothesize that Signing should therefore result in a robust memory benefit due to the complex motor actions and visual–spatial features involved, that go beyond simple vocal production. Across several studies, we found that signing during learning reliably improved memory performance. Surprisingly, the effect was often larger than the traditional spoken production effect and participants not only remembered more signed words but were also accurate in identifying which items they had signed versus which they had only read. Follow-up experiments showed that the signing memory benefit relies on meaningful hand movements, as when learners performed arbitrary or unrelated motor actions, memory did not improve. Overall, these findings indicate that signing may be a particularly powerful learning strategy. By combining distinctiveness, meaningful gesture, and embodied cognition, signing creates a rich multimodal encoding that strengthens both item memory and memory for how information was learned.

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280 • Fact vs. Fake News: Examining Individuals Ability to Identify Accuracy in News Headlines

Jordyn Nestico, Kiley Grogan, Julia McCoy

Abstract

Political polarization is becoming more prevalent in recent times. A great deal of it can come from the source of news people consume. Fake and biased news is, and has been, an issue in news reporting, and it can result in misinformation. A question in this area is, are people more forgiving of news based on the source it's coming from? A sample of psychology majors at SUNY Geneseo rated true and false news headlines based on trueness, their rating confidence, and political leaning. After an initial rating, participants were informed they were 44% accurate. Then, they reevaluate each headline on how likely they could be wrong and a new truth rating. Results show that participants rate true headlines as more truthful than false headlines. Further analysis is still being conducted.

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193 • Perfectionism, Problematic Social Media Use, and Depression: Mediating Role of Contingent Self-Worth

Grace Clement, Sabreen Abid, Gabrielle DiVerde, Lianna Mastro, Monica Schneider

Abstract
According to the Compensatory Internet Use Theory (Kardefelt-Winther, 2014), individuals may use social media to compensate for challenges they may experience socially and/or to meet certain psychological or emotional needs. This compensation may increase the risk of problematic social media use, including addiction and stalking behavior. Although perfectionism has been linked to Instagram addiction and social media burnout (e.g., Milson & Madigan, 2025), assessments remain inconsistent and the link to social media stalking remains largely unexplored. Although perfectionism has been linked to depression (e.g., Kozlowska & Kuty-Pachecka, 2022), studies have not directly linked perfectionists' problematic social media use to depression. However, rumination and contingent self-worth have been found to mediate the relationship between perfectionism and depression. Our study examined how two types of perfectionism (socially prescribed: perceived external pressure; self-oriented: internal unrealistic standards) were related to rumination, contingent self-worth, problematic social media use (addiction, stalking), and depression. Results indicated that contingent self-worth and social media addiction partially mediated the relationship between socially prescribed perfectionism and depression. Our research suggests that individuals who perceive that they have unrealistic, perfectionistic standards imposed on them by others (socially prescribed perfectionism) have the propensity to have their self-worth contingent upon appearance and approval from others, which predicts increased social media addiction and stalking, with addiction predicting increased depression.

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134 • Development of Wearable EEG Technology for Undergraduate Psychological Research

Brooke Fraas, Jack Aufderheide, Jaina Brien

Abstract
Electroencephalography (EEG) is a noninvasive method used to measure electrical activity in the brain and examine neural rhythms associated with different cognitive states. Recent technological advances in wearable EEG devices including the Muse S headband have made it possible to visualize brain activity outside of a clinical setting at low cost. These devices have commonly been used for stress management and sleep monitoring, however past research has shown promising evidence that they may also be useful for monitoring and identifying other psychological processes and disorders. Furthermore, these devices make cutting-edge neuroimaging technology available in a small liberal arts college setting, enhancing hands-on learning in the classroom and enabling students to answer important research questions in the lab. The purpose of this project was to develop a mobile EEG lab protocol for research and teaching. This included setting up the Muse S EEG headbands, collecting example data using MuseLab software, and processing, filtering, and analyzing the data using EEGLAB software. Additionally, an online training module and data collection and analysis manuel were developed for future undergraduate students to refer to when using Muse EEG headbands. Each example session consisted of the participants' eyes closed followed by the participants' eyes opened. The Muse S headband recorded neural signals from four different electrodes and this data was then processed in EEGLAB. The data was then refiltered to isolate alpha power, which illustrated the expected difference between the eyes closed and open conditions.

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295 • Examining Avoidance in Social Anxiety During Real-World Social Interaction

Emma Wood, Alyssa Kocher, Morgan Gardner, Madelyn Holman, Riley Colonna
Abstract
In Social Anxiety Disorder (SAD), research has shown attention biases to threat marked by initial vigilance followed by avoidance (Dong, 2020). Methods assessing attention bias typically involve computer-based tasks. To better understand attention bias, this study aims to simulate real-world social interactions. Research has indicated that social anxiety is associated with reduced face gaze, as evidenced by fewer facial fixations and a shorter gaze duration during a reciprocal face-to-face conversation (Chen et al., 2021). Furthermore, Lidle and colleagues (2024) found that children demonstrated reduced dwell time during initial high-stress social interactions, but only children with anxiety continued to show gaze avoidance during secondary social interactions. Here, we report results from a study examining the relationship between anxiety and attention bias toward threat in real-world social interactions. The Liebowitz Social Anxiety Scale (LSAS) was used to assess SAD symptoms. The LSAS calculates two separate scores for a more comprehensive measure of the complex array of SAD symptoms and their dependence on social context. One subscale assesses fear associated with social interaction and performance, while another measures avoidance behaviors in these domains. We predict that higher social anxiety, as indicated by a higher LSAS avoidance subscale score, will increase avoidance of negative social stimuli, as measured by reduced dwell time.
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252 • Attention Bias in Real-World Social Interaction: A Proposed Study Design

Madelyn Holman, Bradley Taber-Thomas
Abstract
Attention plays a critical role in how people navigate social situations, shaping how we interpret others' emotions, intentions, and reactions in real time. Research has shown that individuals with higher levels of social anxiety often exhibit an attentional bias to threat. This bias can influence not only how they perceive others, but also how they behave and respond in different situations. My project is a proposed study design using the game *Headbands* to capture patterns of attention during real-world social interactions. In our prior project, we studied social interactions with eye tracking during a card game, which resulted in many fixations on the hands rather than the face. My purpose is to develop a new study design that increases attention to the face area. Sample data was collected during the game Headbands with an eye-tracking device. An eye tracker recorded eye movements to show patterns of attention, visual behavior, and how people respond in social situations. Our sample data illustrate how the *Headbands* game, with a stronger attention bias toward faces during real-time interaction, may lead to greater attention to faces. The *Headbands* game shows promising potential for studying attention bias in real-world social settings.
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157 • A Systematic Review of the Relationship Between Attention Bias and Anxiety in Real-World Contexts

Rebecca Sander, Isabell Mathew

Abstract

As part of a broader effort to better understand how attention biases operate in everyday environments, this systematic review will examine the relationship between anxiety and attention biases in real-world contexts. Attention biases are related to how individuals perceive and respond to environmental stimuli, particularly in situations involving anxiety or stress (Bar-Haim et al., 2007; Armstrong & Olatunji, 2012). Traditional laboratory tasks, such as reaction-time paradigms and stationary eye-tracking, have been widely used to measure these biases, but may fail to capture their context-dependent nature in daily life. In contrast, ecologically valid methods, including VR, real-world experimental environments, and EMA, allow for the assessment of attention and behavior in more naturalistic settings (Shiffman et al., 2008; Voinescu et al., 2023). This systematic review examines the real-world relationship between attention biases and anxiety. Peer-reviewed studies were included if they involved human participants, used experimental or quantitative designs, measured attention bias, and incorporated ecologically valid environments. A variety of methodological approaches were summarized, with the primary focus on evaluating study conclusions to determine how ecologically valid methods capture attention biases in real-world contexts, and how this attention bias is related to anxiety. Understanding how these biases can be measured in realistic environments is important for improving research on anxiety and related disorders and for developing more accurate and applicable methods of assessment.

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326 • Meta-Analysis of Neuroimaging Biomarkers for Mental Health: A High-Impact Undergraduate Research Course Design

Nicolette Faller, Tia Stone, Sophia Bobeck, Chloe Epps, Jack Aufderheide, Bradley Taber-Thomas

Abstract

High impact practices (HIPs) and active learning improve student outcomes (Freeman et al., 2014). In neuroscience, there are growing calls to expand HIPs and update curriculum to foster inclusive learning environments (Penner, Sathay, & Hogan, 2021; Williams & O'Dowd, 2021) that better prepare students for modern neuroscience (Ramirez, 2020) and the age of big data (Hoy, 2021). However, technology involved in gaining hands on experience with cutting-edge methods is costly and not typically available in small liberal arts settings. Recent progress in big data neuroscience has generated large amounts of publicly available data and tools that substantially reduce barriers to access, providing opportunities for hands on experience with cutting edge methods in small liberal arts settings. Here we present a high-impact course design that uses publicly available neuroimaging resources to provide active learning opportunities for students. In this course students develop a brain-based biomarker model for a psychological disorder, and then explore that model using the online fMRI meta-analysis tool Neurosynth (neurosynth.org). Throughout the semester students maintain a lab notebook, including research article summaries and drafts of components of their projects, to build a research portfolio: a research paper submitted in pieces over the course of the semester, revised based on peer and instructor feedback and submitted as a final portfolio. Student outcomes are publication quality analyses that demonstrate skills in research articles, neuroanatomy, and neuroimaging tools.

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354 • Support Difficulty in Context: Actor-Partner Mental Health Effects

Jilana Bayley

Abstract

Close significant others (CSOs; i.e., family, romantic partners, and friends), are often vital sources of social support for individuals. However, providing support can be difficult, especially in close relationships, and a support provider's own mental health may impact how difficult it is for them to support others. However, most work has focused on the benefits for support recipients and there is limited literature on support providers' difficulty providing support. In the present study, 21 dyads of college student friends completed a battery of self-report measures to test how each person's mental health symptoms relate to their reported difficulty providing support. Greater support provider anxiety was associated with greater difficulty offering support, specifically with offering esteem support (β = .43, 95% CI [0.01, 0.86], p = .045). Interestingly, greater support recipient depression (β = −.53, 95% CI [−0.91, −0.15], p = .009) and PTSD symptoms (β = −.58, 95% CI [−1.01, −0.16], p = .009) were associated with *lower* provider-reported difficulty offering esteem support. Support recipient mental health showed stronger links to provider difficulty than provider mental health and effects are shown to be negative with higher recipient symptoms associated with lower difficulty. Overall, findings suggest that anxiety makes it harder to offer support, and esteem support in particular. In the future, research should utilize a larger sample size and should incorporate covariates such as relationship closeness or comorbid mental health symptoms to strengthen these findings.

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This presentation will also be presented at:

Association for Behavioral and Cognitive Therapies

190 • Thematic Analysis of Informal Support: How Close Significant Others Articulate Messages of Support to Trauma Survivors

Lydia Benjamin, Cassie van Stolk-Cooke

Abstract

Background: Close significant others (CSOs) often provide informal support to trauma survivors, but existing social support frameworks rarely include their perspectives or communication patterns.

Objective: This study aimed to explore how CSOs communicate brief supportive messages to trauma survivors and to examine how these messages align with established social support theories, while identifying emergent themes.

Method: Using thematic analysis, we analyzed brief, text-based messages from a large sample of CSOs responding to an open-ended prompt asking what trauma survivors "need to hear right now." We used abductive coding to categorize messages according to the Social Support Behavior Code (SSBC; Cutrona & Suhr., 1992) and identified additional emergent themes.

Results: Seven key themes emerged, including emotional and esteem support consistent with the SSBC, as well as new themes such as reassurance, normalization, criticism, and CSO needs. Tangible support was largely absent. Messages often reflected complex and mixed emotions, highlighting the bidirectional and nuanced nature of support in close relationships.

Conclusions: Findings suggest the need to expand social support theories to incorporate trauma-specific content and relationship dynamics. Future research should examine survivor responses to CSO messages and the evolving dynamics of support over time.

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This presentation will also be presented at:

International Society for Traumatic Stress Studies 2025 (ISTSS)

363 • Breakup Risk Among Partners of Trauma Survivors: The Role of Advice-Giving

Kayla Harry, Cassie van Stolk-Cooke

Abstract
Traumatic injury can put stress on romantic relationships and increase the chance of a breakup. Although partners play a key role in providing social support, difficulties in providing support may depend on the relationship dynamics. This study examined whether difficulty providing specific types of social support is associated with breakup status

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This presentation will also be presented at:
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330 • Study Reactions to a Dyadic Observational Support Task

Sam Parrinello

Abstract
Social support has been found to be a key indicator of mental health and well being outcomes, yet is often assessed using self report measures rather than direct observation. This study evaluates the feasibility and perceived naturalness of a recorded structured supportive interaction. Twenty-one dyads of college student friends were assigned roles as support provider or recipient and completed three five-minute interactions: planning a social event, discussing a personal challenge, and discussing a personal success. Participants were asked about their study reactions, naturalness and embarrassment after each task. Overall, reactions to the study were favorable, showing that the task was accepted by participants. Linear mixed models revealed a significant effect of time on both naturalness and embarrassment. Naturalness increased across tasks, with the highest levels reported by the final interaction, while embarrassment decreased over time. Notably, there were no significant differences between support providers and recipients. No interaction effects were found between role and time. These findings suggest that participants quickly get used to the observational setting, allowing the interactions to become more natural and less uncomfortable over time. The task appears to be a feasible and acceptable method for studying social support processes. These results support the task's use in larger scale studies, while highlighting the importance of task timing, sequencing and adjustment periods in this kind of research design.

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339 • Disentangling Social Support and Symptom Accommodation After Trauma: Evidence from a Confirmatory Factor Analysis

Hunter Phillips, Cassie van Stolk-Cooke

Abstract
Background: Close significant others play a key role in trauma recovery by providing needed social support; however, they also risk engaging in symptom accommodation (i.e., attempts to prevent survivor distress that can make symptoms worse over time). Support and accommodation can look similar, especially for tangible behaviors like taking over tasks for the survivor. This raises concerns about measurement overlap.
Objective: We tested the discriminant validity of a social support and an accommodation measure, with particular focus on the overlap between accommodation and tangible support.
Method: 351 participants completed a survey assessing their support provision and accommodation experiences. We used a Confirmatory Factor Analysis (CFA) to explore whether the two measures could differentiate support frequency and difficulty from accommodation. We then cross-loaded accommodation onto 3 tangible support items.

Results: Discriminant validity was supported through medium correlations between constructs (±.23-.45). Cross-loading of accommodation onto tangible frequency items significantly improved model fit ($\Delta\chi^2(3) = 193.97$, $p < .001$) and reduced the support frequency- accommodation correlation to nonsignificance ($r = .03$).
Conclusions: Findings support the discriminant validity of accommodation and social support and indicate that tangible support may sometimes function as a form of accommodation. However, poor model fit suggests that the measures are not cleanly capturing these constructs, and their psychometric properties merit further study.
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This presentation will also be presented at:
Society for Prevention Research

212 • Interrater Agreement in Dyadic Appraisals of Social Support: A Pilot Study

Ashley Tubbs, Cassie van Stolk-Cooke
Abstract
Background: Social support is known to promote peoples' wellbeing (Sarason, 2013), yet little is known about the degree of agreement within friend dyads on support frequency or type of support. When social support is assessed, only one individual's perceptions is studied, creating a gap in the literature. *Objective:* The present study aimed to examine dyadic agreement of social support provided and received across multiple support types. *Method:* The study utilized 21 dyads (n = 21) of friends in college, and each participant was assigned the role of support provider or receiver. Each dyad completed self-report measures that assessed support frequency, including the Supportive Other Experiences Questionnaire (van Stolk-Cooke et al., 2023). *Results:* Dyadic agreement varied depending on type of support and role of the participant. A paired-samples t-test showed that providers reported lower support frequency than recipients (p = 0.0018), and the mean difference (provider-recipient) was -1.01, which further indicated a difference in perception of provided support. Furthermore, analyses of the subtypes of support revealed that support providers reported giving less informational support (p = 0.025) and less tangible support than recipients felt they received (p = 0.0017). Differences were not significant for emotional support (p = 0.17), or esteem support (p = 0.20). *Conclusion:* These findings suggest that perceptions of support vary within friendships based on support type and role. Future studies should examine different relationships and explore how these discrepancies in perceived support relate to relationship satisfaction and individual wellbeing.
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ACKNOWLEDGEMENTS

GREAT Day Advisory Council
Graham Drake, English
Sarah Feik, Geneseo Campus Activities Board
Caroline Haddad, Mathematics
Matthew Johnson, Communications and Marketing
Amanda McCarthy, Alumni Relations
Chip Matthews, Student Life
Daniel Ross, Milne Library
Susan Salmon, School of Education
Joanna Santos, Strategic Initiatives

Music Festival Chair
Kara Cornell, Music

GREAT Day Technical Team
Brian Bucar, Computing & Information Technology
Bill Meyers, Computing & Information Technology

The Proceedings of GREAT Day Team
Allison Brown, Milne Library
Max Sparkman, Milne Library
Daniel Ross, Milne Library
Liam Berger, Student Editor
Ella Singer, Student Editor
Gacrielle, Houde, Student Production Assistant

The GREAT Day Student Intern
Kierstyn Hager, Sponsored Research

The GREAT Day Staff Team
Lytton Smith, GREAT Day Faculty Chair, English
Pallavi Panda, GREAT Day Faculty Vice Chair, Business
Andrea Klein, Scheduling & Events
Paige Wasilewski, Scheduling & Events
Anne Baldwin, Sponsored Research
Alexis Clifton, Teaching & Learning Center
Betsy Colón, Sponsored Programs Administration
Paul Jackson, Computing & Information Technology
Sheila McCart, Sponsored Programs Administration
Jessica Wheeler, Sponsored Research

GRRRREAT Dogs Team
Karie Frisiras, GREAT Dog Coordinator and Myko's owner and handler
Myko the Therapy Dog, 5 year old yellow Labrador
Bob Zimmerman, Willow's owner and handler
Willow the Therapy Dog, 3 year old silver Labrador
Nancy Birkedahl, Sammy's owner and handler
Sammy the Therapy Dog, 3 year old English shepherd
Becki & Brian Lawrence, Peggy's owners and handlers
Peggy the Therapy Dog, 5 year old chocolate Labrador

Other Individuals
Minhhang Huynh, Duplicating Center
Laura Canfield, Duplicating Center
Betsy Harris, Communications and Marketing

GREAT Day Faculty/Staff Volunteers
Rick Myers
Matt Pastizzo
Deb Tillotson
Cori Quinn
Ashlan Hudson-Desai
Candice Graning
Mary Witkop
Hannah Tiede
Meghan Tiede
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Vito Ionardo
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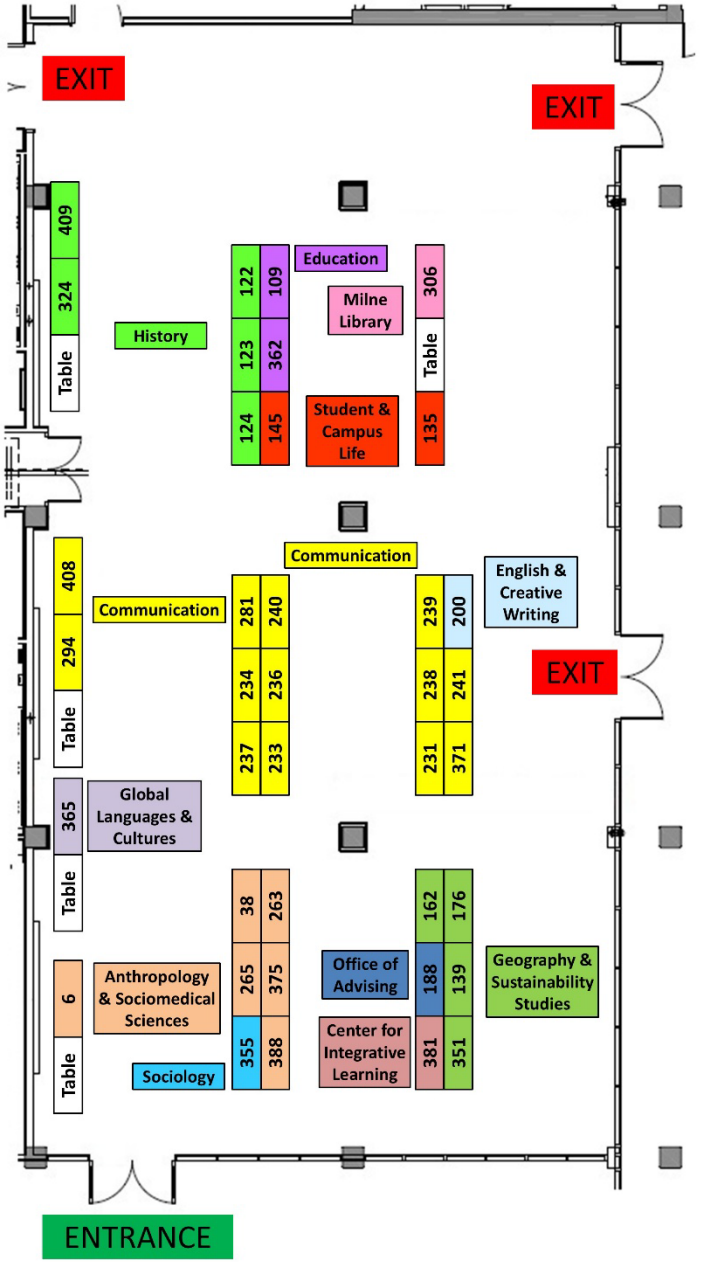

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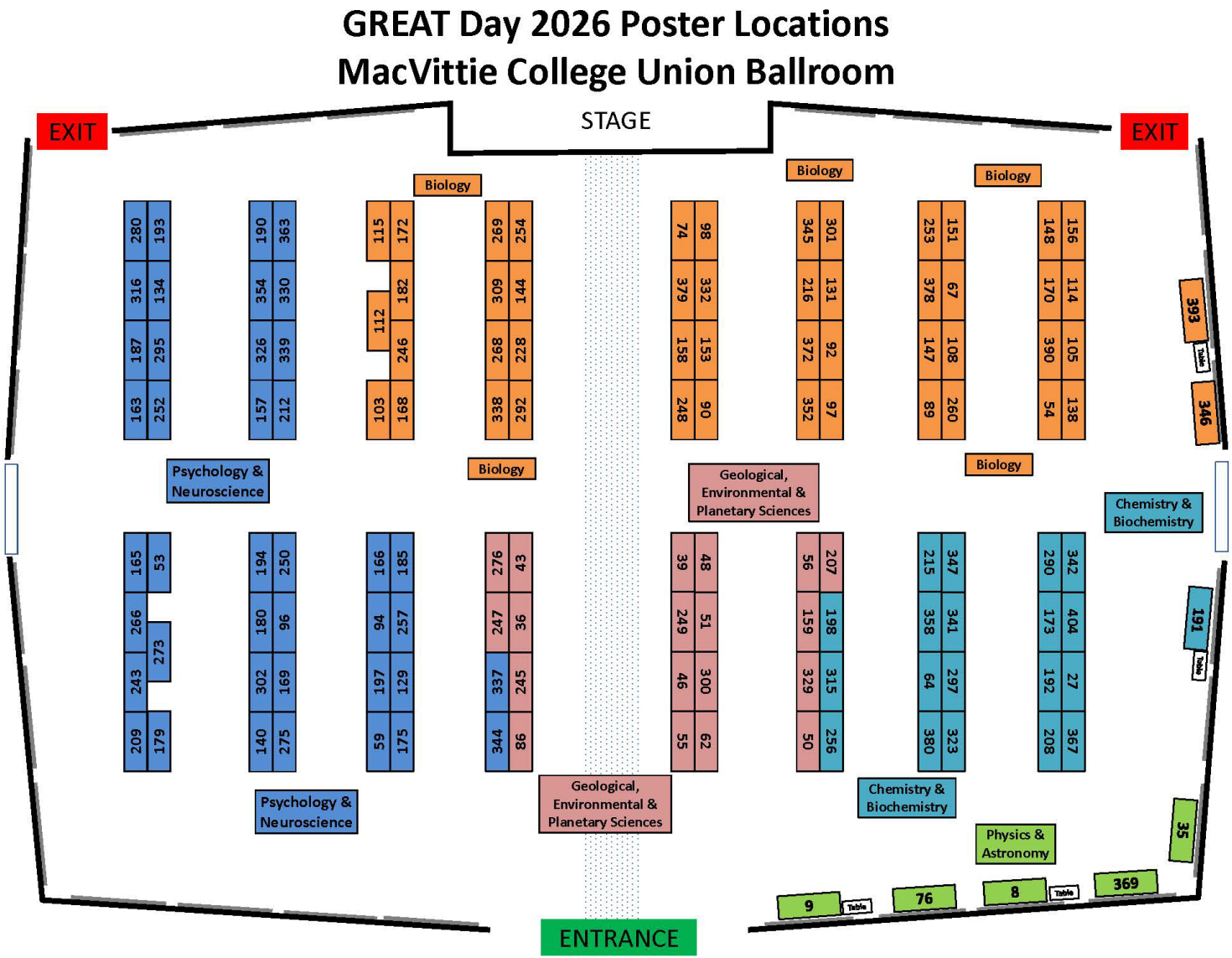

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