

Beloit College Student Research Symposium, April 17, 2025

12:00-12:55 Launch of the **Center for Integrative Learning** in the Science Center Atrium.
Pizza will be served!

Impact Beloit Classroom 109, Library

Moderator: Josh Moore, Global Experience Office

9:05-9:10	Josh Moore	Opening remarks
9:10-9:35	Didac Llido Piquer	Studying in My Home Country as a Foreigner
9:35-10:00	Brady Wachholz, Jordan Rice, Oceanna Estrada, Grace Hartwig	Bucs Abroad Panel: Studying Abroad as a Student Athlete
10:00-10:25	Isabella Virginia Robinson	A Twisted Ticket: How to Embrace the 'Discomfort Zone' while Studying and Traveling Abroad
10:25-10:50	Ava Parr	Living and Learning Abroad: Lessons from Europe

Moderator: Tacey Atsitty, English

1:00-1:05	Tacey Atsitty	Opening remarks
1:05-1:30	Isis Gonzalez	Senior Creative Writing Reading: Fiction, Prose, and Flash Essays
1:30-1:55	King Snider	Senior Creative Writings: Fiction, Nonfiction and Poetry
1:55-2:20	Rut Jimenez	Voxlock: A Dystopian Tale of Women's Right (Senior Creative Writing Reading)

Moderator: Joe Bookman, Media Studies, School of Media Studies

2:30-2:35	Joe Bookman	Opening remarks
2:35-3:00	India David, Azalea Swan	Two Years of the <i>Beloit Fiction Journal</i>
3:00-3:25	Allison OverKamp, Kale Taft, Julianna Longhenry	Things I Learned While Shooting an Analog Horror Series

LITS Classroom 203, Library

Moderator: Heath Massey, Philosophy

9:30-9:35	Heath Massey	Opening remarks
9:35-10:00	Ethan Larson	Object-Oriented Ontology: Games, Films, and Ourselves
10:00-10:25	Jax Goodlow	Considering the Relational Self
10:25-10:50	Ryan Kopp	The Dual Planes of State Power: International Anarchy and Political Liberalism

Moderator: Tawnya Cary, Biology, Environmental Studies, School of Environment and Sustainability

11:00-11:05	Tawnya Cary	Opening remarks
11:05-11:30	Helena Harrison	Evaluation of Hair Cortisol of Wild Carnivores in Eastern North Carolina
11:30-11:55	Daisy Kleinhoffer	Impact of PCB-126 on Caspase-9 Gene Expression and Immune Function on Northern Leopard Frogs (<i>Lithobates Piplens</i>)

Moderator: Allan Farrell, Sociology

1:00-1:05	Allan Farrell	Opening remarks
1:05-1:30	Samantha Quintana	ACEs and Education: An Exploratory Analysis of Care and Community Abstract
1:30-1:55	Joya Saxena	A Stranger in My Backyard: Investigating Multiracial Students' Interactions with Race-Based Campus Clubs/Organizations

Moderator: Beth Dougherty, International Relations, School of Global & Public Service

2:30-2:35	Beth Dougherty	Opening remarks
2:35-3:00	Shobhita Bharadwaj , Veronica Kaluta	Changing the World in Five "Simple" Steps: Applying New Tactics in Human Rights to Rohingya Children in Myanmar and Bangladesh
3:00-3:25	Samuel Shobert	A Georgian in Georgia: The EU's Role in a Democracy at a Crossroads

Poster Session: Second floor bridge, Science Center

Drop in Alex Yang 10:45-11:45	Exploring In-Group Variability in Alzheimer's Disease: EEG-Based Clustering Analysis for Potential Subtypes
Drop in Gisela Uribe 10:45-11:45	Experiences of Latine Communities with the Healthcare System: Implications for Mental Health
Drop in Kelly O'Brien 10:45-11:45	The Impact of Elaboration on Memory Related Tasks
Drop in Trang Tran 10:45-11:45	Humanizing AI: The Impact of Anthropomorphic Chatbots on User Experience in Hospitality

Richardson Auditorium, Morse-Ingersoll Hall

Moderator: Charles Westerberg, Sociology, School of Global & Public Service

9:05-9:10	Charles Westerberg	Opening remarks
9:10-9:35	Ezekiel Kingsbury	Confessionalist Protestantism in American Public Life
9:35-10:00	Joshua Izzy Stern	Is the Descent to Religious Terrorism and Violence Merely Psychological?
10:00-10:25	Julianna Longhenry	Rituals in Sociology of Religion: Organized Cohesion
10:25-10:50	Ezekiel Kingsbury	Associations Between Tradition-Oriented Religiosity and In-Group Charitability

Moderator: Isaac Young, Psychology, School of Global & Public Service

1:00-1:05	Isaac Young	Opening remarks
1:05-1:30	Kitana Gulotta	Generational Shifts in Familism and Healthcare Decision-Making in the Latino Community
1:30-1:55	Satirtha Saha Protya	A Comprehensive Guide to Artificial Intelligence Enhanced Neuroimaging for Medical Diagnosis

Moderator: Pablo Toral, International Relations, Environmental Studies, School of Environment & Sustainability

2:30-2:35	Pablo Toral	Opening remarks
2:35-3:00	Rafaella Pavarini de Souza	Trump's New Wave of Protectionism and Its Impacts on Latin America
3:00-3:25	Camille Ledoux	Democratic Warfare and the Destruction of the 20th Century

Room 249, Sanger Science Center

Moderator: James Rougvie, Geology, School of Environment & Sustainability

9:05-9:10	James Rougvie	Opening remarks
9:10-9:35	Kesley Engelke	Chronostratigraphy of Late Devonian Sandstones from Southwestern Illinois and East-Central Missouri: Preliminary Results
9:35-10:00	Phoebe Long-Sires	Feldspar Alteration Mechanisms in Arc Volcanic Rocks from the Mount Morrison roof pendant in the Sierra Nevada Range, Eastern California
10:00-10:25	Daisy Kleinhoffer	Fluid Inclusion Analysis of the White Rock Pluton Contact Aureole: Distinguishing Fluid Flow Events
10:25-10:50	Lila Ryter	Using Drone Footage to Create 3D Models of Damage Zones to Understand Fault Evolution within the Sevier Fault Zone of Southern Utah

Moderator: Nicolette Meister, Museum Studies

11:00-11:05	Nicolette Meister	Opening remarks
11:05-11:55	Kiersten Faldet, Evelyn Manchester, Marino Komai, Andi Pavlik, Marcelo Banks, Livya Phillips-Levin, Ary Hartman, Rushil Sharma, Jack Maraldo, Rawan Ali, Zoe Goebbert	Indigenous Curation: Heath Collection Ho-Chunk Objects

Moderator: Ben Stucky, Mathematics and Computer Science

1:00-1:05	Ben Stucky	Opening remarks
1:05-1:30	Eric Seo	Pinning Loops in Surfaces
1:30-1:55	Ethan Moore	Collatz Conjecture: Stopping Time Patterns of Prime Numbers and Their Powers
1:55-2:20	Renée Nguyen	A Survey of the Poincaré Conjecture: Exploring Topological Manifolds
2:20-2:45	Brendan Drager	Service Point Pro Software Engineering Internship

Room 349, Sanger Science Center

Moderator: Kevin Smith, Economics and Business, School of Business

9:30-9:35	Kevin Smith	Opening remarks
9:35-10:00	Jasmin Bowers	Analyzing the Economic Effects of Self-Managed Abortions on Local Healthcare Markets
10:00-10:25	Helmi Kawsar	The Affordable Care Act for Artists: A Catalyst for Creativity?
10:25-10:50	Kaiyue Yao	Examining the Impact of the China-U.S. Trade War on Vietnam

Moderator: Laura Grube, Economics and Business, School of Business

11:00-11:05	Laura Grube	Opening remarks
11:05-11:30	Sochea Chhay	Estimating the Effect of Entrepreneurial Activities on Reducing Unemployment Rate in Europe from 2001-2022
11:30-11:55	Ali Hasnain	Wealth Building and Investment Strategies: Insights from A Private Wealth Management Experience

Moderator: Laura Grube, Economics and Business, School of Business

1:00-1:05	Laura Grube	Opening remarks
1:05-1:30	Aaditya Joshi	Fed's QE Shockwaves: Impact on Polish Financial Markets?
1:30-1:55	Jasmin Bowers, Abhey Guram	Eco-Entrepreneurship and (Unintended?) Rent Seeking
1:55-2:20	Katie Arnold, Nicholas Lanpheer	An Audretschian View of a Local Phenomenon: The Resulting Knowledge Spillover of Beloit Corporation

Moderator: Joy Beckman, Art History

2:30-2:35	Joy Beckman	Opening remarks
2:35-3:00	Emeline Russell	Bread Stamps: Ancient Art Where You'd Yeast Expect It
3:00-3:25	Niana Ashley Rooney	Tattoos: Stories From Beneath the Skin
3:25-3:50	Dae'Quan Lamar Ambrister	Art of the Mind: Using Creativity to Unlock Brain Pathways and Enhance Student Performance

Room 402, Sanger Science Center

Moderator: Rachel Bergstrom, Biology, School of Health Studies

9:00-9:35	Rachel Bergstrom	Opening remarks
9:35-10:00	Alexxa Schubert	Applying to Doctorate of Physical Therapy Programs and Next Steps
10:00-10:25	Sophia Papas	An Up-And-Coming Career in Medicine: My Journey to Physician Assistant School

Moderator: Suzanne Cox, Psychology, School of Health Sciences, School of Global & Public Service.

11:00-11:05	Suzanne Cox	Opening remarks
11:05-11:30	Thomas Fleming	Plea Bargaining in the United States: The Mass Incarceration Machine
11:30-11:55	Sam Irwin	Housing Discrimination and the Implications of Associating Technology with Neutrality in the Age of Algorithms

Moderator: Jingjing Lou, Education & Youth Studies, School of Global & Public Service

1:00-1:05	Jingjing Lou	Opening remarks
1:05-1:30	Sydney Harbison	Importance of Reading and Writing Every Day in School
1:30-2:10	Indrayudh Sinha	The Opiate of the Bourgeoisie: Networks of Popular Occultism in the Long Twentieth Century

Moderator: Ron Watson, Health & Society, Political Science

2:30-2:35	Ron Watson	Opening remarks
2:35-3:00	Jasmin Bowers	The Intersection between International Relations Theory and Reproductive Health Financing in Low- and Middle-Income Countries
3:00-3:25	Brady Wachholz	The Discipline of Public Health: An Art and a Science – A Comparative Perspective on Public Health in Ireland and the United States

Weeks Lounge, Pearsons Hall

Moderator: Amy Tibbitts, Modern Languages & Literatures, School of Environment & Sustainability, Center for Integrative Learning

9:30-9:35 Amy Tibbitts Opening remarks

9:35-10:00 Margaret Joyce La importancia de la fotografía y el dibujo en el cine español

10:00-10:25 Fernando Orbezo, Diego Boyd LaSalle Ghosts, Haunting, and Memory in Hispanic Films

10:25-10:50 Kendric Qian Chen The Way of The Drunkard: The Wisdom of Vulgarly

Moderator: Joseph Derosier, Modern Languages & Literatures, School of Environment & Sustainability, Center for Integrative Learning

11:00-11:05 Joseph Derosier Opening remarks

11:05-11:30 Grayson Jensen (Un)gendered Saints: The Embodiment of Medieval Asexuality

11:30-11:55 Anna Lehne Philosophical Perspectives on Viktoria Tokareva's Novella *First Try*: A Critical Analysis

Moderator: Pablo Toral, International Relations, Environmental Studies and International Relations

1:00-1:05 Pablo Toral Opening remarks

1:05-1:30 Ela Heywood Birds and People: An Exploration Of Africa's Avians, Anti-Colonial Justice and More-than-Human Politics

1:30-1:55 Kristen Anna Laiosa Green Spaces, Health Disparities, and Environmental Inequities: Lack of Access to Nature and its Implications

1:55-2:20 Camille Ledoux Comparative Analysis of Two Contending Narratives about the Role of Nuclear Energy in the Fight against Climate Change

Moderator: Natalie Gummer, Critical Identity Studies, Center for Integrative Learning, School of Global and Public Service

2:30-2:35 Natalie Gummer Opening remarks

2:35-3:00 Ray Broad Molly Malone and You: A Discussion About the Implications of the Treatment of Molly Malone's Statue

3:00-3:25 Rebeca Galindo The Both/And: The Power of Interdisciplinary Learning Through Political Science & Critical Identity Studies

Abstracts

Sponsor: Christa Story

Room 349, Sanger Science Center, 3:25-3:50

Dae'Quan Lamar Ambrister

Fort Pierce, Florida

Major: Biology

Minor: Health and Society

Art of the Mind: Using Creativity to Unlock Brain Pathways and Enhance Student Performance

During the presentation, I explore the growing trend among universities of encouraging biology and pre-med students to take art history courses. My research focuses on the educational and clinical impacts of this interdisciplinary approach. In particular, I examine studies that show how practices like slow looking—a method of deeply observing and interpreting works of art—can enhance students' abilities to communicate more effectively with patients and improve skills in medical decision-making and ethical reasoning.

The presentation also focuses on exploring the arts and relating them to personal experiences via PowerPoint and short YouTube-style video.

Sponsor: Laura Grube

Room 349, Sanger Science Center, 1:55-2:20

Katie Arnold '25

Clinton, Wisconsin

Major: Business Economics

Nicholas Lanpheer '25

Appleton, Wisconsin

Majors: Business Management; Sociology

An Audretschian View of a Local Phenomenon: The Resulting Knowledge Spillover of Beloit Corporation

This presentation reviews our research from the 2024 Senior Seminar capstone class, where entrepreneurship was the subject and Professor David Audretsch, an influential and leading thinker in the field, was the Upton Scholar. Our research examines the bankruptcy and closure of Beloit Corporation, a former but once prominent paper-machine manufacturing company, and the resulting entrepreneurs that came out of it.

Using David Audretsch's theory of knowledge spillover as our basis for our research, we argue that the bankruptcy of Beloit Corporation led to new firms in the same industry and in the same geographical place, thus viewed as a classic case of knowledge spillover of that cataclysmic event.

We explore general, overarching research about de-industrialization, recovery, entrepreneurship, engineering, and the relationships among those topics. Then, we narrow the scope to Beloit Corporation specifically, applying theory to a real-world example. We discuss our interviews with the founders of the new firms and their journeys to becoming entrepreneurs, complete with compelling anecdotes. Finally, we bring it all together and prove that the closure of Beloit Corporation led to new firms in the same industry, playing out Audretsch's knowledge spillover theory of entrepreneurship in action.

Shobhita Bharadwaj '27

India

Majors: International Relations; Quantitative Economics

Veronica Kaluta '26

Milwaukee, Wisconsin

Majors: Political Science; Critical Identity Studies

Changing the World in Five “Simple” Steps: Applying New Tactics in Human Rights to Rohingya Children in Myanmar and Bangladesh

New Tactics in Human Rights (NTHR) is a methodology for everyday activists and human rights defenders to effectively and strategically make lasting changes in their community. Through a five-step process of identifying the problem, creating a vision, mapping the terrain, exploring tactics and finally, taking action, NTHR has provided an invaluable toolkit for making a difference.

This study applies NTHR to the issues faced by the Rohingya community of Myanmar in attaining an education. The Rohingya have been actively persecuted since the 1982 Citizenship Act, which rendered them stateless, followed by bouts of extreme violence in 2012 and 2017. Most Rohingya in Myanmar are confined in detention camps where they do not have access to many basic necessities, including education. Without education, they do not have the opportunity to build a better life for themselves even if they find refuge. Therefore, identifying the most pressing barriers and working around them to secure an education for Rohingya children is a difficult task. This study brings to light the potential of NTHR to stimulate strategic thinking to make effective action possible in defending human rights.

Sponsor: Pablo Toral

Room 402, Sanger Science Center, 2:35-3:00

Jasmin Bowers '25

Richmond, Texas

Majors: Business Economics; International Relations

Minor: Chinese

The Intersection between International Relations Theory and Reproductive Health Financing in Low- and Middle-Income Countries

In the recent century, health has become a neglected area in the study of international relations and foreign policy. While states have enacted numerous treaties and created international health organizations, the intersection between health and foreign policy is incredibly strained and unstable. The global politics of health have been contested to consider focusing on the state of public health systems from a macroeconomic context, prioritizing the security of the state over the individual well-being of citizens.

International proceedings and policies regarding marginalized communities, such as women and children, are stunted in growth due to the stigma and social structures of health systems worldwide. These exclusionary policies and societal norms towards healthcare are among the economic disparities, human rights violations, and social factors that put women and girls at a disadvantage in receiving necessary reproductive care. Universal and equal access to sexual and reproductive healthcare remains unfinished on the global development agenda. Sexual and reproductive health is linked to existing sociocultural factors, current gender roles and expectations, and the protection of human rights regarding personal relationships and the liberty of persons. The intersectionality between human rights law and reproductive health policy requires a closer look at how international treaties and reforms influence health policy globally.

In relation to and based on my international relations senior honors thesis, this work aims to acknowledge and understand the intersection of international relations theory with the concept of global

reproductive health policy and treaty formations. The research question hypothesizes whether international treaties and financial organizations create advantageous opportunities for reproductive health services and advocacy in underdeveloped countries. I hypothesize that lower-income countries do not have access to quality sexual and reproductive health education and resources and that international health systems will have to radically transform service operations to encourage sexual and reproductive health rights globally.

Sponsor: Laura Grube

Room 349, Sanger Science Center, 1:30-1:55

Jasmin Bowers '25

Richmond, Texas

Majors: Business Economics; International Relations
Minor: Chinese

Abhey Guram '25

Punjab, India

Majors: Quantitative Economics; Political Science
Minor: Environmental Studies

Eco-Entrepreneurship and (Unintended?) Rent Seeking

International agreements such as the Kyoto Protocol and the Paris Agreement have prompted governments worldwide to adopt policies aimed at reducing CO₂ emissions and mitigating climate change. The transition to clean energy has facilitated the convergence of capitalism and environmentalism, fostering the rise of eco-entrepreneurship. While eco-entrepreneurship presents a viable path toward sustainability, it also introduces risks of rent-seeking where businesses manipulate political and regulatory environments to gain economic benefits rather than driving genuine innovation.

This study examines the intersection of environmental advocacy and rent-seeking within eco-entrepreneurship through a case study approach, drawing on the "Bootlegger and Baptist" theory. Using firm-level data from the United Nations and the International Consortium of Investigative Journalists, we analyze corruption patterns in the sector. Findings reveal that government policies, particularly subsidies, grants, and tax incentives—play a crucial role in both enabling and curbing rent-seeking behaviors. This study highlights how such practices hinder sustainability and economic progress by stifling innovation, distorting market competition, and misallocating government resources. These insights underscore the need for policy frameworks that promote genuine eco-entrepreneurship while mitigating opportunities for regulatory exploitation.

Sponsor: Kevin Smith
Dr. JaNelle Ricks (The Ohio State University)

Room 349, Sanger Science Center, 9:35-10:00

Jasmin Bowers '25

Richmond, Texas

Majors: Business Economics; International Relations
Minor: Chinese

Analyzing the Economic Effects of Self-Managed Abortions on Local Healthcare Markets

With the overturning of Roe v. Wade, access to abortion services has been severely limited. Restricting access to abortion highlights the disparities within the healthcare system for marginalized groups. Pregnant people are leaning towards self-managed (i.e., medication) abortion tactics because of the barriers to facility-based abortion care. Self-managed abortion goes largely unreported due to the increasing restrictions and regulations put on reproductive resources in the United States.

This research investigates the correlation between reproductive services being utilized in the United States and its effects on regional healthcare markets. Using data from the Guttmacher Institute and the

Perspectives on Sexual and Reproductive Health Journal from 2023, we estimated how many medication abortions would occur in 2024. Using qualitative interview data from an ongoing research study from The Ohio State University College of Public Health, we analyzed the micro-economic effects of self-managed abortion on healthcare markets.

Due to the restrictions on abortion access, we see a significant economic impact of abortion policies on future generations. We estimate that on a national scale, self-managed abortion will continue to impact future human capital investments, as estimated numbers account for 1/3 of abortions in 2024. Qualitative data resulted in ¾ of the sample group considering self-managing their abortion. Investing more time in health will result in more time and output in the labor market, improving overall economic output. By examining reproductive healthcare, we can see not only how access to self-managed abortions has impacted the healthcare system but also how it can lead to broader effects on the economy.

Sponsor: Natalie Gummer

Weeks Lounge, Pearsons Hall, 2:35-3:00

Ray Broad '26

Madison, Wisconsin

Majors: Critical Identity Studies; Psychology

Minor: Education and Youth Studies

Molly Malone and You: A Discussion About the Implications of the Treatment of Molly Malone's Statue

I spent my last semester abroad in Dublin, Ireland. Of all of the things I experienced and learned during my time there, one thing stuck with me the most during my whole trip: The statue of Molly Malone. Molly Malone, originally from a song titled after her which has since spread into a much broader folklore in her honor, is renowned for her statue that stands near the heart of the city as a core aspect of the Dublin tourist experience. Many of the walking tours of the city start or end in front of her. I, myself, stood in front of her statue for the second time while waiting for a tour bus to the Cliffs of Moher.

Yet the thing that Molly Malone is most known for is her breasts, which have been rubbed to the extent that the bronze exterior has turned to a bright gold. It is a tradition for tourists to rub them "for good luck" and often to photograph themselves in the act- And make no mistake, it is a tourist-specific tradition, not one that originated with Dublin residents.

Molly Malone is not and likely never was a real person, despite some folklore claiming she may have been. The objectification her statue has endured, however, is very real. It speaks to a pattern of behavior that I aim to dissect in my presentation for what it means not only to Molly, but to all of us.

Sponsor: Jingjing Lou
Chiu Kit Fung Henry (Lingnan University)

Weeks Lounge, Pearsons Hall, 10:25-10:50

Kendric Qian Chen '26

Superior, Colorado

Majors: History; Education

Minor: Law and Justice

The Way of The Drunkard: The Wisdom of Vulgarity

The stars and stories of the cinema of Hong Kong have influenced Hollywood and beyond: Bruce Lee and Jackie Chan are household names, and directors such as Quentin Tarantino have often cited Hong Kong Cinema as their inspiration.

This presentation examines two "drunken masters" of Hong Kong Cinema: the "Drunken Cat" in King Hu's 1966 Film *Come Drink with Me*, and Su Hua Chi in the 1978 film *Drunken Master*, martial arts masters initially presented as drunk and not taken seriously. Scholar David Bordwell argues that in Hong

Kong cinema, it takes the "vulgarity of popular cinema" to "paroxysmic extremes", arguing that "nothing gorgeous or hideous is alien to this cinema". Utilizing Bordwell's framework that "vulgarity" is a distinctive element of Hong Kong's cinema, I analyze how these "drunken masters" could support Bordwell's framework, and ask the question: What can these characters tell us about Hong Kong Cinema?

Sponsor: Laura Grube
Kevin Smith (Beloit College)

Room 349, Sanger Science Center, 11:05-11:30

Sochea Chhay '25

Cambodia

Major: Quantitative Economics
Minor: Mathematics

Estimating the Effect of Entrepreneurial Activities on Reducing Unemployment Rate in Europe from 2001-2022

Entrepreneurship serves as the main engine for economic growth and as a source of employment opportunities in both developed and developing countries. However, the relationship between entrepreneurship and unemployment remains ambiguous. This presentation explores this relationship by analyzing the impact of entrepreneurial activities on unemployment across 21 countries in Europe from 2001 to 2022 using three econometric models: Ordinary Least Square (OLS), Fixed Effects Model, and Dynamic Panel Model to test four hypotheses.

My findings confirm a negative association between entrepreneurship and unemployment in Europe, indicating that increased entrepreneurial activity significantly reduces the unemployment rate in the long run. I also compare the entrepreneurial trends between Eurozone and non-Eurozone countries and find that there is no statistically significant difference in Total Early Stage Entrepreneurial Activity (TEA). However, financing entrepreneurship and internal market openness emerge to be statistically different between Eurozone and non-Eurozone countries. The Eurozone has a higher rate of entrepreneurial activities compared to non-eurozone countries, which is potentially due to their greater economic freedom and internal market openness. Whereas, non-Eurozone countries provide greater financial support for entrepreneurship through various policy initiatives, such as the Small Business Act, the Capital Market Union, and Horizon Europe. These policies play a critical role in increasing entrepreneurial activities across Europe.

Sponsor: Christopher Fink

Impact Beloit Classroom 109, Library, 2:35-3:00

India David '25

St. Paul, Minnesota

Major: Creative Writing
Minor: Journalism

Azalea Swan '25

Minneapolis, Minnesota

Majors: Literary Studies; Japanese

Two Years of the *Beloit Fiction Journal*

We are two graduating seniors who have spent the last two years working on the *Beloit Fiction Journal* (BFJ). As editors and then as managing editors, we have experienced the process of creating a national fiction journal.

For each volume we have worked on, we, as editors, read through hundreds of short stories and selected, by committee, thirteen to fifteen stories per volume. As managerial editors, we led our fellow editors in the story selection process through Submittable and acted in a leadership capacity. In the spring of 2025, we and three other production editors line-edited and formatted volume 38 of the BFJ.

In March 2025, we attended the Association of Writers and Writing Programs (AWP) conference in Los Angeles. Along with our editor-in-chief, Chris Fink, and production editors, we promoted the BFJ and sold copies to raise money for the English Department. We also interacted with professionals already in the publishing industry to search for future job opportunities. These experiences made us able communicators and gave us a taste of what a career in the publishing industry might look like.

In this symposium, we discuss our experiences working for the BFJ to inform other students interested in taking the course. We also discuss the challenges and obstacles we faced while working for the BFJ, as well as the benefits and future opportunities available with that experience.

Sponsor: Ben Stucky

Room 249, Sanger Science Center, 2:20-2:45

Brendan Drager '25

Albuquerque, New Mexico

Majors: Computer Science; Business Management

Minor: Entrepreneurship

Service Point Pro Software Engineering Internship

During the summer of 2023, I was able to work at Service Point Pro, a group of field service management software experts. During this time, I collaborated with a team to identify and resolve bugs in both front-end and back-end systems, using languages such as C# and different libraries in JavaScript. I mainly focused on maintaining features and fixing bugs in the front-end using React and Redux. While working in the back-end, I structured queries and tables in SQL to collect data on how different field technicians performed. I was able to learn more data visualization tools in conjunction with SQL to present financial insights to the executive board of the company.

In addition to developmental work, I provided hands-on instruction to clients, guiding them on how to effectively use software to best suit their daily operations. This internship not only strengthened my technical abilities but also deepened my understanding of software development in a business setting. My biggest takeaway from this experience was that communication is vital to working both independently and as a part of a team, balancing both technical problem-solving language and approachability.

Sponsor: James Zambito

Room 249, Sanger Science Center, 9:10-9:35

Kesley Engelke '25

Roscoe, Illinois

Majors: Geology; Anthropology

Chronostratigraphy of Late Devonian Sandstones from Southwestern Illinois and East-Central Missouri: Preliminary Results

While Devonian eustatic fluctuations described by Johnson and others (1985) have been instrumental in improving chronostratigraphy, the relative importance of eustasy vs far-field tectonics in forming the sedimentary record in the U.S. Midcontinent is poorly understood. Here I present preliminary results on efforts to refine the chronostratigraphy and provenance of Devonian sandstone units from southwestern Illinois and east-central Missouri (southwest margin of the Illinois Basin) using conodonts, detrital zircon analysis, bulk mineralogy and geochemistry, and petrographic properties.

In southwestern Illinois, the Devonian Cedar Valley Group is overlain by very thin to thin-bedded sandstones of the Sylamore Sandstone Member of the New Albany Shale that contain conodonts, fish material, and phosphate pebbles. Previous studies have determined the Sylamore Sandstone is diachronous across the basin, spanning various intervals within the Frasnian, but most likely being deposited as part of the Ilc Devonian T-R Cycle. Recently collected samples of the Sylamore Sandstone have so far yielded an icriodid dominated fauna.

In East-Central Missouri, the Ordovician Cape Limestone, Kimswick Formation or Macquoketa Shale is overlain by the Devonian Sulphur Springs Group; the latter consisting of the Glen Park Limestone and overlying Bushberg Sandstone. The Glen Park Limestone is a fossiliferous grainstone containing abundant conodonts, fish material, and phosphate pebbles. The Bushberg Sandstone is an iron-stained fine-grained quartz sandstone containing meter-scale cross-beds that transition upwards to planar bedded burrowed sandstone. Previous studies have concluded that the Sulphur Springs Group is late Famennian in age, probably deposited during the Ilf T-R Cycle. Recently collected Glen Park Limestone samples have so far yielded conodont faunas of polygnathids, palmatolepids, and rare icriodids as well as scolecodonts. Bushberg Sandstone samples have yet to yield conodonts. Interestingly, preliminary detrital zircon results for the Sylamore and Bushberg sandstones show a provenance signature similar to the Ordovician St. Peter Sandstone. This study will ultimately better constrain the age of these Devonian sandstones and the role of eustasy vs tectonics in the study area.

Kiersten Faldet

Orfordville, Wisconsin

Major: Anthropology
Minor: Museum Studies

Evelyn Manchester

Columbia, Maryland

Major: Anthropology
Minors: Museum Studies; Visual Studies

Marino Komai '26

Kyoto, Japan

Major: Anthropology
Minors: Museum Studies; Chinese

Andi Pavlik '25

Cincinnati, Ohio

Major: Anthropology
Minor: Museum Studies

Marcelo Banks '25

Los Angeles, California

Majors: Anthropology; Ancient Mediterranean

Livya Phillips-Levin '25

Shawano, Wisconsin

Majors: Critical Identity Studies; Anthropology; Spanish

Ary Hartman '26

Northbrook, Illinois

Major: Anthropology
Minor: Museum Studies

Rushil Sharma '26

Seattle, Washington

Major: Anthropology
Minor: Museum Studies

Jack Maraldo '26

Buffalo Grove, Illinois

Major: Anthropology

Rawan Ali '25

Palatine, Illinois

Major: Anthropology

Zoe Goebbert '26

Algonquin, Illinois

Major: History
Minor: Museum Studies

Indigenous Curation: Heath Collection Ho-Chunk Objects

Indigenous curatorial practices integrate Native values and perspectives into museum collections, spaces, and approaches to curation and care. In a new experiential course, we are engaging in Indigenous curation by conducting research on objects in the Albert Green Heath Collection, experimenting with beadwork, weaving, and quillwork, and co-curating an online exhibit with Ho-Chunk artist and cultural anthropologist Molli Pauliot. The course centers Indigenous curatorial practices within the expanding field of museum anthropology, working to Indigenize museums through partnership with tribal Nations and Indigenous collections stewardship and care strategies. Workshops introduce Ho-Chunk material culture, object construction, and the complexity of creating art from nature while teaching

foundations of Indigenous design and representations in Indigenous art. We share our perspectives on the impact of this method of experiential learning, our research on Ho-Chunk objects in the Logan Museum, and co-curation of the online exhibit.

Sponsor: Charles Westerberg

Room 402, Sanger Science Center, 11:05-11:30

Thomas Fleming '27

Decatur, Georgia

Majors: Cognitive Science; Sociology
Minor: Philosophy

Plea Bargaining in the United States: The Mass Incarceration Machine

There is a general agreement among legal scholars that plea-bargaining has contributed significantly to mass incarceration in the United States (Alschuler 2022). There are many reasons for this, such as a lack of accountability and oversight for prosecutors, a large number of overlapping charges, mandatory minimum sentencing abuse, and more. The relationship between plea-bargaining and mass incarceration is particularly important to study because over 95% of criminal cases in the United States end with plea bargains. The Sixth Amendment to the U.S. Constitution guarantees accused individuals the right to a speedy and public trial. The fact that more than 95% of defendants are giving up their right to a trial by accepting a plea bargain demands scrutiny. My presentation reviews the current state of research from legal scholars regarding the causes and consequences of the increased use of plea-bargaining in the U.S. criminal justice system, with particular emphasis on the connection between plea-bargaining and mass incarceration. This project is also acting as a prerequisite to additional original research I will conduct this coming summer that will examine plea-bargaining in Rock County, WI (where the plea bargain rate is over 99%).

Sponsor: Natalie Gummer

Weeks Lounge, Pearsons Hall, 3:00-3:25

Rebeca Galindo '25

South Beloit, Illinois

Majors: Political Science; Critical Identity Studies

The Both/And: The Power of Interdisciplinary Learning Through Political Science & Critical Identity Studies

Through this presentation, I reflect on how Beloit College's Political Science and Critical Identity Studies departments have shaped my academic and personal journey in pursuing social justice work. In a time when studies around the humanities are being undermined, both majors instill lifelong practices and offer unique perspectives that become evermore crucial in transforming the present climate. It has taught me the practice of the "both/and"--holding multiple truths and perspectives--preparing students in these fields to challenge the status quo and advocate for justice in an increasingly dynamic world.

Sponsor: Christopher Fink

Impact Beloit Classroom 109, Library, 1:05-1:30

Isis Gonzalez '25

Chicago, Illinois

Major: Creative Writing
Minor: Spanish

Senior Creative Writing Reading: Fiction, Prose, and Flash Essays

This reading consists of a collection of creative work I have written during my time at Beloit. These pieces consist of fiction, prose, and flash essays. This collection represents some of my favorite pieces

that have stuck with me throughout the years. One of the pieces is called, "The Legend of Mamuna," a horror-fiction story written in my earliest creative writing workshop. After the reading, there will be time for questions and discussions regarding my work.

Sponsor: Heath Massey

LITS Classroom 203, Library, 10:00-10:25

Jax Goodlow '25

Chicago, Illinois

Majors: Philosophy; Psychology

Considering the Relational Self

Traditionally, the individual self is characterized by an autonomous, hyperrational being that exists in the world, but is not of it. Relationships are not seen as major components of self-actualization. The role of 'Others' varies depending on the individualist thinker, but the effect of the Other on the Self ranges from less important to completely insignificant.

Communalists theorize that the Self is comprised entirely of the environment around them; in other words, there is no 'individual' that creates themselves, only one that is created by others. Communal models of the self are thought to minimize autonomy by placing the community above the individual, usually to the person's detriment.

The Relational Self is a type of communalism rooted in feminist theory. It emphasizes the importance of relationships in moral and ethical development without denying individual autonomy. An individual does not exist in a vacuum, the context they live in shapes how they develop but it is not all they are.

Using philosophical research, I discuss the origins of the Relational Self and how it serves as a contrast to traditional individualism. I conclude with a defense of why this particular model of self is beneficial to individual well-being using a more psychological lens.

Sponsor: Isaac Young

Richardson Auditorium, Morse-Ingersoll Hall, 1:05-1:30

Kitana Gulotta '25

Beloit, Wisconsin

Majors: Psychology; International Relations

Minor: Spanish

Generational Shifts in Familism and Healthcare Decision-Making in the Latino Community

Familism, a core cultural value in the Latino community, emphasizes family loyalty, collective decision-making, and prioritizing family needs. This study examines how generational differences influence family involvement in healthcare decisions among Latino individuals in the United States. To explore this, I conducted a survey with Latino populations. The survey assesses attitudes toward familism and preferences for family involvement in healthcare decisions across hypothetical medical scenarios. This research aims to provide insight into the evolving role of familism in healthcare decision-making.

Sponsor: Jingjing Lou

Room 402, Sanger Science Center, 1:05-1:30

Sydney Harbison '25

Rockford, Illinois

Majors: Education and Youth Studies; Creative Writing; Literary Studies

Importance of Reading and Writing Every Day in School

The objective of my research was to find the reasons behind low reading levels in students at the primary and middle school level. I have been able to observe reading intervention classes at the middle school level. I have also conducted my own research of peer-reviewed sources. And the main conclusions are drawn that the socioeconomic situation of the family has a great impact on students reading literacy as well as parents' education and reading aloud to a child at the preschool age. Students high achieving in reading literacy usually like reading for their own enjoyment and come from families where parents spend a lot of time on reading. It is highly encouraged that students need to be reading at home and in the classroom.

Sponsor: Claire Milsted
Tara Harrison, DVM (North Carolina State University)

LITS Classroom 203, Library, 11:05-11:30

Helena Harrison '25

Chapel Hill, North Carolina

Majors: Biochemistry; Health and Society

Evaluation of Hair Cortisol of Wild Carnivores in Eastern North Carolina

This study establishes a baseline of cortisol levels for the free-ranging red wolf, coyote, and bobcat populations in North Carolina. Cortisol has been evaluated in free ranging and animals under human care for many years to monitor evidence of stress. Using hair as a measurement of cortisol does not measure an immediate response to an acute stressor, rather it measures a more holistic approach of the animal's response over time to stress and its environment instead of only its response to the capture event. Increases in hair cortisol values have been found to be associated with animal welfare conditions such as nutritional, physical, and environmental stressors. Hair samples were collected as part of ongoing monitoring of red wolf populations, coyote management (Permit DO06162024-001) and bobcat radio collaring (Permit Protocol AC-AABQ5563).

It was found that the coyotes' cortisol levels were statistically significantly higher ($p=0.046$) than the red wolves in the same region. Cortisol values of all animals in this study were higher than what has been reported in the European grey wolf. The results from this study suggest that the coyotes, that have smaller home ranges than the red wolves, may be having increased stressful interactions than the red wolves or bobcats. Results from this study will further assist in carnivore management in North Carolina as well as have potential for future comparative work in red wolves managed under human care.

Sponsor: Laura Grube

Room 349, Sanger Science Center, 11:30-11:55

Ali Hasnain '25

Lahore, Pakistan

Majors: Quantitative Economics; Political Science
Minor: Finance

Wealth Building and Investment Strategies: Insights from A Private Wealth Management Experience

During my internship at Blueprint Wealth Advisors, a private wealth management firm with offices in Chicago, Rockford, and Madison, I worked closely with senior advisors to develop tailored investment strategies that ensure both wealth preservation and growth for clients. This experience provided hands-on exposure to portfolio management, risk assessment, and strategic financial planning.

My role involved analyzing and managing a diverse range of financial instruments, including exchange -traded funds (ETFs), stocks, bonds, annuities, mutual funds, life insurance products, and structured finance notes, while working with over a hundred million in client portfolios. Additionally, I gained valuable experience in tax-efficient investing, particularly through tax-loss harvesting techniques, as well as managing Roth IRAs and traditional IRAs to optimize long-term financial security for clients.

This internship deepened my understanding of how finance operates in generating and sustaining wealth, emphasizing the importance of risk-adjusted returns, asset allocation, and tax strategies in private wealth management. Through this experience, I developed key analytical and strategic skills that are essential for navigating the complex landscape of wealth advisory services.

This presentation provides insights into the practical applications of wealth management, the strategic decision-making process behind investment portfolios, and the role of financial advisors in helping clients achieve their financial goals. Additionally, it highlights key financial decisions that college students and recent graduates should consider early in their careers to build a strong foundation for long-term financial stability.

Sponsor: Joseph Derosier

Weeks Lounge, Pearsons Hall, 1:05-1:30

Ela Heywood '26

Providence, Rhode Island

Majors: International Relations; Critical identity Studies

Minors: Biology; French

Birds and People: An Exploration Of Africa's Avians, Anti-Colonial Justice and More-than-Human Politics

This past summer an expedition took me to three African countries, following the migration pattern of one particular and endangered species of bird, the African Grey Parrot. My experience as a field assistant expanded my horizons of Wildlife Care, the importance of different species to different communities and historical relationships between human and fauna across the continent of Africa.

I accompanied Brown University Professor of Environmental History, Dr. Jacobs as she aimed to finish her book *A Global History of the African Grey*. Dr. Jacobs' work focuses on non-human or more-than-human politics of the environment and animals as the actors of these politics.

This research challenges and shifts the spotlight of human supremacy in history and storytelling, centering actors like chimpanzees, insects and birds. In these four weeks in Uganda, Ghana, and Liberia wildlife took over my life. From living in undisclosed locations to working with incredible birders, specialists, and wildlife veterinarians, I was trusted to conduct interviews, build trust and be a responsible member of the team. This opportunity illuminated the efforts and achievements of international conservation movements on both the micro and macro level. My time on this trip illustrated the many capacities of international work, social science research, environmental studies, and the vast impact of conservationist policy as anti-colonial justice for the quality of life of ancient fauna like the African Grey.

Sponsor: Suzanne Cox

Room 402, Sanger Science Center, 11:30-11:55

Sam Irwin '25

Eureka, Missouri

Majors: Cognitive Science; Psychology

Housing Discrimination and the Implications of Associating Technology with Neutrality in the Age of Algorithms

Technology is often perceived and labeled as less emotional, more objective, or neutral, and this enables a strong misconception of the reality. Especially in a time where artificial intelligence (AI) algorithms are weaved into numerous areas of life, this illusion can backfire on exactly the people these technologies have been created to aid. It has been discovered that algorithms can preserve, display, perform, and amplify discrimination towards the populations they are interacting with, sometimes in ways that are not only hidden to the user but unclear to the creator. Because of this, I decided to take a psychological approach to studying algorithmic bias by exploring what I estimate to be a major enabler of

the problem: preconceptions about algorithms.

Specifically, I conducted an exploratory study seeking to understand perceptions of algorithmic neutrality in housing discrimination among students, faculty, and staff at Beloit College. The anonymous participants were exposed to news clips about housing discrimination and then asked brief questions related to the fairness and trustworthiness of an algorithm versus a human and asked to indicate their preference for an algorithmic (vs. human) loan application evaluator. Demographic factors including financial bracket, education level, age, gender identity, and cultural identity were also collected.

As algorithms continue to make their way into tenant-screening processes, mortgage loan approval processes, and marketing tactics for online real estate ads, it is crucial to consider how such implementation can work against health equity and social justice. It is also relevant to consider how regarding technology as objective can enhance the probability of such issues. Although the current study explored perceptions of AI algorithms in light of housing discrimination, algorithmic bias is not limited to housing and has been found in criminal sentencing as well as job hiring, screening, recruitment, and the like. The results of my study are discussed.

Sponsor: Joseph Derosier

Weeks Lounge, Pearsons Hall, 11:05-11:30

Grayson Jensen '25

Minneapolis, Minnesota

Majors: Creative writing; Greek and Latin studies
Minor: Medieval studies

(Un)gendered Saints: The Embodiment of Medieval Asexuality

My presentation explores the embodied asexuality of saints in medieval hagiography (literature about saints' lives) who have previously been interpreted as transgender or translike figures. In the stories of St. Marinus and St. Eufrosine-Emerald, both individuals flee from unwanted marriages, enter monasteries with new names, and are accepted by those around them as men/eunuchs until death. Their lived and perceived gender expressions challenge modern notions of transness and the gender binary, offering a view into the (un)gendered experiences of medieval Christian saints that is tied to notions of chastity, spirituality, and divine androgyny.

My research draws from studies of Roman gender structures in Ovid's *Metamorphoses*, asexuality and divine androgyny in the Middle Ages, as well as medieval perceptions of the asexual, ungendered, yet desirable bodies of eunuchs. Additionally, I ask readers to question when it is constructive to apply modern queer terminology in premodern contexts and when it may be counterproductive.

Sponsor: Christopher Fink

Impact Beloit Classroom 109, Library, 1:55-2:20

Rut Jimenez '25

Chicago, Illinois

Major: Creative Writing
Minor: Journalism

Voxlock: A Dystopian Tale of Women's Right (Senior Creative Writing Reading)

As part of my senior reading in creative writing, I showcase one of my short stories, "Voxlock."

This dystopian short story is set in a future where women are forced to live in quiet submission. After their voices were classified as dangerous and erratic, all women were required to use a metal collar called Voxlock. This apparatus, designed to control speech, ensures that no woman speaks without a man's permission.

This reading explores the themes of oppression, agency, and power. It also discusses the extreme measures society has taken to control women's voices.

Sponsor: Kevin Smith

Room 349, Sanger Science Center, 1:05-1:30

Aaditya Joshi '25

Jalgaon, Maharashtra, India

Majors: Quantitative Economics; Biochemistry
Minor: Finance

Fed's QE Shockwaves: Impact on Polish Financial Markets?

The COVID-19 pandemic prompted central banks to implement unprecedented monetary policies to stabilize financial markets. This study investigates the impact of the U.S. Federal Reserve's quantitative easing (QE), specifically its purchases of mortgage-backed securities (MBS), on Polish financial asset prices.

Utilizing a panel dataset comprising 30 financial firms over 28 quarters (2017–2023), this analysis employs a Fixed Effects (FE) model to examine this relationship while controlling for European Central Bank (ECB) asset purchases and macroeconomic factors. The findings reveal that the Fed's QE had a statistically significant and positive effect on Polish financial asset prices, whereas ECB asset purchases did not exhibit a meaningful impact. These results underscore the spillover effects of U.S. monetary policy on emerging European markets.

Sponsor: Amy Tibbitts

Weeks Lounge, Pearsons Hall, 9:35-10:00

Margaret Joyce '26

Madison, Wisconsin

Majors: Media Studies; Biology
Minor: Spanish

La importancia de la fotografía y el dibujo en el cine español

Las fotos tienen un gran significado en nuestras vidas. Ya sean apreciadas o destruidas, capturan recuerdos del pasado. Gracias a su naturaleza visual, son perfectas para transmitir mensajes simbólicos en el cine. Si las fotos son canales únicos de la realidad, los dibujos son interpretaciones de dicha realidad. La memoria es subjetiva, distorsionada por los traumas y la perspectiva de los personajes. Las fotos y los dibujos ayudan a explorar la memoria tanto visual como artísticamente. En esta presentación, analizo cómo se utilizan las fotos y los dibujos como recursos narrativos a través de ejemplos del cine español famoso.

Sponsor: Kevin Smith

Room 349, Sanger Science Center, 10:00-10:25

Helmi Kawsar '27

Dhaka, Bangladesh

Majors: Quantitative Economics; Biochemistry
Minor: Marketing

The Affordable Care Act for Artists: A Catalyst for Creativity?

Since last summer, I have been working with Professor Kevin Smith to examine the effects of the Affordable Care Act (ACA) on artists. With expanded insurance coverage, artists' wages have increased by 5.8%, and unemployment among artists has declined by 0.7%. These changes have allowed artists to dedicate more time and resources to their craft, potentially influencing artistic output.

As a research assistant, I have conducted literature reviews, analyzed data, and assisted in designing a survey to gather insights directly from artists. In this presentation, I discuss our research findings, the methodology, my experience in securing this research position as a freshman, and the next steps forward.

Sponsor: Pablo Toral

Richardson Auditorium, Morse-Ingersoll Hall, 9:10-9:35

Ezekiel Kingsbury '25

Aurora, Colorado

Majors: Political Science; Psychology

Confessionalist Protestantism in American Public Life

The political philosopher Jean Bethke Elshtain contends that American democracy is deeply intertwined with religion, yet certain nuances of this relationship remain understudied. Most research on Protestantism's political impact has centered on the evangelical/mainline divide, neglecting the critical distinction between pietist and confessionalist traditions. Pietists prioritize conversion and activism, driving broad public engagement, while confessionalists focus on doctrine and ritual, often eschewing direct political involvement. This dichotomy may explain differences in political behavior and ideological alignment within American Protestantism, yet it has received little scholarly attention.

This study, based on my political science honors thesis, addresses the gap by examining how these traditions shape political participation and policy preferences. Using data from the General Social Survey, Protestant respondents are categorized as pietist or confessionalist based on religious practices, and their political behaviors are analyzed. Findings could reveal overlooked dynamics in Protestant contributions to ideological polarization and democratic engagement, offering new insights into the interplay of faith and politics.

Sponsor: Isaac Young

Richardson Auditorium, Morse-Ingersoll Hall, 10:25-10:50

Ezekiel Kingsbury '25

Aurora, Colorado

Majors: Political Science; Psychology

Associations Between Tradition-Oriented Religiosity and In-Group Charitability

Prior research has demonstrated a positive relationship between religiosity and prosocial behavior, but these effects are primarily observed in individuals involved in public-facing and higher-commitment religious practices. This suggests that the prosocial-religious link may be due to the actions, rather than the beliefs, associated with traditional religious practices.

Using Saucier and Skrzypińska's (2006) framework, this study hypothesizes that tradition-oriented religiosity (TR) will show a stronger positive relationship with in-group charitability than out-group charitability and that TR will surpass subjective spirituality (SS) in both in-group and out-group charitability. Participants are presented with scenarios measuring their willingness to engage in charitable behaviors toward in-group or out-group members (based on religious or spiritual affiliations). Afterward, participants' levels of TR and SS is measured using Saucier's (2000) alpha and delta scales, respectively. Reputational concerns within religious/spiritual groups and feelings that the group is "tight-knit" is measured to test for mediation in the case there is a significant relationship between TR/SS and in-group/out-group charitability.

Daisy Kleinhoffer '25

Minooka, Illinois

Majors: Environment Geology; Biology; Japanese Language and Culture

**Fluid Inclusion Analysis of the White Rock Pluton Contact Aureole:
Distinguishing Fluid Flow Events**

In contact metamorphism, intrusive bodies can introduce fluids that trigger chemical reactions and mineral re-equilibration in rocks. When local rocks are permeable, plutons can drive hydrothermal activity causing changes in rock composition called metasomatism. Fluid inclusions, tiny pockets of liquid trapped within minerals, serve as time capsules that preserve the physical and chemical conditions of their environment at the time of their formation. Analyzing fluid inclusions in the Pennsylvanian-Permian-aged Maroon Formation can provide insight into the broader understanding of hydrothermal systems around igneous intrusions. The White Rock Pluton contact aureole in the Elk Mountains of Colorado is an example of fluid-induced contact metamorphism in which a pluton intruded Maroon Formation, which consists of carbonate-bearing sandstone and siltstone that underwent significant hydrothermal alteration and metasomatism through fluid flow. The composition and source of the fluids driving metamorphism remain unknown. This study aims to analyze the thermal characteristics of fluid inclusions to determine potential sources and evidence of past fluid flow events.

Petrographic analysis of these rocks reveals that mineral assemblages have all undergone alteration. Fluid inclusions are predominantly secondary and isolated fluid inclusions, primarily found in quartz. Preliminary homogenization temperatures of secondary fluid inclusions in quartz likely reflect formation during late, post-intrusion fluid flow events, with temperatures at a minimum of 160°C upwards of 205°C.

Daisy Kleinhoffer '25

Minooka, Illinois

Majors: Environmental Geology; Biology; Japanese Language and Culture

**Impact of PCB-126 on Caspase-9 Gene Expression and Immune Function on
Northern Leopard Frogs (*Lithobates Picipiens*)**

Global amphibian populations have experienced significant declines in recent decades due to environmental contaminants. Polychlorinated biphenyls (PCBs), despite being banned in 1979, remain a persistent environmental pollutant with known toxic effects on amphibians. Because of its co-planar structure, PCB-126 binds to the aryl hydrocarbon receptor (AhR) and increases T-cell apoptosis.

Prior research has shown PCB-126 exposure during the tadpole stage decreases immune function in post-metamorphic frogs, yet the mechanism underlying this life-stage specific immunotoxicity remains unclear. To investigate these mechanics, northern leopard frog (*Lithobates picipiens*) tadpoles, a species native to Wisconsin, were exposed to PCB-126-contaminated diets at concentrations of 0 ng/g (control), 5 ng/g, and 10 ng/g until the development of the hindlimb knee joint (~Gosner Stage 37). Then the kidney and liver were collected from these tadpoles, because these organs play an important role in immune system function.

Given that the caspase-9 gene plays a key role in apoptosis, we hypothesized that PCB-126 exposure would increase caspase-9 transcription, leading to more apoptotic activity in immune cells, thus weakening the immune system. Gene expression analysis is still ongoing, with successful RNA extraction and high-quality RNA obtained. However, cDNA synthesis and amplification has not yet been successful and troubleshooting efforts are currently underway. This study aims to clarify the effects of PCB-126 on amphibian immune development, contributing to a border understanding of how environmental contaminants influence amphibian populations.

Sponsor: Heath Massey

LITS Classroom 203, Library, 10:25-10:50

Ryan Kopp '25

Pinole, California

Majors: Philosophy; Business Economics

Minor: Finance

The Dual Planes of State Power: International Anarchy and Political Liberalism

Political theory explores what the role of government, or the state, should be and to what extents its power should reach. However, the tenets of two different schools of thought illuminate a contradiction between the aims of the state and its nature. Theories in political liberalism view the primary role of the state as serving the will of the people and solving the problems associated with leaving society in a state of nature. Meanwhile, theories of international anarchy view states as being in a state of nature with each other.

I argue that these two views when considered valid create a conflict of interest between the interests of the people and the interests of the state. If the state has its own will and is positioned in a state of anarchy with other states, then some of the same issues of the state of nature will apply despite the state being created to solve them. The state's considerations then operate on two planes: between the state and the people, and between the state and other states. Does the nature of state power, agency, and international anarchy then undermine the aims of government? My thesis explores the answer to this question and what solutions to these problems may look like.

Sponsor: Sylvia Lopez

Weeks Lounge, Pearsons Hall, 1:30-1:55

Kristen Anna Laiosa '27

Milwaukee, Wisconsin

Majors: Environmental Studies and Justice; Creative Writing

Green Spaces, Health Disparities, and Environmental Inequities: Lack of Access to Nature and its Implications

Nature is integral to human health. In a rapidly developing and urbanizing planet, green spaces are one way to boost health and wellbeing in urban areas. Green spaces come in many different forms, and can present as parks, community gardens, fields, as well as other outdoor spaces. Green spaces have been shown to greatly improve physical, mental, and social health in communities. Unsurprisingly, neighborhoods that contain fewer green spaces see higher rates of illness due to things such as air pollution, as well as higher rates of health issues in general. While green spaces are an essential public health initiative, they are treated as a commodity, and as such, there is often a lack of green spaces and natural environments in lower-income communities, especially within historically Black neighborhoods.

Through this research project, I explore how environmental injustice, health inequities, and systemic racism intersect across both the United States and the world. While using case studies in the United States as a jumping off point, I also analyze and dissect health and environmental inequities in the context of indigenous peoples and perspectives, and explore how green spaces (or lack thereof) impact people against the globe, with a specific focus on treatment of indigenous communities and the environment in Latin America.

Ethan Larson '25

South Beloit, Illinois

Majors: Philosophy; Computer Science

Object-Oriented Ontology: Games, Films, and Ourselves

Object-Oriented Ontology (abbreviated as OOO) is a contemporary realist movement that is challenging long-standing anthropocentric biases in continental philosophy. Though the world is stuffed with objects, the continental tradition has largely kept the human subject at the center of serious ontological thought. OOO aims to reorient such attitudes.

OOO argues that we mistranslate objects when we claim to have knowledge of them. To gain greater understanding, OOO favors aesthetics as the best approach to understand objects in a non-literal way. In an aesthetic experience, we enter a new mode of seeing and understanding, becoming an actor in the experience and supporting the qualities of the objects we seek to understand.

In my exploration of Object-Oriented Ontology, I examine art forms like games and films to further examine our place alongside objects. I argue that we end up losing the notion of "ourselves" in aesthetic experiences and come to understand and appreciate objects more fully amidst our mutual withdrawnness.

Sponsors: Pablo Toral and Gregory Koutnik

Richardson Auditorium, Morse-Ingersoll Hall, 3:00-3:25

Camille Ledoux '25

Saint-Hyacinthe, Quebec

Majors: Political Science; Environmental Justice and Citizenship

Minor: Law and Justice

Democratic Warfare and the Destruction of the 20th Century

States build military power to further their foreign policy when diplomacy fails. The United States made extensive use of its military around the world during the Cold War (1945-1989.) This presentation, based on my International Relations honors thesis, studies the interplay of U.S. military power with the government institutions and minority communities of the Philippines and Vietnam during the U.S. interventions. It focuses on the enormous environmental impact of the U.S. military operations in Vietnam and tries to tease out the policy decisions that made the U.S. adopt a military strategy that carried such a high environmental cost. The thesis also studies the impact of environmental destruction on local populations, and how environmental degradation stressed other human rights crises.

In his classic book on international relations, "The Twenty Years' Crisis," Edward H. Carr argues that the success of a country's foreign policy is a function of its ability to master three types of power: military, economic, and power over opinion. My research uses this theoretical framework as the basis to inform my analysis of the evidence and assess whether U.S. failure in Vietnam was the result of a disconnect between military tactics and the loss of power over public opinion that came from evidence of the human and environmental toll of these tactics. My findings highlight the difficult balancing act of democratic societies when they advance their foreign policy via military means.

Sponsor: Pablo Toral

Weeks Lounge, Pearsons Hall, 1:55-2:20

Camille Ledoux '25

Saint-Hyacinthe, Québec, Canada

Majors: Political Science; Environmental Justice and Citizenship

Minor: Law & Justice

Comparative Analysis of Two Contending Narratives about the Role of Nuclear Energy in the Fight against Climate Change

In 2025, we are in the midst of a green energy revolution that will move societies away from fossil fuels such as gas, oil, and other polluting sources of energy due to their environmental impact, toward renewable sources thanks to investments in the development of new technology. To facilitate this energy transition at a global level, the environmental climate regime organized around the United Nations Framework Convention on Climate Change (UNFCCC) is considering nuclear power due to its ability to produce reliable energy without greenhouse gas emissions.

Incidents at nuclear power plants such as those at Three Mile Island in the 1970s in the U.S., Chernobyl in Ukraine in the 1980s, and Fukushima in Japan in the 2000s, combined with the use of nuclear bombs for military purposes in Japan during World War II, still generate resistance to nuclear energy in ways that renewable sources do not.

This presentation, informed by my Environmental Studies capstone project, reviews two narratives about nuclear energy. On the one hand, the "progressive" and "innovative" narrative highlights the pressing need to invest in nuclear energy to mitigate climate change, as nuclear power plants can have the generation capacity to retire many coal and gas power plants. On the other hand, the "preservationist" or "cautious" narrative focuses on the potential human and environmental destruction that comes with nuclear accidents. My presentation ends by assessing the role that nuclear energy is likely to play in decarbonizing economies around the world as societies pursue their green revolution.

Sponsor: Olga Ogurtsova

Weeks Lounge, Pearsons Hall, 11:30-11:55

Anna Lehne '25

Grantsburg, Wisconsin

Majors: Philosophy; Russian Language and Culture

Philosophical Perspectives on Viktoria Tokareva's Novella *First Try*: A Critical Analysis

Literature often serves as a jumping off point for philosophical thought, revealing deeper truths about human nature and existence. Victoria Tokareva's novella *First Try* paints a picture of the life from childhood to death of the main character Mara. Examining this work of fiction through a philosophical perspective provides insights in fate, morality, and identity. This presentation explores how Tokareva's work engages with existential and moral questions, illustrating the benefits of reading literature through a philosophical lens.

Sponsor: Jingjing Lou

Impact Beloit Classroom 109, Library, 9:10-9:35

Didac Llado Piquer '25

La Vall d'Uixó, Spain

Majors: EDYS; Spanish

Studying in My Home Country as a Foreigner

Last semester, I studied abroad in Alicante, Spain. Spain happens to be my home country, and in fact, Alicante is my region. I had to be in different programs: the American one and the domestic students one.

I wish to share my not-so-often experience with everyone who is interested in knowing how it's being a foreigner in your own culture, but at the same time, having been my culture during most of my lifetime.

Sponsor: James Rougvie

Room 249, Sanger Science Center, 9:35-10:00

Phoebe Long-Sires '25

Washington, District of Columbia

Majors: Geology; Japanese Language and Culture

Feldspar Alteration Mechanisms in Arc Volcanic Rocks from the Mount Morrison roof pendant in the Sierra Nevada Range, Eastern California

In east-central California, Triassic to Jurassic metavolcanic rocks occur as roof pendants that were intruded by the northwest-trending, predominantly Cretaceous Sierra Nevada batholith. Throughout the Seirran arc, widespread metavolcanic rocks display complicated alteration histories including feldspar replacement. Understanding these alteration histories is important because they inform our ability to infer igneous origins, deformation history, paleogeography, and potential mineral deposits in arc settings.

This project aims to understand the reaction mechanisms that altered feldspars during low-T metasomatism and those related to later contact metamorphism of the quartz latite tuff of Skelton Lake. Feldspars in the tuff have non-igneous compositions but have igneous-like zoning patterns. Using scanning electron microscopy (SEM) and cathodoluminescence (CL) imaging, I characterized feldspar textures and zoning patterns to investigate this contradiction. Interface-coupled dissolution-precipitation (ICDP) is a reaction mechanism in which the dissolution of a mineral is coupled with the simultaneous precipitation of a replacement mineral on the dissolved surface. A lack of zoning and the presence of microporosity are criteria for ICDP.

All samples studied showed feldspars both with and without compositional zoning. Samples with concentric, igneous zoning, do not exhibit signs of replacement, such as microporosity which would suggest an ICDP reaction mechanism. On the other hand, many feldspars lack zoning and locally display microporosity and distinct compositions. Areas with higher concentrations of micropores are generally compositionally distinct in the SEM images, indicating the replacement of Ba-rich orthoclase by Ba-poor orthoclase likely during early low-T metasomatism and orthoclase by plagioclase in later metamorphism. Whereas some grains are consistent with ICDP reaction mechanisms, others may retain some features of original igneous grains.

Sponsor: Charles Westerberg

Richardson Auditorium, Morse-Ingersoll Hall, 10:00-10:25

Julianna Longhenry '25

Los Angeles, California

Majors: Sociology; Ancient Mediterranean Studies

Rituals in Sociology of Religion: Organized Cohesion

In the past couple of years, attention has been paid to decreases in social trust and increases in feelings of anxiety and depression. At the same time, the decline of religious attendance and belief draws further attention and instigates discussion. Contemporary analysis of religion tends to focus on individual viewpoints and decisions.

This research revisits and applies a “social functions of religion” perspective to contemporary religious practices (Durkheim 1915). These social functions are performed in rituals within religious services. Using the participant-observer method, I attended fourteen Protestant churches in Glasgow, Scotland to see how these social functions are currently being performed. The specific rituals within services outlined in my field notes include music, communion, and organization of scripture. Each of these rituals connects with the social functions of religion and can provide a sociologically informed pathway to address increasing levels of anxiety and depression.

Sponsor: Ben Stucky

Room 249, Sanger Science Center, 1:30-1:55

Ethan Moore '25

Elgin, Illinois

Majors: Math; Physics

Collatz Conjecture: Stopping Time Patterns of Prime Numbers and Their Powers

This paper focuses on the integer sequences generated by the Collatz Function. More specifically, sequences generated using prime numbers and powers of prime numbers as initial inputs. These sequences are then computationally analyzed to determine stopping times. A graph of these stopping times versus the power the prime number is raised to reveals a roughly linear increase in stopping times. A more focused analysis of 2^n and 3^n indicates a more structured pattern. While 2^n can easily be formalized and proven, 3^n is more complicated and generates groups of sequences that express early alignment and synchronization. The 3^{10} sequence also appears to undergo a "pseudo-synchronization" with 3^{11} , 3^{12} , and 3^{13} . This "pseudo-synchronization" is analyzed further in other sequence groups.

Sponsor: Ben Stucky

Room 249, Sanger Science Center, 1:55-2:20

Renée Nguyen '27

Hanoi, Vietnam

Majors: Mathematics; Physics

A Survey of the Poincaré Conjecture: Exploring Topological Manifolds

"If an object looks like a ball and acts like a ball, is it a ball?" In 1904, when a French mathematician named Henri Poincaré raised a mathematical inquiry that could later be paraphrased as the aforementioned question, he formulated one of the most challenging mathematical problems which, for most of the 20th-century, remained unsolved. In this project, I take a deep dive into topological spaces and algebraic topology in order to understand the properties and behaviors of three-dimensional manifolds—mathematical ideas that surrounded the Poincaré Conjecture.

My presentation explores the intricacies between algebraic and geometric topology, with the introduction of fundamental groups, classification of spaces, and fundamental concepts that laid the foundation for Perelman's proof, which won the Fields Medal in 2006 and Clay Millennium Award in 2010. The proof of this conjecture involved the use of the partial differential equation Ricci flow in Riemannian metrics, which has indirect implications in quantum spacetime and renormalization in quantum mechanics. I attempt to provide an intuition for understanding Ricci flow and suggest correlations to quantum field theory.

Sponsor: Amy Tibbitts

Weeks Lounge, Pearsons Hall, 10:00-10:25

Fernando Orbezo '27

Beloit, Wisconsin

Majors: EDYS; Spanish; Animated and Sequential Art

Diego Boyd LaSalle '25

Ann Arbor, Michigan

Majors: History; Studio Art

Minor: Spanish

Ghosts, Haunting, and Memory in Hispanic Films

We look at Hispanic cinema through the spectral lens. The haunting of the past, spaces of memory, and ghostly figures can all be found in a range of well-known films in the Hispanic world, including *Volver*, *Crías Cuervos*, *La Llorona*, *Pa Negre*, *Biutiful*, and *Madres Paralelas*.

We examine these films and analyze how their characters try to struggle their way out of a past that does not let them rest, how they encounter manifestations of physical or metaphysical spaces from dreams and memories, and even enigmatic individuals that personify ghostly forces. Through this ominous perspective, these films can tell us about our world, lives, and selves.

Sponsor: Joe Bookman

Impact Beloit Classroom 109, Library, 3:00-3:25

Allison OverKamp '25

St. Peters, Missouri

Majors: Media studies; Creative writing
Minors: Theater; French

Kale Taft '25

Boston, Massachusetts

Majors: GLAM; Media studies

Julianna Longhenry '25

Los Angeles, California

Majors: GLAM; Sociology

Things I Learned While Shooting an Analog Horror Series

Through the Haseltine Prize, we embarked on a three-week journey from Missouri to Boston, down to Washington DC, and back to Beloit. We shot a variety of footage for an analog horror series we designed along the way, with many ups and downs. Loosely following the Appalachian Trail in the wake of a record-breaking East coast snow storm, the journey was perilous, but rewarding. This presentation covers the events of our road trip, the footage we collected, and what we learned throughout this thoroughly unique adventure.

Sponsor: Isaac Young

Poster Session: Second floor bridge, Science Center, Drop in 10:45-11:45

Kelly O'Brien '25

Chicago, Illinois

Majors: Psychology; Cognitive Science

The Impact of Elaboration on Memory Related Tasks

Memory strategies are very useful tools for improving recall, but they can also influence the formation of false memories. This study aims to explore the connection between metamemory strategies and the phenomenon of suggestibility and false recall. Participants are randomly assigned to either the control condition (rehearsal) or the experimental condition (elaboration). I hypothesize that participants who use elaboration are more likely to recall critical (false) words compared to those using rehearsal. This expectation is based on prior findings that elaboration strengthens associations within memory, potentially affecting the influence of external suggestive cues (Chun & Most, 2021). Rehearsal on the other hand, which is focused on surface-level repetition, is less likely to be susceptible to suggestibility due to the lack of semantic association and in turn, would recall less critical (false) words. The results of this study could provide insight into instances when using a metamemory strategy (i.e., elaboration) is advantageous or disadvantageous. Understanding how different memory strategies impact suggestibility could lead to more effective cognitive interventions aimed at improving recall accuracy while addressing the malleability of memory.

Sponsor: Rachel Bergstrom

Room 402, Sanger Science Center, 10:00-10:25

Sophia Papas '25

Chicago, Illinois

Majors: Biology; Political Science

Minor: Spanish

An Up-And-Coming Career in Medicine: My Journey to Physician Assistant School

"An Up-And-Coming Career in Medicine: My Journey to Physician Assistant School" is designed for students interested in going into healthcare or exploring a new career option. This presentation gives a brief idea of what a Physician Assistant (PA) is, along with the requirements to become one. I take the audience through my journey to PA school while explaining key aspects of the application process. While everyone's journey is different, my goal is to highlight what PA schools look for in applicants and how you can become a competitive candidate by learning through my experience.

Sponsor: Gregory Koutnik

Impact Beloit Classroom 109, Library, 10:25-10:50

Ava Parr '25

Rockford, Illinois

Majors: Political Science; Business Economics

Living and Learning Abroad: Lessons from Europe

The liberal arts education at Beloit emphasizes breadth and depth through our studies, and my study abroad semester in Europe allowed me to put this into practice. Through my learning in and outside of the classroom, I was exposed to lessons on identity formation, memory practices, and how history can inform present rhetoric and actions. Problem-based learning in the classroom enabled me to think critically about complex ideas through discussion and student leadership. Educational trips, peer perspectives, and everyday interactions influenced how I assess political and civil institutions in the United States and beyond.

My time in Europe inspired my senior thesis, where I analyze the impact of the Cold War and diverging ideologies on contemporary Euroskeptical attitudes. This presentation reflects on how my semester abroad enriched my understanding of global dynamics and fueled my academic focus on human rights and international politics in terms of integration, nationalism, and diplomacy.

Sponsor: Pablo Toral

Richardson Auditorium, Morse-Ingersoll Hall, 2:35-3:00

Rafaella Pavarini de Souza '25

São Paulo, Brazil

Majors: International Relations; Quantitative Economics

Trump's New Wave of Protectionism and Its Impacts on Latin America

"To me, the most beautiful word in the dictionary is tariff." This statement by Donald Trump in October 2024 underscored a broader and overwhelming shift in U.S. trade policy from free trade to protectionism, raising questions about the motivations behind the president's proposed tariffs on key trading partners and allies, which range from 25% to 100%.

Historically, protectionist measures have emerged in response to economic crises, such as the 1930s stock market crash, Cold War-era fears of communist expansion, or the structural reforms that followed the move away from the import-substitution-industrialization (ISI) model in the 1980s and 1990s. Yet, given the absence of comparable conditions in the present global landscape, Trump's renewed push for aggressive tariff policies demands closer examination.

This presentation, based on my international relations honors thesis, analyzes the underlying motives behind these tariffs and their potential implications, particularly for Latin America and, more specifically, my home country of Brazil. By exploring the political objectives driving these tariffs and assessing their potential consequences, this study aims to provide insight into the broader geopolitical significance of Trump's economic policies and the role that trade strategy plays in it.

Sponsor: Robin Zebrowski

Richardson Auditorium, Morse-Ingersoll Hall, 1:30-1:55

Satirtha Saha Protya '25

Khulna, Bangladesh

Majors: Biochemistry; Cognitive Science; Data Analytics

A Comprehensive Guide to Artificial Intelligence Enhanced Neuroimaging for Medical Diagnosis

The integration of artificial intelligence (AI) with neuroimaging presents a transformative approach to medical diagnostics, enhancing the accuracy and efficiency of disease detection and prognosis. This work provides a comprehensive guide on the application of AI techniques to neuroimaging data, focusing on the entire workflow from data acquisition and preprocessing to model development and evaluation.

I explore various neuroimaging modalities, including MRI, fMRI, and PET, and discuss the essential preprocessing steps to prepare these images for AI analysis. I also discuss several key tools and techniques for neuroimaging data manipulation and visualization. Additionally, I examine the use of deep learning models, particularly convolutional neural networks (CNNs), in interpreting neuroimaging data for diagnostic purposes. Practical applications of AI/ML in Alzheimer's disease, epilepsy, Parkinson's disease, and others are presented, showcasing the real-world impact of AI in medical diagnosis, prognosis, and treatment. Ethical considerations, including data privacy and algorithmic bias, are also addressed. This project aims to serve as a valuable resource for researchers and practitioners, fostering further advancements in the interdisciplinary field of AI and neuroimaging.

Sponsor: Ron Watson

LITS Classroom 203, Library, 1:05-1:30

Samantha Quintana '25

Santa Fe, New Mexico

Majors: Health and Society; Education

ACEs and Education: An Exploratory Analysis of Care and Community Abstract

This exploratory analysis combines qualitative and quantitative measures to analyze the impact of Adverse Childhood Experiences (ACEs) and educational outcomes in the Southwest. Using as a basis an initial study conducted in 2023 at Beloit College through the Ronald E. McNair scholars program surrounding ACEs and educational outcomes within New Mexico, the analysis has combined the results of the study and additional research within the past two years. The small-scale study used a wide range, semi-blind sample of residents of New Mexico aged eighteen to twenty-eight, and respondents from various backgrounds, focusing on schooling and home life.

The present analysis has gathered the mixed methods results of the study and recent data to further understand current policy in education and public health. The preliminary findings suggest that those with an ACE score above seven are more likely to have adverse educational outcomes and more instances of chronic illness. The findings create an opportunity for further conversation surrounding equitable education, healthcare, and community resources, as well as a potential for future work on accessible tools that support underserved communities.

Isabella Virginia Robinson '25

Hartford, Connecticut

Major: Philosophy

Minor: Political Science

A Twisted Ticket: How to Embrace the 'Discomfort Zone' while Studying and Traveling Abroad

Humans are majorly disconnected. People are addicted to their phones, deeply partisan, constantly in motion, and in denial of the need for cultural dialogue and healing. So how do we get closer to realness, to conversation and true connection (in a world that seems to want us farther from it)? Can we pursue this depth while traveling from place to place? I studied abroad and tried to find out.

Branching out from my home base in Berlin, where I studied, I sought meaningful interaction in protest camps in the Brandenburg forest, hostels in Morocco, mountain communities in Austria, and an organic farm in Italy. The formula I built for seeking realness is: First: follow passion. Why go through the process of building a relationship with something if you do not care about it? Start with a place or cause you are interested in. Two: find discomfort. The thing you care about will slowly show you its sore spots. Don't run, label them. Try to sit with it (this is what cultural anthropologist Anna Tsing calls the 'Discomfort Zone'). Three: communicate. Find a web of support and discourse for the passion and the pain. Four: modulate. If you can, take a break from the discomfort of a place or experience to promote healing. Then, come back to it. Five: leave the door open for the unknown. Low-key, deep relationships are unpredictable and not easy to squeeze into a formula. Growth looks different for everyone, so be open to it.

Why do all this? Why try to build a more meaningful relationship with our surroundings, with discomfort? Especially while studying abroad and traveling (a thing we are taught is supposed to be fun)? Because quick tourism, technology escapes, and conflict avoidance only feel good for so long. To repair our societal harm and disconnectedness, we owe it to our environments and ourselves to find that deep discomfort and embrace it.

Sponsor: Joy Beckman

Room 349, Sanger Science Center, 3:00-3:25

Niana Ashley Rooney '25

Brooksville, Maine

Majors: Creative Writing; Studio Art

Minor: Visual Studies

Tattoos: Stories From Beneath the Skin

Throughout history people have worn their stories on their sleeves in the form of tattoo body modification. Tattoos can serve to document personal growth, the overcoming of a traumatic event, and connections to family, friends or pets that are alive or have passed on. They may also simply be an appealing design. Tattoos can connect us to history and our ancestors, remind us of our heritage and culture, empower us to feel confident, and love parts of ourselves we might not have before.

My research has led me to discover the overwhelming number of stories throughout history that have led to the modern industry. All across the world people have practiced tattooing in one capacity or another for many different reasons, but the common thread is storytelling. In this presentation, I give a brief history of tattooing across the world, discuss tattooing in the South Pacific Islands and tattoos in popular media, and conclude the presentation with interviews of artists in the industry today.

Emeline Russell '25

Aberdeen, Washington

Major: Anthropology: Greek, Latin, and Ancient Mediterranean Studies
Minor: Museum Studies

Bread Stamps: Ancient Art Where You'd Yeast Expect It

My research centers around the larger ancient (3000 BCE - 200 CE) Mediterranean context of bread stamps and bread production for the development of a final written report. As a year-long capstone project for my anthropology major, I analyzed two ancient Mediterranean bread stamps from Beloit College's Logan Museum collection. In addition, I examined other bread stamp specimens in the Milwaukee Public Museum and a variety of artistic and literary representations of bread and grain in order to formulate a more holistic understanding of the societal implications of stamped bread than would be possible with archaeological artifacts alone.

To make my research more accessible to the general public and students interested in the nuance of everyday life in Antiquity, I worked with Nikita Werner, current curator of exhibits and programs at the Logan Museum of Anthropology to curate an online exhibit focusing on Bread Stamps in Antiquity.

Sponsor: James Rougvie
Ben Surpress (Trinity University)

Room 249, Sanger Science Center, 10:25-10:50

Lila Ryter '25

Gunnison, Colorado

Major: Geology

Using Drone Footage to Create 3D Models of Damage Zones to Understand Fault Evolution within the Sevier Fault Zone of Southern Utah

Modeling fault systems allows geologists to determine how faults evolve, and understand their behavior. Thus geohazards can be more accurately predicted and the resulting damages can be minimized. Damage zones, envelopes of fractures that surround the faults, are a large part of a fault system, and thus are something that has been intensely studied. The fracturing within damage zones increases permeability within a rock, which allows for greater groundwater flow rates, hydrocarbon migration, ore mineralization, and geothermal energy production potential.

In the Sevier fault zone in southwestern Utah, several normal faults are very well exposed. In the region of the tip of the Spencer Bench segment, I recorded fracture orientations and spacings along ground-based scanlines in the field, and used these to calculate fracture intensity and determine the clustering of fractures. Drone footage was used to create realistic virtual models of outcrops to perform similar calculations.

The data reveals that fault damage zone development is asymmetric within the Navajo Sandstone, with a wider damage zone in the hanging wall compared to the footwall. The data also reveals a higher intensity of fracturing within the hanging wall relative to the footwall, as well as a much higher intensity relative to fracturing associated with the transfer zone between this segment and a nearby fault segment. However, the fracture intensity of the tip zone is very similar to the fracture intensity of an area nearby that displays much greater displacement, suggesting that the majority of damage zone width and fracturing occurs early on in fault propagation. This allows geologists to utilize faults without much displacement for future research into fracturing and permeability.

Joya Saxena '25

San Diego, California

Major: Sociology

Minor: Political Science

A Stranger in My Backyard: Investigating Multiracial Students' Interactions with Race-Based Campus Clubs/Organizations

Race-based student programming has played an essential and integral role in helping students of marginalized backgrounds acclimate to a college environment throughout history. However, in mainstream discourse, the experiences, needs, and interests of multiracial students have merely been speculated but not empirically investigated. Clubs/organizations have been the primary avenue for students to make friends and be part of a tight-knit community outside the classroom. However, it is unclear to what degree multiracial students benefit from the programming of such clubs/organizations. Do these clubs and organizations adequately fill the needs of the multiracial student population, and what other resources exist to fill this gap?

In this qualitative study, I interviewed 5 multiracial students (students who identify with two or more races). Data collection is ongoing. Each interview lasted between 40 minutes and an hour, and each centered on the experiences of multiracial students, particularly regarding their identity formation before and during their tenure at Beloit College. They detailed how race-based clubs and organizations uplift multiracial identity for these students (or not), then troubleshoot areas of growth to encourage clubs and organizations to address the challenges they face in being a safe space for multiracial students. Participants were encouraged to share what initiatives will address these clubs' challenges and barriers. Results do not aim to blame or point fingers at particular clubs, organizations, or entities. Instead, it is about helping our community troubleshoot areas of growth in the practices of race-based student programming to create an inclusive campus for all students.

This project aims to benefit the Beloit College student community by centering and uplifting the voices, concerns, and interests of multiracial students on campus and providing clubs/organizations the tools they need to serve better, uplift, and embrace their multiracial constituents.

Alexxa Schubert '25

Anchorage, Alaska

Major: Biology

Minor: Kinesiology

Applying to Doctorate of Physical Therapy Programs and Next Steps

This research paper covers the process of applying to Doctorate of Physical Therapy (DPT) programs, what the programs contain as part of their three-year curriculum, and what are the type and purpose of different specialties within the physical therapy field. The method of information collection occurred through personal application experience as well as through individual research. The key parts of my individual experience with applying to DPT programs included observation hours, finding schools, applying through PTCAS, and my interviews. This also includes a description of the expected curriculum in DPT programs as well as the specialties that physical therapists can pursue after graduation. The information presented in this research paper is intended to help other people interested in physical therapy learn about the application process, feel more prepared for applying, and understand what to expect once they are attending a Doctorate of Physical Therapy program.

Eric Seo '25

Woodridge, Illinois

Major: Mathematics
Minor: Physics

Pinning Loops in Surfaces

Consider a triple-Venn-diagram composed of three distinct rubber bands (loops) lying on a corkboard. How many push pins are needed to ensure that the number of intersections between the bands, 6 in this case, cannot be minimized by dragging bands around the board. I explore the question of whether or not there exists an efficient algorithm that answers this question for any Venn-diagram-like shape made out of three loops. More specifically, given a trisimple triloop, a collection of three simple loops embedded in a surface, the problem of finding an optimal pinning set translates into a planar graph vertex cover, where solutions are computed in polynomial time.

Sponsors: Joshua Moore and Beth Dougherty

LITS Classroom 203, Library, 3:00-3:25**Samuel Shobert '26**

Sautee Nacoochee, Georgia

Majors: Political Science; Health and Society
Minor: European Studies

A Georgian in Georgia: The EU's Role in a Democracy at a Crossroads

I traveled to Georgia and Turkey during the 2024 Georgian parliamentary elections as I studied abroad with a focus on EU and German politics at Freie Universität in Berlin, Germany. The country's democratic trajectory faced significant challenges, marked by political polarization, suppression of opposition voices, and increasing hostility toward Western institutions. Large-scale Georgian Dream rallies, civil protests, police brutality, and restrictions on independent journalism highlighted the state's growing democratic backsliding. These developments occurred against the backdrop of Georgia's long-standing aspirations for EU integration, raising critical questions about the effectiveness of European external action in the region.

The presence of the EU Monitoring Mission (EUMM) at the South Ossetian administrative boundary line and within the capital, Tbilisi, underscored the EU's continued engagement, yet also revealed the limitations of its influence in curbing the widespread democratic erosion. Meanwhile, former President Salome Zourabichvili's speech denouncing government overreach reflected internal political divisions between pro-European and pro-Russian factions. The suppression of Western journalists, including ejection at the border, and the use of police force against protesters, further illustrated the ruling party's tightening control over political discourse and civic space.

This presentation examines the EU's role in Georgia's evolving political landscape, analyzing its use of diplomatic engagement, financial aid, and political conditionality to support democratic governance. By comparing EU influence in Georgia to other Eastern Partnership states and methods used in U.S. foreign policy, this analysis highlights the broader challenges facing European democracy promotion in contested regions. As Georgia navigates its path between European integration and a precarious political alignment with Russia, the effectiveness of EU external action remains a critical question for the future of democracy in the region.

Sponsor: Daniel Brueckenhaus

Room 402, Sanger Science Center, 1:30-2:10

Indrayudh Sinha '28

Kolkata, India

Major: Interdisciplinary

The Opiate of the Bourgeoisie: Networks of Popular Occultism in the Long Twentieth Century

From the late 19th century until the late 20th century, a form of popular occultism pervaded the world. Organized seances were a common sight in European high society. Forages into 'Oriental philosophy' and 'Mystic knowledge' were a pastime for the bourgeois European world.

This presentation traces some global networks of such popular occultism and explores networks of colonial transmission of these predominantly European trends, their coinciding developments with the formation of modern bourgeois classes, the evolution of colonial regimes, and the evolution of popular occultism into the psychoanalytic movement, the linkages of which most conventional histories of popular occultism have not documented. This study attempts to present a brief historical materialist account of the popular occult movement around the world. It presents a social and economic history of the spiritualist movement throughout the long twentieth century and depicts its significance in colonial history.

Sponsor: Christopher Fink

Impact Beloit Classroom 109, Library, 1:30-1:55

King Snider '25

New York City, New York

Major: Creative Writing

Senior Creative Writings: Fiction, Nonfiction and Poetry

I will be reading from my body of work that I have created as a creative Writing major. Genres will range from fiction to nonfiction to poetry.

Sponsor: Pablo Toral

Richardson Auditorium, Morse-Ingersoll Hall, 9:35-10:00

Joshua Izzy Stern '25

Malibu, California

Major: International Relations

Minor: French

Is the Descent to Religious Terrorism and Violence Merely Psychological?

As part of my international relations honors project, I conducted research to answer the question of whether the descent to religious-based terrorism is based merely on individual psychological factors. While my early research seemed to support this conclusion heavily, I still found connections between hotbeds of religious-based exposure to violence and oppressive systems and the eventual outcome of terrorism.

To understand how the interplay of sociopolitical factors and individual psychological conditions drive young men to engage in acts of religious-based acts of terrorism, I have built and conducted extensive research into the process of religious radicalization and its relationship to terrorism to identify a few patterns. These include psychological factors both related to group-based religious beliefs and individual determinants such as inability to cope and lack of impulse control. Other arguments relate to broader social factors, such as the destruction of systematic education systems or authoritarian educational approaches.

My research focuses on the individual psychological factors to determine some people's descent into radicalization and terrorism. However, it does not ignore the political, policy, and oppressive state of

certain countries that might create the conditions for radicalization, particularly in the Middle East and Europe. To establish the connection, my thesis studies Islamic and Jewish communities, and is partly informed by my experience and research while I studied abroad in Belgium.

Sponsor: Robin Zebrowski

Poster Session: Second floor bridge, Science Center, Drop in 10:45-11:45

Trang Tran '25

Hanoi, Vietnam

Majors: Cognitive Science; Environmental Communication & Arts

Minor: Marketing

Humanizing AI: The Impact of Anthropomorphic Chatbots on User Experience in Hospitality

The development of advanced technology to improve users' experience across various industries saw the adoption of artificial intelligence (AI) and AI-based tools, such as chatbots. In customer service, particularly within the hospitality field, there has been a growing trend toward humanizing chatbots through anthropomorphic features. These anthropomorphic features include visual cues like avatars or appearances, as well as communication styles that implement gendered pronouns, personalized names, and message interactivity.

In order to examine the impact of anthropomorphic chatbot features on customer perceptions and behavioral outcomes, a comprehensive literature review was conducted, including both empirical studies (both quantitative and qualitative) and theoretical groundwork. These studies mostly investigated restaurants, hotels, and retail context. Based on cross-cultural and global approaches, there were observations of positive impact from integrating anthropomorphic features in chatbots on users' behaviors. When being introduced to more human-like chatbots that had names, gender, pronouns or being interacted with in a more interactive and conversational way such as including small talk or emoticons, there were generally more positive perceptions from customers, regarding both psychological and behavioral outcomes. These positive responses were found in increased customer satisfaction, trust, loyalty, and likelihood of recommendation.

In addition, this research highlights customer demographics with a diverse range of studies on not only university students, millennials, but also older adults and even hospitality employees. Collectively, the studies' findings offer valuable insights into both the bright and dark sides of AI-based chatbots. As businesses increasingly adopt AI-based solutions, understanding factors that impact consumer behaviors could contribute to user-centered approaches. These findings not only widen understanding of how chatbots function but also provide practical guidance for better chatbot designing in order to improve user experience over the long term.

Sponsor: Suzanne Cox

Poster Session: Second floor bridge, Science Center, Drop in 10:45-11:45

Gisela Uribe '26

Round Lake Park, Illinois

Majors: Data Analytics; Sociology

Minor: Health and Society

Experiences of Latine Communities with the Healthcare System: Implications for Mental Health

Researchers have shown that, of any U.S. racial and ethnic group, Latinos have the lowest utilization of preventative care (Washbourne, 2019). This exploratory pilot study aimed to better understand Latine individuals' experiences with the healthcare system in a Midwestern community. Specifically, its focus examined ways in which equitable healthcare services enhance patient satisfaction and patient-provider relationships. Research shows that the Latine community is the largest ethnic minority population in the United States, and it is estimated that by 2050, they will make up 24% of the population (Ai et al., 2022).

This is important because as the community expands, so should equitable resources, as well as patient satisfaction about those resources and services.

Three archival data sets were examined. A local health department recently surveyed 31 participants, 35% Spanish speakers and 64% English speakers about their experiences accessing health care. In addition, the public health department collected data from 24 Spanish-speaking individuals who participated in a focus group addressing concerns about access to health care. An academic-community partnership between a small liberal arts college and a community foundation administered another survey that focused on experiences of women's health. This survey yielded 102 respondents, 13.7% of whom identified as Hispanic/Latinx/Mexican. Surveys were analyzed using SPSS, and the focus group was content analyzed thematically.

Of the public health survey on access to health care, Spanish speakers responded feeling, on average, more difficulty in finding their health information in their preferred language ($t(29) = 3.83$; $p < .001$). The focus group yielded themes of financial barriers, lack of interpretation services, and cultural barriers. The survey on women's health indicated a trend for Latina women to feel less of a sense of agency in their healthcare than non-Latina women ($t(100) = -1.39$; $p = .08$).

Our findings suggest that the Latine community has less health satisfaction that is impacted by structural barriers and patient-provider relationships. Strength-based approaches that foster health literacy, like cultural competence, translated material, and educational workshops, are necessary to provide a more patient-centered approach. Implications for future research can examine acculturation levels' impact on health satisfaction in both physical and mental health services. Given the Latine community's vulnerability to mental illness (NAMI, 2024), increased culturally competent care with an intersectional lens is critically needed.

Sponsor: Joshua Moore

Impact Beloit Classroom 109, Library, 9:35-10:00

Brady Wachholz '25

Norwood Young America, Minnesota

Majors: Health & Society; Business Management

Jordan Rice '25

Chicago, Illinois

Major: Media Studies

Oceanna Estrada '25

San Jose, California

Major: Psychology
Minor: Marketing

Grace Hartwig '25

St. Louis, Missouri

Majors: Biology; Spanish

Bucs Abroad Panel: Studying Abroad as a Student Athlete

As student-athletes on this panel, we represent men's and women's soccer, women's basketball, and men's lacrosse. All of us studied abroad. We focus on our study abroad programs and experiences, how we found programs that allowed us to not miss our sports season, how we stayed strong while abroad through intramural leagues and workout facilities, and how we stayed connected with our teams back in Beloit while in other countries.

Brady Wachholz '25

Norwood Young America, Minnesota

Majors: Health & Society; Business Management

The Discipline of Public Health: An Art and a Science – A Comparative Perspective on Public Health in Ireland and the United States

Explore David Acheson's definition of public health and how it applies to contemporary public health issues in Ireland. Acheson's definition states that public health is both an art and a science, consisting of three pillars: disease prevention, extending life span, and promoting a healthy society. This understanding of public health is used to examine population-based screening, occupational health, and tobacco, E-Cigarettes and vaping in Ireland. To provide further context, a comparative element was applied by using the United States health system through a comparative health systems lens.

Sponsor: Isaac Young

Poster Session: Second floor bridge, Science Center, Drop in 10:45-11:45

Alex Yang '25

Chongqing, China

Majors: Psychology; Cognitive Science

Exploring In-Group Variability in Alzheimer's Disease: EEG-Based Clustering Analysis for Potential Subtypes

Alzheimer's disease (AD) is the most common type of dementia, but its diagnosis remains challenging due to its complex symptoms and costly and invasive diagnostic techniques. This study aims to explore in-group variations in EEG signals, a less invasive form of imaging, among AD patients (N = 160) using different clustering methods to assess the feasibility of these approaches for identifying potential subgroups within AD patients.

The results indicated that clustering differences were primarily concentrated in specific frequency bands and brain regions. This study identifies potential internal variations in EEG signals among AD patients, which may be associated with underlying biological mechanisms (e.g., the hippocampus-prefrontal cortex circuit), providing valuable clinical insights into Alzheimer's disease.

Sponsor: Kevin Smith

Room 349, Sanger Science Center, 10:25-10:50

Kaiyue Yao '25

China

Major: Quantitative Economics

Minor: Finance

Examining the Impact of the China-U.S. Trade War on Vietnam

The China-U.S. trade war has had significant economic consequences, not only for the two major economies involved but also for neighboring countries. This study examines how the trade war has affected Vietnam, a country with strong economic ties to both China and the United States. Vietnam serves as an important case study due to its deep integration with these economies and its historical, governmental, and economic policy similarities with China.

To conduct this research, I analyzed data from the World Bank database, focusing on key indicators of Vietnam's economic growth and development. This study aims to assess the extent to which the trade war has influenced Vietnam's economy and to identify the broader implications for its economic trajectory.

OUR SINCERE THANKS

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Link to the online program