

14<sup>th</sup> Annual University of Rhode Island  
Graduate Student Conference  
March 29, 2025



*Interdisciplinary Collaborations: Breaking Boundaries*

Center for Biotechnology and Life Sciences (CBLS)  
120 Flagg Road, Kingston

Dear Graduate Students,


Welcome to the University of Rhode Island! The entire University community is proud to host the 2025 Graduate Research Conference with participation from dozens of graduate students and universities across North America. As a newly-designated R1 research university, URI is dedicated to academic and research excellence, with our commitment to elevating our research enterprise a key focal point in our ten-year strategic plan, Focus URI.

The very act of coming together as academics, researchers, and global citizens is a testament to the values of not only URI, but of higher education at large: The freedom to learn, teach, create, and conduct research with integrity in the pursuit and dissemination of new knowledge aimed at contributing to the public good. In times of major shifts in the economic, political, and global landscape, our interconnectedness and unity are more important than ever. We are one community of higher education – of learning, research, discovery, and amelioration of the human condition.

Your varied perspectives, experiences, and educational backgrounds are your strength, and it is your pursuit of knowledge, exploration, and innovation that drives progress. When we combine efforts, minds, and passions, nothing is out of our reach.

I wish you the best of luck at your Conference and I hope you bring with you the spirit of collaboration and connection wherever you go.

Kind regards,

  
Marc B. Parlange, Ph.D. P.Eng.  
President

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STUDENT  
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OF RHODE ISLAND  
WOMEN'S CENTER

THE  
UNIVERSITY  
OF RHODE ISLAND  
PHYSICS  
DEPARTMENT

# Welcome to the Graduate Student Conference 2025

On behalf of the Graduate Student Association and the organizing team, we are delighted to welcome you to the Graduate Student Conference 2025. This conference is a celebration of scholarly inquiry, intellectual exchange, and collaboration among graduate students across disciplines. It is an opportunity to share research, engage in meaningful discussions, and build connections that will shape the future of our fields.

We extend our deepest appreciation to all presenters for their hard work and dedication in preparing their research for this event. Your contributions are the foundation of this conference, and we look forward to the insightful discussions your work will inspire. To our attendees, thank you for joining us and supporting your peers. Your engagement and participation are essential in fostering a dynamic and enriching academic community.

This year's program includes a diverse range of presentations, panels, and discussions, reflecting the innovative scholarship and fresh perspectives that graduate students in New England bring to their disciplines. We encourage you to take full advantage of the sessions, connect with fellow scholars, and explore new ideas.

We are excited to embark on this journey of learning and discovery with you.

Thank you for being a part of the Graduate Student Conference 2025. We hope this experience is both intellectually rewarding and personally inspiring.

**University of Rhode Island  
Graduate Student Association Conference Committee**

# Schedule of Events

<b>7:00 am - 8:00 am</b>	<b>Breakfast &amp; Registration</b>	<b>First Floor</b>
<b>8:00 am - 9:30 am</b>	<b>Opening Ceremony</b> <b>URI President Dr. Marc Parlange</b>  <b>Keynote: Dr. James Anderson</b>	<b>CBLS 100</b>
<b>10:00 am - 11:15 am</b>	<b>Oral Presentations*</b>  <b>Session A</b> <b>Session B</b> <b>Session C</b> <b>Session D</b> <b>Session E</b> <b>Session F</b> <b>Session G</b> <b>Session H</b> <b>Session I</b> <b>Session J</b> <b>Session K</b>	<b>CBLS 010</b> <b>CBLS 152</b> <b>CBLS 252</b> <b>CHAFEE 273</b> <b>CHAFEE 275</b> <b>CHAFEE 277</b> <b>ENGR 010C</b> <b>ENGR 025C</b> <b>ENGR 040</b> <b>ENGR 045</b> <b>ENGR 264</b>
<b>11:30 am - 12:30 pm</b>	<b>Lunch</b>	<b>First Floor</b>
<b>12:30 pm - 1:45 pm</b>	<b>Keynote Speaker:</b> <b>Dr. Selçuk Şirin</b>	<b>CBLS 100</b>
<b>2:00 pm - 3:15 pm</b>	<b>Poster Presentations</b>	<b>1st Floor</b>  <b>Ground Level (A)</b>  <b>Ground Level (B)</b>
<b>3:30 pm - 4:30 pm</b>	<b>Keynote Speaker:</b> <b>Monda Raquel Webb</b>	<b>CBLS 100</b>
<b>4:45 pm</b>	<b>Certificate Ceremony</b>	<b>CBLS 100</b>
<b>Dinner</b>	<b>Entertainment: URI Jazz Band</b>	<b>First Floor</b>

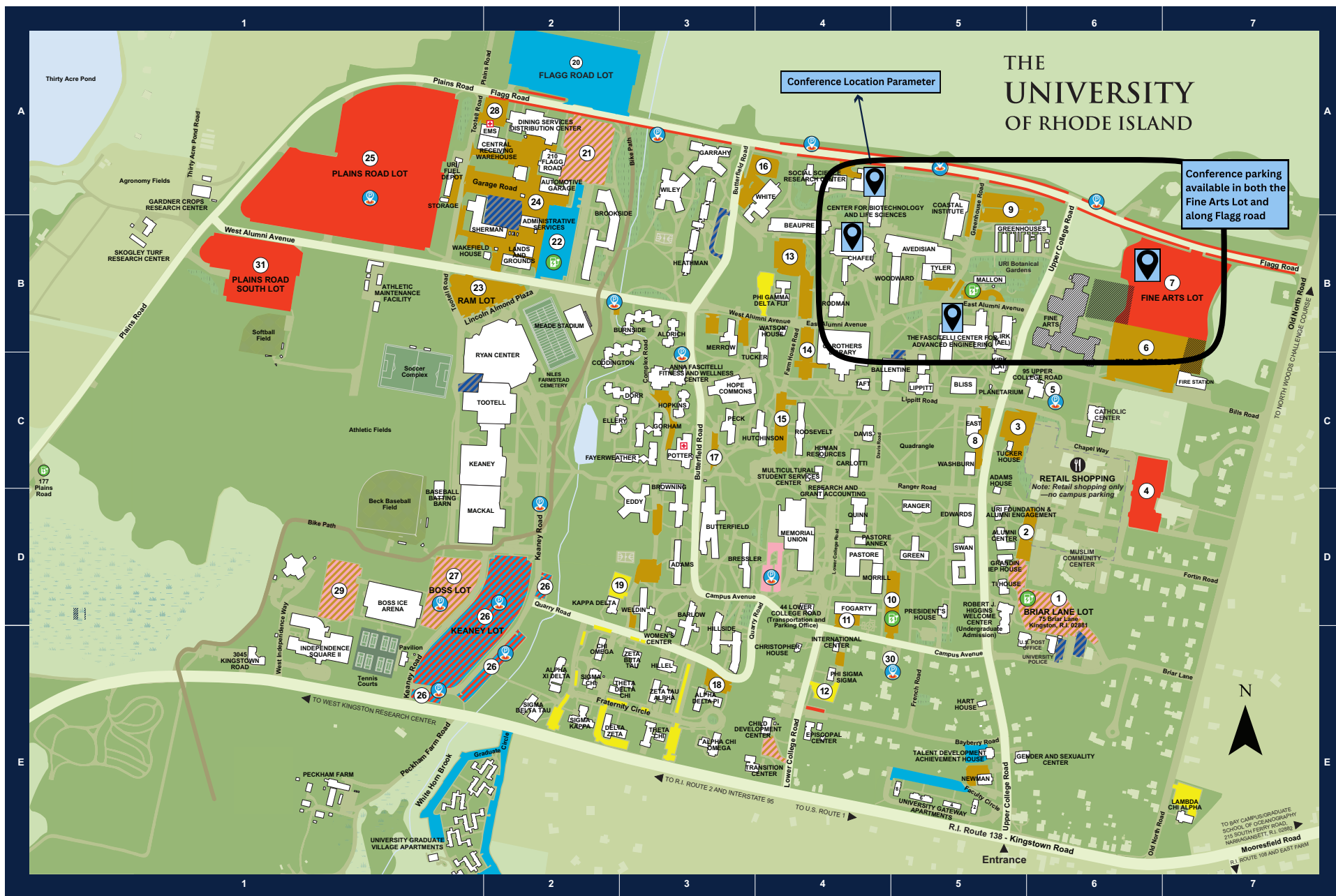
## Oral Presentations

Session A	<b>CBLS 010</b>	<b>Global Perspectives on Sustainability: Community, Communication, and Labor in a Changing World</b>
Session B	<b>CBLS 152</b>	<b>Environmental Sustainability: Exploring Land Use, Biodiversity, and Emissions in New England</b>
Session C	<b>CBLS 252</b>	<b>Uncovering Earth's Dynamic Systems: Microbial, Geological, and Ecological Perspectives on Environmental Change</b>
Session D	<b>CHAFEE 273</b>	<b>Advances in Technology and Science: From Spectroscopy to Machine Learning and Robotics</b>
Session E	<b>CHAFEE 275</b>	<b>Intelligent Systems in Motion: Advances in Control, Computation, and Human-Centered AI</b>
Session F	<b>CHAFEE 277</b>	<b>Nutrition, Development, and Human Physiology: Exploring the Intersections of Diet and Health</b>
Session G	<b>ENGR 010C</b>	<b>Well-being, Communication, and Responsibility: Navigating Health and Information in Modern Systems</b>
Session H	<b>ENGR 025C</b>	<b>Interpreting the Unseen: Trauma, Perception, and the Unconventional in Literature</b>
Session I	<b>ENGR 040</b>	<b>Rewriting Madness: Women, Identity, and Resistance in Literature</b>
Session J	<b>ENGR 045</b>	<b>Intersecting Voices: Ethics, Identity, and Resistance in Literature</b>
Session K	<b>ENGR 264</b>	<b>Myth, Fantasy, and Tolkien or Unraveling Narratives: Storytelling, Identity, and Adaptation in Literature</b>

Poster Presentations

CBLS First Floor	<b>Business, Technology, and Innovation</b> <b>Aquaculture, Oceanography, and Environmental Science</b> <b>Neuroscience, Psychology, and Mental Health</b>
CBLS Ground Floor A	<b>Neuroscience, Psychology, and Mental Health (continued)</b> <b>Environmental Justice and Climate Change</b> <b>Fashion, History, and Cultural Conservation</b> <b>Pedagogy, Education, and Cognitive Development</b>
CBLS Ground Floor B	<b>Public Health, Pharmacy, and Health Care</b> <b>Social and Political Issues</b> <b>Contemporary and Postmodern Literature</b> <b>Marine Science and Aquatic Systems</b>





## Academic and Service Buildings

- \*\* 44 Lower College Road,  
Transportation and Parking  
Office (TAP) (D4)
- 95 Upper College Road (C6)
- \* 177 Plains Road (C1)
- 210 Flagg Road (A2)
- 3045 Kingstown Road (E1)
- \* Adams House (C5)
- \* Administrative Services (B2)
- \* Agronomy Fields (A1)
- Alumni Center (D5)
- Anna Fascitelli Fitness and  
Wellness Center (C3)
- \* Athletic Maintenance Facility (B1)
- \* Automotive Garage (A2)
- Avedisian Hall, *pharmacy* (B5)
- Ballentine Hall, *business* (C5)
- Baseball Batting Barn (D1)
- Beaupre Center for Chemical  
and Forensic Sciences (B4)
- Bliss Hall, *engineering* (C5)
- Boss Arena (D1)
- Carlotti Administration  
Building (C4)
- Carothers Library and Learning  
Commons (B4)
- Catholic Center (C6)
- Central Receiving Warehouse (A2)
- Chafee Social Science Center,  
*arts and sciences* (B4)
- Child Development Center (E4)
- \* Christopher House (E4)
- Coastal Institute (A5)
- \* Davis Hall (C4)
- Dining Services Distribution  
Center (A2)
- \* East Farm (off Route 108) (E7)
- \* East Hall (C5)
- \*\* Edwards Hall (D5)

- Emergency Medical Services  
Station (EMS) (A2)
- Episcopal Center (E4)
- Fine Arts Center (B6)
- Fire Station (C7)
- Fogarty Hall (D4)
- Gardner Crops Research Center (A1)
- Gender and Sexuality Center (E5)
- \* Grandin IEP House (D5)
- Green Hall, *enrollment services* (D5)
- \* Greenhouses (B5)
- \* Hart House (E5)
- \*\* Human Resource Building (C4)
- Independence Square II (E1)
- \* International Center (E4)
- Joseph and Ruby DeChristofaro  
Center for Biotechnology and  
Life Sciences, environment  
and life sciences (A4)
- Keaney Gymnasium (C2)
- Kirk Applied Engineering Lab (B5)
- \* Kirk Center for Advanced  
Technology (C5)
- Lands and Grounds (B2)
- Lippitt Hall (C5)
- Mackal Field House (D2)
- Mallon Outreach Center (B5)
- \* Meade Stadium (B2)
- Memorial Union (D4)
- Morrill Hall (D4)
- Multicultural Student Services  
Center (C4)
- Muslim Community Center (D6)
- \*\* Newman Hall (E5)
- Niles Farmstead Cemetery (C2)
- Norman M. Fain Hillel Center (E3)
- North Woods Challenge Course  
(off map) (590 Old North Road)
- Pastore Hall and Annex (D4)
- \* Peckham Farm (E1)
- \* Planetarium (C5)

- Police (University) (E6)
- Potter Building, *health services* (C3)
- Quinn Hall, *health sciences,  
graduate admission* (D4)
- Ranger Hall (D5)
- \* Research and Grant  
Accounting (D4)
- Robert J. Higgins Welcome  
Center, undergraduate  
admission (D5)
- Rodman Hall (B4)
- Roosevelt Hall, *University  
College for Academic  
Success* (C4)
- Ryan Center (B2)
- \* Sherman Building (B2)
- Skogley Turf Research  
Center (B1)
- Social Science Research  
Center (A4)
- \* Storage (A1)
- Swan Hall (D5)
- \* Taft Hall (C4)
- Texas Instruments House (TI) (D5)
- The Fascitelli Center for  
Advanced Engineering (B5)
- Tootell Physical Education  
Center (C2)
- \* Transition Center (E3)
- \* Tucker House (C5)
- Tyler Hall (B5)
- URI Foundation & Alumni  
Engagement (D5)
- \* Wakefield House (B2)
- \* Washburn Hall (C5)
- \* Watson House (B4)
- \* West Kingston Research Center  
(Liberty Lane, off Route 138 West)
- White Hall, *nursing* (A4)
- Women's Center (E3)
- Woodward Hall (B5)

## Residential Buildings and Dining Halls

- \* Adams Hall (D3)
- \* Aldrich Hall (B3)
- Barlow Hall (D3)
- \* Bressler Hall (D3)
- Brookside Hall (B2)
- Browning Hall (D3)
- \* Burnside Hall (B3)
- Butterfield Hall (D3)
- \* Coddington Hall (C2)
- \* Dorr Hall (C3)
- Eddy Hall (D3)
- \* Ellery Hall (C3)
- \* Fayerweather Hall (C3)
- Garrahy Hall (A3)
- \* Gorham Hall (C3)
- \* Grandin IEP House (D5)
- \* Heathman Hall (B3)
- Hillside Hall (E3)
- Hope Commons (C3)
- \* Hopkins Hall (C3)
- \* Hutchinson Hall (C4)
- Marrow Hall (B3)
- Peck Hall (C3)
- \* President's House (D5)
- \* Talent Development  
Achievement House (E5)
- Texas Instruments  
House (TI) (D5)
- \* Tucker Hall (B4)
- \* University Gateway  
Apartments (E5)
- \* University Graduate Village  
Apartments (E1)
- Weldin Hall (D3)
- Wiley Hall (A3)

## Fraternities and Sororities

- \* Alpha Chi Omega (E3)
- \* Alpha Delta Pi (E3)
- \* Alpha Xi Delta (E2)
- \* Chi Omega (E2)
- \* Delta Zeta (E2)
- Kappa Delta (D2)
- \* Lambda Chi Alpha (E7)
- \* Phi Gamma Delta Fiji (B4)
- \* Phi Sigma Sigma (E4)
- Sigma Chi (E2)
- \* Sigma Delta Tau (E2)
- \* Sigma Kappa (E2)
- \* Theta Chi (E3)
- \* Theta Delta Chi (E3)
- \* Zeta Beta Tau (E3)
- \* Zeta Tau Alpha (E3)



Unless marked by an  
asterisk, buildings are  
fully accessible.

\* Limited or no access

\*\* Public space is accessible.

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# Keynote Speakers



Dr. James Anderson

James William Anderson, PhD, is a psychotherapist and Clinical Professor in the Department of Psychiatry and Behavioral Sciences at Northwestern University, where he teaches courses on Personality Psychology and the Psychology of Film. His focus is on psychobiography, the use of psychology in the study of notable people, such as historical figures, novelists and other artists, and creators of popular culture. Among those he has written about are Simone de Beauvoir, Abraham Lincoln, Woodrow Wilson, Henry James, Alice James, Oprah Winfrey, Harvey Milk, Frank Lloyd Wright, Sigmund Freud, Carol Gilligan, Mohandas Gandhi, B. R. Ambedkar, Edith Wharton, and Anaïs Nin. His book, *Psychobiography: In Search of the Inner Life*, was published last October by Oxford University Press.



Dr. Selçuk Şirin

Selçuk Şirin, Ph.D., is a Professor of Applied Psychology at New York University. His research focuses on the lives of marginalized children and enhancing professionals' ability to support their needs. He specializes in studying youth during fragile times, including Muslim American youth post-9/11, refugee youth navigating displacement, and immigrant youth adjusting to new environments. Dr. Şirin has received multiple awards, including Teaching Excellence Awards from Boston College and NYU, the Young Scholar Award from the Foundation for Child Development for his work on immigrant children, and the Review of Research Award from the American Educational Research Association (AERA). He served on the National Academies of Sciences committee on Supporting Parents of Young Children. He also led and successfully completed the 1 Million Book Project, through which he distributed over one million books to children free of charge to promote early literacy. In addition to his academic work, he is a columnist for *Oksijen*, highly respected Turkish weekly, and the author of several bestseller books, including *Turkey at a Crossroads* and *Justice vs. Misery* (Turkish) as well as *Muslim American Youth* (English).



Monda Raquel Webb

MONDA RAQUEL WEBB is an award-winning author, filmmaker and performing artist. She is an independent storyteller dedicated to telling little known stories hidden in the crevices of history's pages. A visual archeologist, she's committed to organic storytelling from a woman's lens, that elevates, educates, and uplifts humanity. After graduating with a degree in Broadcast Journalism from the University of Rhode Island in 1990, Monda began her production career as a traffic coordinator for City Cable 16, a municipal channel in Washington, DC. She quickly climbed the ranks and served in all aspects of production, from grip, to production assistant, to producer to on-air talent. As producer, she won awards from the National Association of Telecommunications Officers and Advisors (NATOA) for Production in several different categories.

Monda, voted Filmmaker of the Year in 2020 by the National Black Movie Association, established Little Known Stories Production Company, LLC in 2015. Monda's two short films Zoo (Volkerschau) and Pooch Sitter have played the festival circuit since 2015 and won several awards nationally, and internationally.

# Oral Presentations



**Session A**  
**Room: CBLS 010**  
**Moderator: Dr. Colleen Mouw**

**Global Perspectives on Sustainability: Community, Communication, and Labor in a Changing World**

**Nara Wisesa:** *Coastal Community Perspectives on Marine Resource Conservation and Access in Rote Island, Indonesia*

**Maria Dorotea Diah Ayu Stevianita:** *Crisis Communication in Indonesia's Free Meal Program: Analyzing Government Narrative Control and Response Strategies*

**Oliver Tiliouine:** *Fixed Lines, Fluid Law: Advisory Opinions and the Politics of Baseline Preservation*

**Session B**  
**Room: CBLS 152**  
**Moderator: Dr. Soni M. Pradhanang**

**Environmental Sustainability: Exploring Land Use, Biodiversity, and Emissions in New England**

**Christopher Battle:** *Geospatial Verification and Econometric Density Analysis of Renewable Energy Dual-Land Use Trade-offs in Rhode Island*

**Ren Johnson:** *Bee Diversity of Wild and Cultivated Cranberry Bogs in Rhode Island*

**Michael Norton:** *Greenhouse Gas Emissions in Tidal Wetlands of Southern New England*

**Session C**  
**Room: CBLS 252**  
**Moderator: Dr. Evan Preisser**

**Uncovering Earth's Dynamic Systems: Microbial, Geological, and Ecological Perspectives on Environmental Change**

**Pratik Singh Thakuri:** *Evaluating Landslide Susceptibility in Central Middle Himalayas: A Comparative Study of Bivariate Statistical and Multi-Criteria Decision Analysis Approaches*

**Patrick Bailey:** *Back to the Sea: A Comparative Assessment of Gray Wolf Aquatic Habitat Usage*

**Session D**  
**Room: CHAFEE 273**  
**Moderator: Terpase Gbaa, M.S.**

**Advances in Technology and Science: From Spectroscopy to Machine Learning and Robotics**

**Helani A.S. Sighapurage:** *High-Resolution Coherent Raman Spectroscopy of Phonon Equilibria in Semiconducting Oxide Barium Stannate*

**Carmen R. Ferrara:** *Analysis of a Genetic Toggle Switch System*

**Samuel Uche:** *Deep Learning-Based Analysis of Heel-to-Heel, One-Leg Stand, and Normal Walk for Alcohol Intoxication Detection Across Ascending and Descending BAC Phases*

**Session E**  
**Room: CHAFEE 275**  
**Moderator: Victor Olaoye**

**Intelligent Systems in Motion: Advances in Control, Computation, and Human-Centered AI**

**Maryam Norouzi:** *Cooperative Deterministic Learning-Based Formation Control for a Group of Nonlinear Mechanical Systems Under Complete Uncertainty*

**Emily Light:** *MuSALS (Multiple Sequence Alignment at Scale)*

**Ali Raoufi:** *Electric Vehicle Closed-Loop Supply Chain with Blockchain Integration*

**Session F**

**Room: CHAFEE 277**

**Moderator: Dr. Isaac Agbemafle**

**Nutrition, Development, and Human Physiology: Exploring the Intersections of Diet and Health**

**Evelyn Mensah:** *Effect of early life exposure to lipid-based nutrient supplements on pubertal hormones at 9-11 years of age*

**Fred Addo:** *Associations between dietary sodium and potassium intakes, urinary sodium and potassium excretion and blood pressure among adult females in Oromia region, Ethiopia*

**Samantha Dworacek:** *Human Appetite Upon Waking from Cold-Sleep*

**Ophelia Mensah:** *Caregiver Satisfaction in Nutrition Programs*

**Session G**

**Room: ENGR 010C**

**Moderator: Karolina Wojcik**

**Well-being, Communication, and Responsibility: Navigating Health and Information in Modern Systems**

**Steve Winkel:** *Mental Health Disclosures in the Workplace*

**Derek Dubois:** *Super Spreaders: Reframing the Role of Consumer as Supplemental Distributor in News Media Supply Chain*

**Kristen Petagna:** *Bridging Disciplines: The Influence of Greenspace Exposure on Physiological and Psychological Well-Being in College Students*

**Session H**

**Room: ENGR 025C**

**Moderator: Dr. Carolyn Betensky**

**Interpreting the Unseen: Trauma, Perception, and the Unconventional in Literature**

**Ghazal Nessari Poortak:** *Narrating the Self in Crisis: Autofiction, Memory, and Trauma in Metamodern Literature*

**Iris Ribeiro:** *The Misreading of Mr. Skimpole: Acknowledging the Presence of Neurodivergence in Bleak House*

**Olivia Thomakos:** *Empathetic Teaching: Why Authentic Blind Representation in Curricula Matters*

**Session I**

**Room: ENGR 040**

**Moderator: Dr. Afua Ansong**

**Rewriting Madness: Women, Identity, and Resistance in Literature**

**Edie Lamoreaux:** *The Madwoman Archetype in Literature*

**Leanne Oden:** *The Large Bloomsbury Window and The Yellow Wallpaper—Dissenting the ‘Rest Cure’ in Virginia Woolf & Charlotte Perkins Gilman*

**Amy Helminen:** *Knowing and Being Known: Using Intersubjectivity to Deconstruct the Ambiguous Female in Virginia Woolf’s Mrs. Dalloway, The Years and Between the Acts*

**Session J**

**Room: ENGR 045**

**Moderator: Dr. Martha Elena Rojas**

**Intersecting Voices: Ethics, Identity, and Resistance in Literature**

**Madison Perrin:** *The Eye & The Ear: The Ethics of Art in The Bluest Eye*

**Tanya Young:** *A Haunted Form: Phillis Wheatley, Black Double Consciousness, and the Racialized History of the American Lyric*

**Nina King Sannes:** *Converging Dys/Utopias in Octavia Butler's Parable of the Sower*

**Andrew Belfry:** *Out on the Joke Humor Attacks Oppressors Without Making Them Victims*

**Session K**

**Room: ENGR 264**

**Moderator: Dr. Heather Johnson**

**Myth, Fantasy, and Tolkien or Unraveling Narratives: Storytelling, Identity, and Adaptation in Literature**

**Alexa Keough:** *Slipping Off the Sealskin: Examining the Nuances of Intimate Partner Violence in Selkie Mythology*

**Richard M. McGee:** *'A Natural Human Activity': Storytelling as the Shared Goal of History and Fantasy*

**Ali Ghaderi:** *Ali Tolkien's Canon, Screen Adaptations, and Being Infidel: Possibilities in the Light of Stam's Dialogism*



# Poster Presentations



## *Aquaculture, Oceanography, and Environmental Science*

- **Ren Johnson:** *Bee Diversity of Wild and Cultivated Cranberry Bogs in Rhode Island*
- **Pratik Singh Thakuri:** *Evaluating Landslide Susceptibility in Central Middle Himalayas: A Comparative Study of Bivariate Statistical and Multi-Criteria Decision Analysis Approaches*

## *Neuroscience, Psychology, and Mental Health*

- **Antonia Tollkuci:** *Incorporation and Expression of Unnatural Amino Acids*
- **Maryam Norouzi:** *Cooperative Deterministic Learning-Based Formation Control for a Group of Nonlinear Mechanical Systems Under Complete Uncertainty*
- **Brittany Monte:** *Characterization of a Novel Rat Model Containing the Homozygous R302Q HTRA-1 Mutation: Implications for CARASIL Research*
- **Catherine Trinh:** *Defining Recovery and Demographics in Alcohol Use Disorder Neuroimaging Studies: A Systematic Review*
- **Mariyam Abbas:** *Understanding Bidi Smoking Patterns Among India's Day Laborers*
- **Reina Kiefer:** *Role of Sexual Assault Severity in the Association Between Trauma-Related Shame and Drinking-Related Problems*
- **Elena Esposito:** *Through Their Eyes: Investigating the Broad Autism Phenotype in Parents*
- **Noam Newberger:** *Associations Between Recovery Capital, Posttraumatic Stress Disorder, and Treatment Motivation*

## *Business, Technology, and Innovation*

- **Ruth Najel:** *Content Engagement Strategies for African Cultural Fashion Brands on Instagram*
- **Soode Vaezinejad:** *A Multi-method Approach to Identifying Necessary and Sufficient Conditions of Information Asymmetry in Supply Chain Networks*
- **Ali Raoufi:** *Electric Vehicle Battery Recycling Optimization with Blockchain Technology Under Uncertain Demand Projections*
- **Eyleen Dias:** *AI-Driven Athlete Readiness: Integrating Mental Toughness and Physical Performance for Optimized Talent Development*
- **Samuel Uche:** *Deep Learning-Based Analysis of Heel-to-Heel, One-Leg Stand, and Normal Walk for Alcohol Intoxication Detection Across Ascending and Descending BAC Phases*

- **Jewelina Ferguson:** *Enacted Stigma Modulates Association Between Posttraumatic Stress Disorder Symptoms and Drug Use-Related Harm Among Individuals in Residential Substance Use Treatment*

### **Environmental Justice and Climate Change**

- **Janee Greenlee:** *Green Justice: Solution to Environmental Racism*
- **Marike Tenaawe:** *Evaluating Hydroclimatic Trends of Pawtuxet River in Rhode Island*
- **Christopher Battle:** *Geospatial Verification and Econometric Density Analysis of Renewable Energy Dual-Land Use Trade-offs in Rhode Island*

### **Fashion, History, and Cultural Conservation**

- **Emma Manning:** *Disguised: Unmasking Early Mass Market Halloween Costumes in Two Rhode Island Collections*
- **Hallie Ivory:** *Improving Thermal Comfort of Firefighter Personal Protective Equipment with a Focus on Enhancing Moisture Wicking Abilities: A Systematic Literature Review*
- **Kieran Rae Koch:** *What's the Use? Object Interaction for the Conservation of Local History Collections*
- **Roshan Rajan Nair:** *Tackling Migrant Labor Shortages in India's Garment Industry: Global Insights for Sustainable Growth of India's Garment Exports*
- **Rebecca Kpoor:** *Clothing/Apparel Branding and its Effect on Consumer Purchase Intentions in Accra, Ghana*

### **Pedagogy, Education, and Cognitive Development**

- **Julia Cerveira-Bianchi:** *A Methodological Study: Using Eye Tracking & Comprehension Questions with L1 and L2 Spanish Readers*

### **Public Health, Pharmacy, and Health Care**

- **Jingmei Zeng:** *Evaluation of Cluster of Differentiation 36 (CD36) as a Critical Factor in Perfluorooctanesulfonic Acid (PFOS)-Induced Adverse Liver Outcomes*
- **Natalya Salganik:** *Results of a Pharmacist-Directed Interdisciplinary Continuous Glucose Monitoring Program in Primary Care*

### **Social and Political Issues**

- **Kwabena Antwi:** *Inclusive Adaptation: Integrating Traditional Agroecological Knowledge with Climate-Smart Agriculture in the Upper East Region of Ghana*
- **Arome Ozigagu:** *A Review of Short-Notice Evacuation Challenges for Vulnerable Populations in Mixed Traffic Flow during Disasters Evacuations*

### **Contemporary and Postmodern Literature**

- **Cassie Mitchell:** *The Power in Persistence: Thinking for Oneself through Postmodern Literature*

### **Marine Science and Aquatic Systems**

- **Seraphina Satkowski:** *Field Performance Evaluation of Selectively Bred Eastern Oyster Lines in New Jersey and Rhode Island*

# Abstracts



-A-

**Addo, Fred. Associations between dietary sodium and potassium intakes, urinary sodium and potassium excretion and blood pressure among adult females in Oromia region, Ethiopia**

## Oral Presentation

Fred B. Addo, Charles D. Arnold, Meseret Woldeyohannes, Masresha Tessema, Meron Girma, Mengistu Fereja, Biniyam T. Banjaw, Mandana Arabi, Homero Martinez, Christine M. McDonald, Kenneth H. Brown, Isaac Agbemafla

**Objectives:** Accurate assessment of sodium (Na) and potassium (K) intake is essential for understanding their relationship with blood pressure (BP). This study compared various methods of assessing Na and K intake and explored their association with BP. **Methods:** A cross-sectional study of 100 non-pregnant women (18-45 years) in Oromia, Ethiopia, collected data through baseline questionnaires, full-day weighed food records (WFR), duplicate diets (DD), and Na and K

excretion in spot and 24-hour urine samples. The Ethiopian Food Composition Table estimated nutrient intake, and the INTERSALT method analyzed spot urine excretion. Associations between methods and BP were examined using simple linear regression. Results: Mean Na intake from DD, WFR, 24-hour urine (24HrUr), and spot urine (SPUr) exceeded WHO's 2000 mg/day recommendation, while mean K intake from all methods was below the recommended 3510 mg/day. Mean systolic and diastolic BP were  $116 \pm 14$  and  $83 \pm 9$  mmHg. A moderate correlation was found between Na and K in 24HrUr and SPUr ( $\rho = 0.55$ ,  $p < 0.001$ ;  $\rho = 0.36$ ,  $p < 0.001$ ), while correlations between DD and urine-based measures were weak. WFR, 24HrUr, and SPUr showed a Na:K ratio of 2:1, except for DD (1:1). Adjusted regression analysis found no significant association between Na:K ratio and BP. Conclusions: Na and K from 24HrUr and SPUr were moderately correlated, as were WFR and DD. However, dietary intake and urinary excretion values were weakly correlated, and no method showed a meaningful relationship with BP.

**Antwi, Kwabena. Inclusive Adaptation: Integrating traditional agroecological knowledge with climate-smart agriculture in the Upper East Region of Ghana**

## Poster Presentation

Using traditional agroecological knowledge (TAeK) has gained global recognition as a cooperative approach to food security. Despite this, the literature is skewed towards drivers for adoption, rainfall prediction, on-farm tree management, and community risk assessment. This study employed qualitative and quantitative methods to understand the use of TAeK among smallholder farmers who cannot afford climate-smart agriculture (CSA) in the Bolgatanga East District of the Upper East Region of Ghana. The problem confrontation index was used to rank the barriers to using CSA. The findings showed that smallholder farmers in the district face several barriers to adopting CSA, including the high cost of improved crop varieties, and difficulties in interpreting the technical language of climate information. In addressing the barriers, smallholder farmers relied on the appearance of black ants, croaking of frogs, and

flowering of the bean pod tree to predict rainfall. Also, the smallholder farmers adjusted planting dates to avoid drought, planted crop mixtures at different times to manage crop risks, and used plant extracts to control pests. Given the high cost and complexity of modern CSA for smallholder farmers, there is a need to adopt inclusive, participatory approaches, such as farmer-led knowledge creation, which foster the co-production of knowledge. Co-production allows smallholder farmers to share their TAeK and provides opportunities to benefit from scientific innovation. By facilitating the co-production of knowledge, policymakers can help ensure that CSA practices are both locally relevant and scientifically robust, ultimately strengthening the adaptive capacity of smallholder farmers for sustainable food security.

-B-

**Bailey, Patrick. Back to the Sea: a comparative assessment of gray wolf aquatic habitat usage**

**Oral Presentation**

Gray wolves (*Canis lupus*) are iconic predators that shape ecological interactions across North America. Traditionally considered habitat generalists reliant on ungulate prey, recent observations challenge this view. On Vancouver Island, British Columbia, wolves have adopted a primarily marine-based diet, earning the name "sea-wolves." They swim between islands and forage on beaches for shelled invertebrates. Similar behaviors are observed in coastal wolf populations in Alaska and mainland British Columbia, where dietary analyses confirm marine prey consumption, including fish and marine mammals. Wolves in Glacier Bay National Park, for example, have shifted from an ungulate-rich diet to one dependent on sea otters. Other marine-foraging wolf populations likely exist throughout coastal Alaska and Canada, but research remains limited. Despite over two decades of reports, little is known about the mechanisms enabling wolves to exploit marine resources. Without this knowledge, the ecological significance of marine ecosystems for wolf populations remains unclear. Similarly, understanding how marine ecosystems respond to the presence of an apex predator is critical for conservation and

management. To address these gaps, I am investigating gray wolves' use of marine ecosystems across North America through three aims: (1) examining behavioral and locomotory patterns, (2) assessing ecophysiological adaptations, and (3) determining habitat selection. My approach integrates camera trapping, 3D morphometric analyses, necropsies, stable-isotope analyses, and spatial modeling. By collaborating with state, federal, and international researchers, I synthesize inland and coastal wolf data with novel field studies to clarify wolf-marine interactions and potential evolutionary trends.

**Battle, Christopher. Geospatial Verification and Econometric Density Analysis of Renewable Energy Dual-Land Use Trade-offs in Rhode Island**

**Oral Presentation  
Poster Presentation**

Mitchel Brijbag, Christoff Connor-Carty

The expansion of solar energy in Rhode Island presents significant land-use challenges as solar farms increasingly replace agricultural and forested lands. This study employs an interdisciplinary approach, integrating Geographic Information System (GIS), statistical analysis, and econometric methods to assess the environmental and economic trade-offs of solar farm installations. By combining anthropocentric and eco-centric perspectives, it evaluates the balance between renewable energy production and ecological sustainability. Using geospatial verification, the study analyzes over 180 solar fields across Rhode Island. GIS, spatial statistics, and economic density analysis are applied to understand the spatial-environmental effects of solar farm development. Research objectives include verifying solar footprint data (2016-2020), assessing soil quality shifts under solar panel shading, investigating localized solar site clustering, and analyzing statistical density in economic and demographic trade-offs. Methodology involves integrating spatial datasets such as solar farm footprints, NDVI layers, soil quality data, and land use maps in ArcGIS Pro. Techniques include spatial join, zonal statistics, kernel density estimation, and nearest-neighbor analysis. Statistical methods include Moran's I, Ripley's K-function, and econometric regression

models, analyzing the relationship between solar site distribution and geographic, demographic, and zoning variables. Anticipated results suggest that land availability, zoning regulations, and socioeconomic conditions shape solar farm distribution, with spatial clustering and significant environmental and economic trade-offs. The next phase involves soil analysis of verified sites in collaboration with soil scientists at the University of Rhode Island, testing physical, chemical, and microbiological differences in shaded and unshaded areas.

**Belfry, Andrew. Out On The Joke: Humor Attacks Oppressors Without Making Them Victims**

**Oral Presentation**

An effective way of rebelling against an oppressor in narratives is to mock them. Humor can help deflate the influence of perpetrators and encourage others to question their authority. One major challenge with using humor as a weapon is that readers might feel sympathetic to those being mocked. That feeling is reinforced by the superiority theory of humor, which argues the aim of joke tellers is always to ridicule others as a way of feeling superior to them. Thus, the critical question arises: Can humor be used as a weapon by a marginalized group or individual aimed at their oppressors without victimizing the perpetrators? The answer appears to be complex, given that some authors in contemporary American literature have successfully ridiculed their oppressors without causing readers to side with the tormentors. For instance, in *James*, author Percival Everett uses Mark Twain's diction for African Americans, long seen as racist and belittling, as a piece of comedic dramatic irony throughout the novel, exposing the gullibility of the white American population. Additionally, author Nana Kwame Adjei-Brenyah turns to satirical and ridiculous naming conventions of prisoners of color who fight in televised events to illustrate how oppressors must sanitize their barbarism to stomach it in his novel *Chang-Rang All-Stars*. Finally, the comedic tone throughout Paul Beatty's satirical novel *The Sellout* juxtaposes the themes of police violence and racial discrimination in a way that pokes fun at the oppressors without turning them into victims. Overall, using humor to mock oppressors without

making them victims appears to be a tall task. Yet, there are clear examples in contemporary American literature that prove this tactic can be utilized by authors without causing readers to sympathize with those being laughed at.

-C-

**Cerveira-Bianchi, Julia. A Methodological Study: Using Eye Tracking & Comprehension Questions with L1 and L2 Spanish Readers**

**Poster Presentation**

Eye tracking with a violation paradigm is a real-time measure used in second language acquisition to assess implicit knowledge (Godfroid, 2019). Native speakers (L1) demonstrate implicit knowledge, while second language learners (L2) show varying levels of development, serving as a proficiency indicator. In this paradigm, L1 and L2 speakers read grammatical and ungrammatical sentences, and eye-tracking data reveal their sensitivity to grammatical violations. While comprehension questions have been included as an offline measure, little research has examined eye-tracking during these questions, creating a methodological gap. This study addresses that gap by analyzing the relationship between eye-tracking measures (gaze duration and total duration) and comprehension question accuracy and response time. Thirty-seven participants, L1 (N=10) and L2 (N=27) Spanish speakers, read 69 sentences with grammatical or ungrammatical structures in two conditions: temporal reference and adverb placement. Each sentence was followed by a yes/no comprehension question probing a non-critical sentence region. Sentences were pseudorandomized to prevent consecutive exposure to ungrammatical structures. Linear mixed-effects model analysis revealed that L2 speakers were more sensitive to grammatical violations than L1 speakers, shown by significantly longer gaze and total duration. Reaction time to comprehension questions was significant for temporal reference but not adverb placement, suggesting greater sensitivity to temporal reference. Additionally, slower response times were linked to lower comprehension accuracy.

-D-



## **Dias, Eyleen. AI-Driven Athlete Readiness: Integrating Mental Toughness and Physical Performance for Optimized Talent Development**

### **Poster Presentation**

Artificial Intelligence (AI) is transforming sports performance analytics, yet its focus has largely been on physical metrics like speed and endurance. Mental toughness (MT)—encompassing focus, resilience, and decision-making under pressure—is critical to athletic success but remains largely unquantified in AI assessments. This research develops an AI readiness scoring model integrating both physical and mental performance indicators for a holistic evaluation of athlete preparedness. Machine learning (ML) will incorporate physiological and psychological metrics to assess readiness. Physiological data, including heart rate variability (HRV) and galvanic skin response (GSR), will track stress recovery trends, while focus and decision-making ability will be evaluated using electroencephalography (EEG) and self-reported surveys. Publicly available sports datasets and surveys of athletes and coaches will provide qualitative insights into MT. An ML model will process this data to quantify MT scores and correlate them with overall performance. The methodology consists of four phases: (1) Literature Review—examining AI applications in sports and MT assessment tools; (2) Data Collection—analyzing secondary datasets and survey responses; (3) Model Development—creating an AI-based MT evaluation model integrating biometric and psychological data; and (4) Validation—testing the model's accuracy in predicting athlete readiness. Findings will advance AI-driven talent development by offering new insights into how MT influences performance. By integrating MT into AI sports analytics, this research will support coaches, trainers, and organizations in optimizing athlete training, recruitment, and game-time readiness. Future applications could extend to military training, emergency response, and other high-performance cognitive tasks.

## **Dworacek, Samantha. Human Appetite Upon Waking from Cold-Sleep**

### **Oral Presentation Poster Presentation**

**Objectives:** Long-duration spaceflight presents physiological and psychological challenges, including limited supplies. Cold-sleep (CS) is a novel protocol designed to address these issues by cooling and sedating astronauts for 20 hours per day. To maintain musculoskeletal health, astronauts must consume two meals within four waking hours and complete one hour of intense exercise. Given the metabolic suppression of CS, its effect on human appetite remains unknown. **Hypothesis:** We hypothesize that metabolic suppression during CS will impact hunger, satiety, thirst, and desire-to-eat scores before and after meals. **Methods:** Five participants (aged  $43 \pm 15.1$ , 80% male) underwent CS for 20 hours daily, followed by four waking hours. Participants consumed a post-sleep meal, exercised for one hour, then ate a post-exercise meal, both ad libitum. This protocol was repeated for five days. Visual analogue scales (VAS) measured hunger, satiety, thirst, and desire-to-eat before and after meals. **Results:** Pre-meal hunger, desire-to-eat, and thirst scores remained stable across five days. Hunger, desire-to-eat, and thirst on days 1 and 5 were  $42.4 \pm 24.8$  vs.  $52.8 \pm 18.7$ ,  $48.5 \pm 25.7$  vs.  $61.0 \pm 22.5$ , and  $75.1 \pm 17.2$  vs.  $63.3 \pm 12.1$ , respectively. Post-meal satiety remained stable ( $66.2 \pm 9.4$  on day 1 vs.  $60.5 \pm 41.2$  on day 5), while post-meal thirst declined from  $44.8 \pm 23.2$  on day 1 to  $20.3 \pm 11.3$  on day 3. **Conclusion:** VAS scores showed little change in appetite over five days of CS, except for a decline in post-meal thirst. Future research should examine metabolic activity during waking hours and meal composition's impact on appetite.

## **Dubois, Derek. Super Spreaders: Reframing the Role of Consumer as Supplemental Distributor in News Media Supply Chain**

### **Oral Presentation**

Digitalization has transformed the news media supply chain, reshaping consumer roles and interactions while amplifying the importance of engagement in a polarized media environment. Despite this shift, research has yet to fully explore how ideological bias and negative sentiment influence consumer interactivity within these ecosystems. Addressing this gap, we leverage Social Identity Theory (SIT) and a two-pronged empirical

approach to examine these dynamics. A regression analysis of 1,125 social media political posts from news agencies across the ideological spectrum reveals that polarization, measured as ideological bias, significantly correlates with consumer interactivity. However, its impact diminishes at extreme bias levels. Natural language processing further highlights that negative sentiment drives higher consumer engagement, particularly when aligned with partisan identities. These findings advance SIT by positioning consumers as "super-distributors" who amplify content through identity-driven behaviors, fundamentally reshaping the news media supply chain. Practically, our research offers insights for media organizations balancing the need for engagement with the imperative of maintaining journalistic norms.

-E-

**Esposito, Elena. Through Their Eyes: Investigating the Broad Autism Phenotype in Parents**

**Poster Presentation**

The Broad Autism Phenotype (BAP) refers to traits resembling autism spectrum disorder (ASD) that are more common in first-degree relatives of individuals with ASD, suggesting a genetic contribution. While differences in eye gaze patterns have been observed in children with ASD, their manifestation in parents of children with autism (pASD) remains unclear. This study explored eye gaze patterns in pASD during a phonemic restoration task and examined social communication traits using the Social Responsiveness Scale (SRS) and Broad Autism Phenotype Questionnaire (BAPQ). Thirty-eight U.S. adults (pASD and controls) participated in eye-tracking and behavioral assessments. During the phonemic restoration task, participants watched a video of a speaker producing a consistent visual /ba/ sound, while the auditory track alternated between /ba/ and /a/. Eye gaze was tracked across key facial areas. Linear mixed-effects models analyzed gaze patterns, while independent t-tests compared SRS and BAPQ scores. Preliminary results from 15 participants showed no significant differences in eye gaze patterns between pASD and controls ( $p > 0.1$ ). However, among 18 pASD and 18 controls, a moderately significant difference in SRS scores was found ( $p = .06$ ), with pASD scoring

higher. No significant difference was found in BAPQ scores ( $p = .66$ ). While no significant eye gaze differences emerged, the study highlights differences in social communication traits among pASD. Further research with a larger sample may provide deeper insights into the BAP and its impact on communication.

-F-

**Ferguson, Jewelia. Enacted Stigma Modulates Association Between Posttraumatic Stress Disorder Symptoms and Drug Use-Related Harm Among Individuals in Residential Substance Use Treatment**

**Poster Presentation**

Posttraumatic stress disorder (PTSD) is associated with an increased risk of drug use disorder and drug use-related harm (Brady et al., 2021). Research has shown that enacted stigma is strongly associated with drug use among individuals in drug use disorder treatment (Earnshaw et al., 2024). The purpose of the current study was to examine whether enacted stigma moderates the association between PTSD symptoms and drug use-related harm among individuals in residential treatment for substance use. Participants were 139 individuals receiving treatment for substance use in a residential treatment facility ( $M$  age = 40.11, 56.8% men, 61.9% white). PTSD symptoms and past-month drug use-related harm were assessed using the PTSD Checklist for the DSM-5 and Drug Abuse Screening Test, respectively. Participants completed the Substance Use Stigma Mechanisms scale to assess enacted stigma. Enacted stigma moderated the relation between PTSD symptoms and drug use-related harm ( $B = -0.04$ ,  $p = .032$ ), such that PTSD symptoms were significantly associated with drug use-related harm at lower ( $B = 0.04$ ,  $p = .024$ ), but not higher ( $B = 0.02$ ,  $p = .20$ ), levels of enacted stigma. Examination of PTSD symptom clusters revealed that these findings were driven by the negative alterations in mood and cognition and arousal and reactivity PTSD symptom clusters. Findings suggest the potential importance of addressing enacted stigma towards individuals in residential substance use treatment who experience PTSD symptoms to help limit drug use-related harm in this population. Future

research is needed to better understand strategies for intervening on enacted stigma.

## Ferrara, Carmen R. Analysis of a Genetic Toggle Switch System

### Oral Presentation

We investigate the asymptotic behavior of a proposed ODE for Genetic Toggle switches from Mathematics of the genome by Rajapakse, I., & Smale, S. and Construction of a genetic toggle switch in *Escherichia coli*. by T. S. Gardner, C. R. Cantor, J. J. Collins.

$$\frac{dx}{dt} = \frac{a}{1+y^m} - x$$

$$\frac{dy}{dt} = \frac{b}{1+x^n} - y$$

We will also investigate the asymptotic behavior of the derived discretized version:

$$\frac{x_{n+1} - x_n}{h_1} = \frac{a}{1+y_n^m} - x_n$$

$$\frac{y_{n+1} - y_n}{h_2} = \frac{b}{1+x_n^n} - y_n$$

or simplified as

$$x_{n+1} = a_1 x_n + \frac{b_1}{1+y_n^m} = f(x_n, y_n)$$

$$y_{n+1} = a_2 y_n + \frac{b_2}{1+x_n^n} = g(x_n, y_n)$$

Where  $(1-h_1) = a_1$ ,  $(1-h_2) = a_2$ ,  $ah_1 = b_1$  and  $bh_2 = b_2$  and  $a_1, a_2 \in (0,1)$  where  $x$  and  $y$  represent protein concentrations at a particular time and  $a, b, m, n > 0$  and  $p, q > 0$  respectively above.

## Franzetta, Sharon. Supply Management Efficiency Under Bundled Payments

### Oral Presentation

As United States (US) healthcare costs rise, the US government run healthcare insurance provider, the Centers for Medicare and Medicaid (CMS) incentivizes hospitals to reduce costs and to improve patient outcomes. This Transformative Paradigm study utilizes a quantitative, qualitative mixed-method research design examining hospitals participating in CMS bundled payment programs to understand the relationship between job performance goals and employee decision-making to answer the research question: *What is the relationship between medical device supply management efficiency and medical device order decisions made to achieve job performance measurements?* Previous studies examining CMS bundled payment program impacting hospital decision-making primarily focused on labor and quality of care, not the impact on supply management efficiency. This study addresses this gap through examining supply management behavior in US hospitals participating in CMS

bundled payment programs. Findings show supply management efficiency increases when hospitals participate in bundled payment programs, suggesting there is more coordination among physicians, nurses, and procurement in these hospitals. Through the lens of Transaction Cost Economics theory, findings suggest that while weighing options in supply-related decisions, pride in achieving job performance is a key factor. While employee perspectives project misaligned job performance goals, the results illustrate that physicians, nurses, and procurement teams in fact overlook their overarching shared goals. This implies that establishing collaborative supply ordering frameworks could improve awareness during decision-making and create overall greater efficiency.

-G-

## Ghaderi, Ali. Ali Tolkien's Canon, Screen Adaptations, and Being Infidel: Possibilities in the Light of Stam's Dialogism

### Oral Presentation

Robert Stam follows the Bakhtinian path in emphasizing the critical role of dialogism in narrative studies. His dialogics of adaptation help scholars of fantasy adaptation consider an intertextual dialogism, which goes beyond the simplistic emphasis put on fidelity and calls for paying attention to the depths and complexities of ever-changing inter/con-textualities. In other words, Stam paves the way for us to investigate the reciprocal relation between the source and its adaptation(s) and replaces the linear hierarchy of the canonized text and the adapted screen story with a process of dynamic cultural reciprocity. Building on this core idea, I will explore the rhizomatic interfaces across Tolkien's narratives in Amazon's series, *The Rings of Power*, and media innovations and deviations in this presentation. This study will also bring examples of other game and screen adaptations. I will argue that Stam's dialogism reveals Tolkien's literary heritage's capabilities through media adaptations beyond rigid fidelity and not deforming the source material. Vivid examples of this claim are the changes brought to the character of Galadriel, the racial diversity in casting, and the portrayal of Harfoots

as free agencies moving on the border of history and narrative in Middle-earth. Demonstrating how texts' afterlives and resurrections lie within the adaptations, this study portrays adaptations as a means of critiquing the textual sources. Therefore, the present study will read Amazon's series as a critique of one-dimensional and prejudiced interpretations of Tolkienian literary heritage. This approach preserves the right to evaluate and interpret adaptations as dynamic re-enlivening of texts beyond the mere questions of fidelity, betrayal, and deformation.

### **Greenlee, Janee. Green Justice: Solution to Environmental Racism**

#### **Poster Presentation**

Environmental racism continues to be prevalent in marginalized communities who experience the danger of pollution and toxic waste exposure. Case studies such as the Flint water crisis, Cancer Alley, Detroit's industrial pollution, and air quality disparities in the South Bronx show systematic neglect that prioritizes corporate and economic interests over public health. The establishment of an Environmental Equity Sub-Office within the Environmental Protection Agency (EPA) to address these injustices through stricter regulations, corporate reporting, and increased community involvement. Using Bardach's Eightfold Path as a policy framework, this proposal explores the effectiveness, feasibility, and equity of implementing such an office. A dedicated EPA sub-office would serve as a crucial step by significantly enhancing environmental justice efforts, ensuring that all communities, regardless of race or socioeconomic status, have access to a safe and healthy environment.

-H-

**Helminen, Amy. Knowing and Being Known: Using Intersubjectivity to Deconstruct the Ambiguous Female in Virginia Woolf's *Mrs. Dalloway*, *The Years* and *Between the Acts***

#### **Oral Presentation**

For this conference, I will present my current doctoral research on how Virginia Woolf's complex narrative structure reveals the complex underpinnings of the female psyche that in turn influence identity and behavior. The first component of my research involves relaying how Woolf moved away from the confines of postmodern and postwar patriarchal/fascist systems by attending to the ideas of unity and group consciousness and reinforcing a sense of shared experience among her individual, free-thinking characters. I then explore how Woolf's narrative methodologies, including stream of conscious prose and indirect interior monologue, allow her readers to navigate through her characters' public and private spheres. As I examine the pervading conflicts of Clarissa Dalloway from *Mrs. Dalloway*, Eleanor Pargiter from *The Years*, and Isa Oliver from *Between the Acts*, I relay how the disconnects between their inner reflections and social performances reveal an unresolved psychosocial tension amongst females in the contemporary domestic sphere. In considering how Woolf's readers and her other characters reconcile with the fragmented identities of these protagonists, I aim to answer the following questions: What do Woolf's patterns of what she chooses to reveal and not reveal suggest about how we account for others' minds in reality? As Woolf's other characters and her readers try to account for this "not knowing" via intersubjectivity, how accurate are their presumptions, and how do human biases interfere? In other words, how reliable is the tool of intersubjectivity? While identity remains a complex subject, what do Woolf's narratives suggest about the degree to which we can know another person?

-I-

**Ivory, Hallie. Improving Thermal Comfort of Firefighter Personal Protective Equipment with a Focus on Enhancing Moisture Wicking Abilities: A Systematic Literature Review**

#### **Poster Presentation**

Firefighters wear multi-layered personal protective equipment (PPE), with each layer serving a specific function for safety and comfort in high-heat environments. The thermal liner, the innermost layer, plays a key role in insulation and moisture

management (Ticlo & Rao, 2024). Heat stress is a major concern, as prolonged exposure to high temperatures and limited evaporative cooling can cause discomfort, injuries, or fatalities (Mandal et al., 2018; Selkirk & McLellan, 2004). Effective moisture management is essential for regulating body temperature, reducing injuries, and maintaining performance (Houshyar et al., 2017). However, current PPE is heavy and restricts water vapor permeability, exacerbating heat stress (Mandal et al., 2018; Nayak et al., 2014). This study systematically reviews factors influencing moisture wicking and evaluates both traditional and novel fibers used in thermal liners. Traditional fibers, such as knitted fire-retardant modacrylic and non-woven aramid, are compared to novel fibers like viloft. The study analyzes fiber morphology, composition, and capillary action to assess their impact on moisture transport. The objective is to identify the most effective fiber for firefighter PPE. By synthesizing existing research, this review aims to determine fiber compositions that optimize moisture management, comfort, and thermal protection. Findings may contribute to the development of improved thermal liners, enhancing firefighter safety and performance while reducing heat stress in high-temperature conditions.

-J-

## **Johnson, Ren. Bee Diversity of Wild and Cultivated Cranberry Bogs in Rhode Island**

### **Oral Presentation Poster Presentation**

Cranberry, an economically and dietarily important crop grown in New England, is reliant on insect pollinators for maximum yield. Cranberry flowers have poricidal anthers and can only be efficiently pollinated by bees that are capable of buzz pollination. Honey bees, non native bees that are commonly used to supplement cranberry pollination, are not capable of buzz pollination. This makes cranberries the second most expensive crop in New England in terms of pollination services due to the large number of honey bees required for sufficient pollination. Our goal is to identify the wild pollinators of cranberry flowers to encourage cranberry growers to create insect habitat around their bogs and reduce their reliance

on honey bees. In June and July 2024, we surveyed six commercial cranberry bogs and three wild bogs. We monitored the cultivated bogs by walking along 50m transects on the bog edges for 15 minutes and catching every bee visiting the flowers. In wild populations, we surveyed the area for 30 minutes to an hour depending on the size of the bog, catching every bee encountered. Bees were pinned, identified, and wiped of their pollen for future analysis. This study will give us important information on the natural history of cranberries in Rhode Island and allow us to determine the most efficient pollinators of cranberry crops

-K-

## **Keough, Alexa. Slipping Off the Sealskin: Examining the Nuances of Intimate Partner Violence in Selkie Mythology**

### **Oral Presentation**

Myths of selkies in various cultural contexts have long been used to address both environmental concerns and the ever-perilous nature of gender relations; an additional feminist reading of popular selkie folklore also reveals deeper dialogue about the issue of intimate partner violence (IPV) present in many narratives that feature them. A hallmark of the selkie story is to have one's sealskin stolen and held hostage by a lustful fisherman--is this trope an archaic attempt at romance, or a signifier of a deeper conversation about partnership and pain to be beheld within the scope of the fable? Both readings raise questions about intimacy, control, and compulsion that hold significant modern relevance.

Much like the slippery sinuousness of the seal, definitions of IPV have been widely varied and deeply difficult to accurately diagnose; selkie stories offer perspectives on lesser-known aspects of IPV, such as coercive control, financial exploitation, and familial alienation through a distinctly folkloric lens. The following paper uses selkie myths from various cultures and locations (including but not limited to its native Scotland, Iceland, and the Pacific Northwest United States) along with the contemporary novel *A Sweet String of Salt* (Rose Sutherland) to examine how the legend of the selkie can provide valuable insight into both the psychological causes and effects of a pervasive social problem.



## **Kiefer, Reina. Role of Sexual Assault Severity in the Association Between Trauma-Related Shame and Drinking-Related Problems**

### **Poster Presentation**

Reina Kiefer, M.A., Diana Ho, M.A., Noam Newberger, M.A., Jewelia J. Ferguson, M.A., Nicole H. Weiss, Ph.D.

Undergraduate students with a history of trauma are at greater risk for drinking-related problems compared to those without such a history (Read et al., 2015). However, further research is needed to clarify factors that may influence this relationship. Given documented associations between sexual assault, shame, and alcohol (Bedard-Gilligan et al., 2011; Forkus et al., 2024) the current study sought to examine sexual assault severity as a moderator of the relationship between trauma-related shame and drinking-related problems. Undergraduate women ages 18-25 with a history of childhood trauma ( $N = 325$ ) were recruited via email listserv to complete a web-based (i.e., Qualtrics) survey. Results indicated significant positive associations among trauma-related shame, sexual assault severity, and drinking-related problems. Trauma-related shame was found to be associated with drinking-related problems at high ( $B = .042$ ,  $SE = .020$ ,  $t = 2.13$ ,  $p = .034$ ,  $95\% CI [.003, .081]$ ), but not low ( $B = .004$ ,  $SE = .018$ ,  $t = 0.21$ ,  $p = .831$ ,  $95\% CI [-.031, .039]$ ), levels of sexual assault severity. This study highlights the importance of assessing sexual assault history and related concerns in undergraduate women with a history of trauma who report drinking-related problems. University health coordinators aiming to reduce undergraduates' drinking-related problems may benefit from considering the potential role of sexual assault severity and trauma-related shame as barriers to achieving drinking-related behavior changes.

## **King Sannes, Nina. Converging Dys/Utopias in Octavia Butler's *Parable of the Sower***

### **Oral Presentation**

Afrofuturism reimagines black agency in speculative futures, as Ytasha Womack noted in

2017: "Imagining oneself in the future creates agency." Octavia Butler, often called the mother of Afrofuturism, explores this in *Parable of the Sower*, a novel blending dystopian and utopian visions within the black speculative fiction tradition. Speculative fiction opposes fixed notions of "normal reality," a concept shaped by cultural and individual experiences. Scholars like James Haile and Reynaldo Anderson argue that black speculative fiction is not a subgenre but a distinct genre. *Parable of the Sower* reveals overlapping societies where utopias expose dystopian undercurrents. Dystopian fiction serves as a literary warning, reflecting contemporary fears in imagined futures. In the Euro-modern speculative tradition, utopian narratives often embed whiteness as an anthropological norm. This exclusionary framing is evident in the censorship of Alisha B. Wormsley's 2017 Detroit installation, *There are Black People in the Future*, deemed too controversial for public display. Speculative fiction creates space for alternative ways of being. *Parable of the Sower* reconfigures black female identity through interdependence as resistance, posthumanism, and the critique of God's alignment with whiteness and maleness. By analyzing the novel's theoretical and historical contexts, we see that dystopia and utopia are fluid, shifting concepts, inseparable from the reader's perspective.

## **Koch, Kieran Rae. What's the Use? Object Interaction for the Conservation of Local History Collections**

### **Poster Presentation**

Changing perspectives on conservation in cultural heritage organizations emphasize that preserving physical objects without community participation leads to a loss of cultural knowledge. This challenge is particularly significant for small, local history collections where limited budgets and labor hinder preventative conservation measures such as pest management, climate control, and regular assessments. As a result, these organizations may engage in unconventional collection interactions, including touching artifacts, wearing historic clothing, and using tools—practices often criticized by standard conservation codes. However, such interactions can provide valuable insights into

collections management and knowledge preservation. Responding to a 2023 Foundation for Advancement in Conservation report advocating for flexible, community-driven conservation approaches, this study investigates how local history organizations “use” their collections. It examines how resource limitations shape object-use practices and explores how these strategies contribute to evolving, community-centered conservation methods. Through an ethnographic approach, this research includes interviews with staff and volunteers at historical societies, house museums, and local history organizations in Rhode Island, southeastern Massachusetts, and eastern Connecticut. Additionally, observational site visits will incorporate an “ethnography of infrastructure” perspective, analyzing catalog records, storage spaces, exhibitions, and digital archives. Currently in its exploratory phase, this study is refining interview and observational protocols through pilot studies. Attendees of this presentation will gain insights into contemporary conservation theory, local history’s role in community engagement, and qualitative research methods, while also considering the application of “ethnography of infrastructure” in promoting sustainable collections practices.

**Kpoor, Rebecca. Clothing/Apparel Branding and its Effect on Consumer Purchase Intentions in Accra, Ghana**

**Poster Presentation**

**Problem Statement:** Branding is a crucial aspect of the apparel industry, influencing growth and competitive advantage. In Ghana, however, apparel branding is often overlooked despite the rise of small businesses in Accra’s apparel sector (Odoom, 2015). This study examines the effect of apparel branding on consumer purchase intentions in Accra, Ghana. **Justification:** Effective branding enhances a company’s image and influences consumer behavior. Ghanaian students are increasingly exposed to both local and global fashion brands, shaping their awareness of apparel value. Following the Ghanaian president’s initiative to promote “Made in Ghana” products, youth are increasingly purchasing and wearing locally made clothing, shoes, and bags. This research aims to help Ghanaian apparel industries develop branding strategies that impact consumer purchase

decisions. **Methodology:** This quantitative study will use simple random sampling to collect data from approximately 150 students at Accra Technical University. Students are an ideal target group due to their high consumption of fashion apparel. The study will gather demographic data, including age, religion, marital status, and income level.

-L-

**Lamoreaux, Edie. The Madwoman: Tracking the Archetype from Jane Eyre into Contemporary Narrative Literature**

**Oral Presentation**

The feminine character in literature is historically constructed and defined by societal expectations and the patriarchal hand, prevalent in concepts such as the angel and madwoman dichotomy. As an opposition to the angel, the madwoman is characterized by her “insanity.” Determined by the oppressive boundaries surrounding women in the Victorian era, this trait is defined as extreme emotional expression, because of which many were ostracized and condemned from society. This essay will explore the madwoman of nineteenth century narrative literature and analyze changes in its definition and representation alongside shifts in feminism, literature, and societal expectations over time. I will touch on the male contrived construct of the madwoman, the patriarch evident in literature and its dictation of female hysteria, anger, and expression, as a foundation for locating and ascribing cause for changing perspectives of the trope. Following Charlotte Brontë’s *Jane Eyre* as historical and contextual focal point, I will aim to determine the impact of the madwoman archetype upon contemporary literature and feminist culture, drawing from Sandra Gilbert and Susan Gubar’s *The Madwoman in the Attic*. While their text deconstructs the oppressed Victorian female psyche and its portrayal in Bertha, the madwoman of *Jane Eyre*, this essay will track the movement of the archetype past the era in which it was conceived. I will conserve Gilbert and Gubar’s argument while considering different interpretations of the madwoman as it applies to different eras of feminism and genre, attending greatly to its presence in contemporary narrative literature and

how it interacts with current ideals of femininity, emotion, and oppression.

### **Light, Emily. MuSALS (Multiple Sequence Alignment at Scale)**

#### **Oral Presentation**

The multiple sequence alignment (MSA) problem has been extensively studied, with numerous approaches developed over recent years. With the rapid growth of Big Data, there is an increasing need for fast and accurate MSA tools that scale effectively to large datasets. Building on the Pasta approach [1] and the previous work on CLAM [2], we introduce MuSALS (Multiple Sequence Alignment at Scale), a fast and scalable de novo MSA aligner. MuSALS uses hierarchical clustering to construct a guide tree based on the Levenshtein distance metric, enabling efficient and accurate alignment through a bottom-up approach. Designed for high-throughput sequencing applications, MuSALS achieves competitive accuracy compared to state-of-the-art methods while significantly improving runtime performance. This makes it a valuable tool for researchers analyzing large-scale genomic and metagenomic datasets, addressing the growing demand for scalable bioinformatics solutions. [1] Najib Ishaq, George Student, and Noah M. Daniels. Clustered Hierarchical Entropy-Scaling Search of Astronomical and Biological Data. In 2019 IEEE International Conference on Big Data (Big Data), pages 780–789, December 2019. [2] Siavash Mirarab, Nam Nguyen, Sheng Guo, Li-San Wang, Junhyong Kim, and Tandy Warnow. PASTA: Ultra-Large Multiple Sequence Alignment for Nucleotide and Amino-Acid Sequences. *Journal of Computational Biology*, 22(5):377–386, May 2015

-M-

### **Manning, Emma. Disguised: Unmasking Early Mass Market Halloween Costumes in Two Rhode Island**

#### **Poster Presentation**

Halloween is one of the most commercially significant holidays in the United States, yet its historical evolution, particularly in the early twentieth century, remains underexplored. (“Retail Holiday,” n.d.) While previous studies have

examined the holiday’s origins and traditions, they often neglect the material artifacts that provide valuable insights into its cultural development (Bannatyne, 1990; Morton, 2012; Santino, 1983). This research applies Jules David Prown’s material culture approach to analyze early twentieth-century Halloween costumes in two Rhode Island collections: the South County Museum and the University of Rhode Island’s Historic Textile and Costume Collection. Utilizing Prown’s framework for engaging with artifacts, this study examines eight costumes to explore their role in reflecting social values and community practices. The costumes examined span from the early 1920s to the late 1930s, illustrating the transformation of Halloween attire. Two costumes from Victorian-era masquerade balls highlight the use of luxury fabric and elite costume traditions. The remaining six costumes reflect the shift toward democratized Halloween celebrations, featuring early mass market designs. These costumes, characterized by simple construction, lightweight cotton fabric, and hand-painted decoration, serve as early examples of commercially available Halloween attire, marking the transition from exclusive masquerade events to widespread community participation in costume-wearing traditions. By examining understudied costumes from regional collections, this research highlights the value of material culture as a tool for uncovering societal values, cultural shifts, and local traditions, contributing to a broader understanding of Halloween’s development as a major cultural and commercial phenomenon.

### **Richard M. McGee: ‘A Natural Human Activity’: Storytelling as the Shared Goal of History and Fantasy**

#### **Oral Presentation**

Traditionally, history and fantasy are opposites. History can be considered the factual study of what has occurred within reality and is rooted only in truth. On the other hand, fantasy is complete fiction, entailing that which cannot ever be conceived by the laws of reality because it is simply impossible, wondrous, or even childlike. However, the field of history and fantasy literature share an overarching goal: storytelling. Historians tell stories of the past, and fantasy authors tell

stories of imagination. While different at face value, both are based on the contexts a person experiences, how they view their world, and how they wish to comment on that world. If done correctly, history can become a riveting narrative like that of a favorite fairy tale. No matter their form, stories are essential. Stories, at their core, protect people from and embrace the problems of reality. Whether a story is considered true or false is based on perspective, as each person approaches, comprehends, and views their realities different from each other. This is evident in research conducted by different historians, just as fantasy authors make their plots unique from each other. The central way to analyze this shared interdisciplinary mission between history and contemporary mythology is through a comparative discussion based on J.R.R. Tolkien's 1947 essay "On Fairy Stories." History and fantasy share three key benefits that Tolkien argued allow a person to embrace storytelling as the natural human activity it is. These three benefits are "recovery," "escape," and "consolation."

**Mensah, Evelyn. Effect of early life exposure to lipid-based nutrient supplements on pubertal hormones at 9-11 years of age**

**Oral Presentation**

Evelyn A. Mensah, Seth Adu-Afarwuah, Charles D. Arnold, Paul D. Hastings, Sammy Ahmed, Benjamin Amponsah, Lois Maame Donkor Aryee, Kathryn G. Dewey, Amanda E. Guyer, Fatimah Bintu Ayete Labi, Adom Manu, Mavis Osipi Mensah, Helena Nti, Elizabeth L. Prado, Elizabeth A. Shirtcliff, Maya Vadiveloo, Brietta M. Oaks

**Objectives:** Limited research suggests that small-quantity lipid-based nutrient supplements (SQ-LNS) during the first 1,000 days may accelerate pubertal development in females aged 11-13. This study examined the effects of SQ-LNS on pubertal hormone concentrations. **Methods:** This follow-up

study analyzed data from a partially double-blind randomized controlled trial in eastern Ghana (2009-2011). A total of 1,320 pregnant women  $\leq 20$  weeks were assigned to receive iron and folic acid (IFA), multiple micronutrients (MMN), or SQ-LNS during pregnancy and postpartum. Their children received SQ-LNS from 6 to 18 months. Follow-up assessments (2019-2020) measured hormone concentrations in hair samples from 9- to 11-year-old offspring. ANOVA compared SQ-LNS and non-LNS groups (IFA and MMN combined). Results: Of 966 participating children, 650 hair samples (464-650 per hormone) were analyzed (436 non-LNS, 214 SQ-LNS). The mean age was  $9.9 \pm 0.5$  years; 48% were boys. No significant differences were found between SQ-LNS and non-LNS groups for testosterone ( $P = 0.854$ ), dehydroepiandrosterone ( $P = 0.337$ ), or progesterone ( $P = 0.573$ ). However, estradiol concentrations were lower in the SQ-LNS group (32.78 pg/g [95% CI: 22.4, 47.4]) than the non-LNS group (37.29 pg/g [95% CI: 26.18, 51.38],  $P = 0.050$ ). **Conclusions:** Despite prior findings suggesting advanced pubertal development at 11-13 years, hormone concentrations at 9-11 years did not support this. This aligns with self-reports at 9-11 years, likely reflecting an earlier stage of reproductive development.

**Mensah, Ophelia. Predictors of caregiver satisfaction with the State of Rhode Island Special Supplemental Nutrition Program for Women, Infants and Children**

**Oral Presentation**

Ophelia X. Mensah, Fred B. Addo, Emilie Signore, Kathryn Roy, Ann Barone, Nick N. Hamdi, Sarah Amin, Isaac Agbemaflle

**Background and Objectives:** The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) has been linked to positive health outcomes. However, caregiver perspectives on WIC in Rhode Island remain unexplored. This study examines factors influencing caregiver satisfaction with WIC. **Methods:** A cross-sectional study of 163 caregivers receiving WIC services (online or in-person) in Rhode Island was conducted using a self-administered questionnaire. Data included socio-demographics, WIC experiences, service awareness,

and satisfaction ratings (customer service, appointment duration, overall satisfaction) on a 3-item Likert scale. Ordered logistic regression identified predictors of satisfaction. Results: The mean caregiver age was 30 years; 52.8% had a high school education, half were non-Hispanic, and 52.8% were unemployed. Eight percent reported difficulties, primarily difficulty finding WIC foods, and 14.7% suggested improving product identification in stores. Caregivers with less than a high school education (OR= 0.14, 95% CI= 0.02, 0.79) or some college (OR= 0.16, 95% CI= 0.03, 0.92) had lower satisfaction than college graduates. Spanish-speaking caregivers were 97% less likely to be satisfied than English-speaking caregivers (OR= 0.03, 95% CI= 0.01, 0.09). Current WIC participants were 13.5 times more likely to be satisfied than those who dropped out (OR= 13.57, 95% CI= 1.74, 25.80). Receiving WIC referrals increased satisfaction 4.6 times (OR= 4.63, 95% CI= 1.28, 16.71). Conclusion: Education, language preference, enrollment status, and referrals influence caregiver satisfaction. These factors should guide interventions to improve WIC participation and retention.

### **Mitchell, Cassie. The Power in Persistence: Thinking for Oneself through Postmodern Literature**

#### **Poster Presentation**

Adaptation and continual use of traditional literary genres such as myths and legends are intertwined within more contemporary works, specifically exemplified within postmodern literature. Postmodern literature depicts recognized and perpetuated notions of social chaos, order, and subconscious ideologies perceived through particular elements of tradition impacted by previous media, literature, and governmental institutions. Throughout history, literature has influenced a collective through individual readings, but firstly through the readings of others with more accessibility, wealth, and agenda, turning to oral translation to perpetuate myths and legends to forewarn and mediate human behavior. The postmodern era and the continuous adaptation of historical and scientific fact and fiction persists contemporary thought, patterns of human ideologies, relevant discussions of a period, and the

cyclical, evolving nature of recurring topics such as scientific discovery, human limitations, social etiquette and perceived intellect. Postmodern literature motivates imaginative dialogue that projects itself outside of preconceived ideologies, going outside of ideas that crave being viewed as different, new and elite yet allocates itself to a previous notion of fragile order than is reliant on the combined infrastructure of power, delegation and ill-proposed assumptions about the reality and necessity of human nature. I posit that the continuation of postmodern literature and use of the imagination predicates foreseeable change in the collective nuance of human consciousness and consumption.

### **Monte, Brittany. Characterization of a Novel Rat Model Containing the Homozygous R302Q HTRA-1 Mutation: Implications for CARASIL Research**

#### **Poster Presentation**

Brittany Monte, Judianne Davis, Mark Majchrzak, Feng Xu, Xiaoyue Zhu, Hedok Lee, John K. Robinson, Helene Benveniste and William E. Van Nostrand

Cerebral Autosomal Recessive Arteriopathy with Subcortical Infarcts and Leukoencephalopathy (CARASIL) is a rare cerebral small vessel disease (SVD) caused by mutations in the High Temperature Requirement Serine Peptidase-1 (HTRA-1) gene. HTRA-1 regulates cytokine signaling pathways, including the Transforming Growth Factor Beta 1 (TGF- $\beta$ 1) pathway (Kato et al., 2021). Loss-of-function mutations in HTRA-1 lead to early-onset lacunar stroke, thickened cerebral arterioles, vascular smooth muscle cell loss, cerebral microbleeds, cognitive decline, increased bone density, spondylosis, and progressive alopecia (Tikka et al., 2014). To date, no pre-clinical rodent model exists to study CARASIL pathology. This study introduces a novel gene-edited rat model (CRHTRA1), incorporating the R302Q CARASIL mutation in the endogenous *htra1* gene. At 12 months, CRHTRA1 rats exhibit significant spatial working memory impairments, gait disturbances, and histological signs of vascular pathology, including thickened vessel walls, reduced lumen areas in cerebral arterioles and pial arteries, and increased capillary tortuosity.



Elevated levels of extracellular matrix proteins (Fibronectin-1 and LTBP4) are observed in pial arteries, consistent with CARASIL pathology. Additional findings include increased internal elastic lamina thickening, reduced smooth muscle cells, and white matter alterations detected by Diffusion Tensor Imaging (DTI) and Fractional Anisotropy (FA) analysis, particularly in the basal forebrain, ventral striatum, and septal region. This model replicates key clinical CARASIL features and provides a valuable platform for studying disease mechanisms and evaluating therapeutic interventions for cerebral small vessel diseases.

-N-

### **Najel, Ruth. Content Engagement Strategies for African Cultural Fashion Brands on Instagram**

#### **Poster Presentation**

Instagram is a leading platform for visually driven businesses, particularly in the fashion apparel industry, where brands thrive exclusively online (Bharti, 2021). As content-driven marketing gains prominence (Ryhu"nen, 2029), brands must strategically craft posts using various elements and messaging strategies to enhance engagement. While social media engagement strategies for mainstream fashion brands are well-researched, there is a gap in understanding how cultural fashion brands leverage Instagram. Cultural fashion brands create clothing and accessories inspired by heritage, traditions, and identity (Fashinnovation, 2021). This study identifies the most effective Instagram content strategies for African cultural fashion brands by analyzing content formats (videos/images), communication strategies (call to action, emotional storytelling, exclusivity), and visual branding (diversity representation). Marketing strategies serve as the independent variable, while engagement rates are the dependent variable. A content analysis of 405 Instagram posts from three prominent African cultural fashion brands—Imane Ayissi, Lisa Folawiyo, and Christie Brown—will be conducted over six months (August 2024–January 2025). Engagement metrics (comments, likes) will be analyzed using Instagram post analytics, systematic sampling, and statistical tools such as SPSS and

Excel. Hypotheses include:

H1: Video content generates higher engagement than static images.

H2: Emotional storytelling prompts more audience interaction than exclusivity strategies.

H3: Posts featuring diverse representation receive higher engagement. By examining these strategies, this study provides data-driven insights for optimizing Instagram marketing in African cultural fashion, contributing to digital marketing discourse and enhancing brands' online presence.

### **Nair, Roshan Rajan. Tackling Migrant Labor Shortages in India's Garment Industry: Global Insights for Sustainable Growth of India's Garment Exports**

#### **Oral Presentation**

#### **Poster Presentation**

The garment industry in Tirupur, Tamil Nadu, a vital hub for India's textile exports, is experiencing a growing shortage of migrant workers (Shanmugham, 2023). Traditionally, workers from economically disadvantaged states like Bihar, Uttar Pradesh, Odisha, and Jharkhand have filled labor intensive roles in Tirupur's garment factories. However, recent trends show a decline in migration to the region (Goshal, 2024). This study investigates the causes of this labor shortage, focusing on factors such as improved local job opportunities, changing aspirations among youth, and negative perceptions of working conditions in the garment sector (Goshal, 2024). By interviewing migrant workers and factory managers in Tirupur, the study aims to explore workers' personal experiences and gather insights from factory owners about their strategies to manage labor shortages. The researcher, whose family owns a garment factory in Tirupur, has direct access to migrant workers and factory managers. Migrant workers will be asked about their reasons for migrating, job satisfaction, and perceptions of working conditions, while factory

managers will discuss the impact of labor shortages and their strategies. Quantitative data, such as attendance and retention rates, will be analyzed to identify patterns of absenteeism and turnover. The study will also examine successful strategies from other countries, such as higher wages, performance based incentives, and improved living conditions, to address labor shortages in garment industries (Wang, 2015). The research will apply the Lewis' Dual Sector Model and Social Exchange Theory to understand migration patterns and employer employee relationships (Jacob, 2024; Crane et al., 2019). The findings aim to help industry leaders and policymakers address labor shortages and ensure sustainable growth in Tamil Nadu's garment industry (Minhas, 2024).

### **Nessari Poortak, Ghazal. Narrating the Self in Crisis: Autofiction, Memory, and Trauma in Metamodern Literature**

#### **Oral Presentation**

Once the Habermasian project of modernity had been exhausted and time had already pushed us onwards, it was up to postmodernity to revisit time conceptually. In terms of literary criticism, we were now witness to new studies like memory and trauma studies, both closely tied to the historical backdrop post-WWII. Our chronological understanding of time—and by extension the past—was challenged and literature was enthusiastically embracing the fragmentation brought to the literary scene. This article looks at the way we have learned and taught the phenomenological attributes of modernist literature and aims to explore one of the connecting bridges between modernist and postmodernist works. By counting on its intermediate position, metamodernism and its treatment of memory and trauma are the building blocks of this bridge. This study demonstrates how the exploration of traumatic memory initiates a seamless transition from modernist to postmodernist works of art and transcends the monolithic understanding of modernism and postmodernism. For this purpose,

I will focus on genres special to this matter, autofiction and memoir. John Banville's *Time Pieces* and Joan Didion's *The Year of Magical Thinking* are the two examples I present as metamodernist works that oscillate between modernism and postmodernism through their use of mnemonic and traumatic elements. This analysis will begin by a survey of the wide set of definitions of the said literary movements. In an effort to illustrate that metamodernist literature this analysis will be informed by the scholarly work of Astrid Erll, particularly her book *Memory in Culture*. Additionally, this paper benefits greatly from Alison Gibbons and Robin van den Akker's *Metamodernism* whose perspectives on memoirs and autofictive writing have been essential for this research.

### **Newberger, Noam. Associations Between Recovery Capital, Posttraumatic Stress Disorder, and Treatment Motivation**

#### **Poster Presentation**

Posttraumatic stress disorder (PTSD) is highly comorbid with opioid use disorder (OUD; Mills et al., 2018) and associated with poorer response to OUD treatment (Meshberg-Cohen et al., 2021). Recovery capital has been linked to OUD treatment engagement, completion, and long-term outcomes (Headid et al., 2024); however, there is limited research on the influence of PTSD on recovery capital. Individual differences in motivation for substance use treatment have been shown to improve treatment engagement and outcomes, and may influence the association between PTSD symptoms and recovery capital (Cahill et al., 2003). Addressing critical gaps in the literature, the current study used path analysis to explicate the pathways from PTSD and OUD severity and treatment motivation to recovery capital. Participants were 115 individuals currently in residential substance use treatment ( $M_{\text{age}} = 38.18$  years; 70.4% white). PTSD diagnosis and OUD severity was assessed via clinician-administered diagnostic interview. Participants self-reported on treatment motivation and recovery capital. The overall model demonstrated good fit ( $\chi^2=13.43$ ;  $P=0.34$ ; RMSEA=0.04 [90% CI: 0.00–0.13]; CFI=0.98) and a total of 46% of recovery capital was explained. PTSD was negatively associated with recovery capital ( $B=-0.36$ ,  $p=0.04$ ), but this

association was not mediated by treatment motivation. OUD severity ( $B=-0.77$ ,  $p=0.04$ ), external motivation ( $B=-0.87$ ,  $p=0.03$ ) and interpersonal help seeking ( $B=4.16$ ,  $p<0.001$ ) were all significantly associated with recovery capital. Future research is needed to further identify the mechanisms by which PTSD influences recovery capital. Such studies may inform treatment and recovery outcomes for individuals with comorbid PTSD and OUD.

## **Norton, Michael. Greenhouse Gas Emissions in Tidal Wetlands of Southern New England**

### **Oral Presentation**

Tidal Marshes are wetland ecosystems at the marine-terrestrial interface which serve as strong sinks for atmospheric carbon dioxide and large reservoirs of soil organic carbon (SOC). However, due to their saturated, oxygen depleted conditions, tidal marsh soils also produce and emit the potent greenhouse gas methane ( $\text{CH}_4$ ), which contributes to planetary warming. Previous work has demonstrated that  $\text{CH}_4$  emission (also known as methane flux) is inversely related to salinity is negligible compared to carbon dioxide ( $\text{CO}_2$ ) uptake in marshes with salinities of  $>18$  parts per thousand (ppt). However, in lower salinity tidal marshes,  $\text{CH}_4$  flux is highly variable, and can be of a considerably high magnitude. In order to better understand drivers of methane flux across a range of salinities, we established three transects along estuarine gradients in Rhode Island and Connecticut, USA. At landward and seaward sites along each transect, we measured methane flux, salinity, and conducted various porewater and soil chemical analyses. We found that methane flux was significantly higher and more variable in marshes where salinity is less than 18 ppt (mean  $\pm$  standard error:  $273.1 \pm 74.2 \mu\text{mol m}^{-2} \text{hr}^{-1}$  (micromoles per square meter per hour) versus  $24.0 \pm 3.7 \mu\text{mol m}^{-2} \text{hr}^{-1}$  for marshes where salinity is greater 18 ppt), and the highest 50 percent of methane fluxes had an average salinity of  $16 \pm 0.85$  parts per thousand. The highest magnitude methane fluxes occurred when sulfate was nearly depleted in marsh porewater, indicating that sulfate abundance dampens methane production, but demonstrating the need for further investigation into processes governing sulfate depletion and replenishment in

salt marshes, and the degree to which salinity is a reliable proxy for sulfate concentration. Additionally, the lack of spatial data products which delineate tidal marshes according to salinity complicates efforts to estimate methane budgets in tidal estuaries. Our results suggest that spatial differences in salinity should inform wetland mapping in order to facilitate estimations of greenhouse gas budgets, but more high-resolution monitoring of salinity is needed to accurately delineate map units.

## **Norouzi, Maryam. Cooperative Deterministic Learning-Based Formation Control for a Group of Nonlinear Mechanical Systems Under Complete Uncertainty**

### **Oral Presentation Poster Presentation**

Multi-agent systems (MASs) have become a powerful approach for solving complex real-world problems due to their efficiency, scalability, and adaptability. MASs consist of multiple agents that collectively perform tasks, often requiring precise coordination, collision avoidance, and efficient navigation. Formation control is essential in such systems, regulating agents' positions, velocities, and orientations to maintain specific patterns. Formation control methods are categorized into three approaches: (1) Behavioral, where agents follow predefined behaviors derived from sub-solutions; (2) Leader-following, where agents maintain a configuration relative to designated leaders but are vulnerable to leader faults; and (3) Virtual structure, where agents follow a virtual leader, enhancing system robustness. These approaches operate under centralized or decentralized control. Most leader-following techniques assume linear time-invariant leader dynamics without inputs, limiting their ability to handle complex formation tracking tasks. Additionally, challenges related to dynamic variations in inertia remain unresolved. To address these issues, we propose a generalized leader dynamics model with a virtual leader subject to bounded time-varying external inputs. We develop a novel cooperative deterministic learning-based adaptive formation control scheme for nonlinear mechanical systems with uncertain dynamics. Our framework consists of two layers: (1) a cooperative nonlinear estimation protocol to estimate leader

states and (2) a cooperative deterministic learning-based formation control protocol using radial basis function neural networks (RBF NNs) for formation tracking and accurate learning of nonlinear dynamics. Numerical simulations confirm that our approach ensures formation tracking while achieving cooperative and accurate learning of system dynamics with guaranteed convergence and learning consensus.

-O-

**Oden, Leanne. The Large Bloomsbury Window and The Yellow Wallpaper—Dissenting the ‘Rest Cure’ in Virginia Woolf & Charlotte Perkins Gilman**

**Oral Presentation**

In 1873, Dr. S. Weir Mitchell introduced the Rest Cure as a treatment for "nervous disease," based on the belief that mental illness was curable. However, the practice was debunked due to its sexist foundation, disregard for psychotic delusions, and deprivation of meaningful activities. The Rest Cure positioned physicians as both medical and moral authorities, particularly over women. Virginia Woolf and Charlotte Perkins Gilman, both affected by Mitchell's treatment, rebelled against it through their writings. This paper examines Sir William Bradshaw in Woolf's *Mrs. Dalloway* (1925) and the unnamed doctor/husband in Gilman's *The Yellow Wallpaper* (1892) as representations of the patriarchal medical establishment, critiquing the Rest Cure and reclaiming their lived experiences. Using comparative, feminist, and psychological/historical literary criticism, this research highlights how the Rest Cure functioned as a form of punishment rather than treatment, aiming to control women rather than address their symptoms. A comparative analysis of the "large Bloomsbury window" in Woolf's novel and the "hideous" yellow wallpaper in Gilman's short story reveals how the prescribed Rest Cure rendered life unbearable for both fictional characters and their authors. The feminist reading argues that while the treatment predominantly targeted women, its male victims also became feminized subjects under an oppressive medical authority. A psychological/historical approach situates Mitchell's prescription within broader societal attitudes toward nervous illness, hysteria, and

postpartum complications. This research underscores the lasting impact of the Rest Cure and the ongoing significance of gender equality in medical and institutional contexts.

**Ozigagu, Arome. A Review of Short-Notice Evacuation Challenges for Vulnerable Populations in Mixed Traffic Flow during Disasters Evacuations**

**Poster Presentation**

Short-notice evacuations pose significant challenges for vulnerable populations due to limited resources. Mixed traffic systems of Connected and Autonomous Vehicles (CAVs) and Human-Driven Vehicles (HDVs) have the potential to mitigate these issues. This review systematically evaluates the literature on short-notice evacuations in mixed traffic environments, highlighting gaps in equity, systemic risks for HDV users, and Human-Machine Interface (HMI) design limitations. It also proposes theoretical models and policy innovations to improve safety and efficiency for all users. The study employs a systematic literature review, analyzing evacuation models, mathematical equations, and simulation diagrams. Key methods include assessing scholarly articles on mixed traffic evacuation dynamics, comparing simulation-based evacuation models, and evaluating case studies on hybrid communication systems and HMI innovations (e.g., multilingual voice alerts and tactile interfaces). Findings indicate a research bias toward optimizing CAV efficiency while neglecting risks and inequities faced by HDV users and vulnerable populations. Expected trends in the literature include: (1) a lack of studies on compounding disaster scenarios and equity-focused metrics; (2) behavioral disparities leading to congestion and accidents due to outdated HDV communication; (3) inadequate evacuation models that fail to account for HDV decision-making and non-motorized transport; (4) "evacuation deserts" in underserved areas with low CAV adoption; and (5) HMI design flaws that marginalize non-digital users and those with language barriers. To enhance resilience and equity, this study proposes user-centered HMI innovations, hybrid communication systems, and HDV-safe corridors, advocating for interdisciplinary collaboration to align smart mobility with disaster preparedness.

-P-

**Perrin, Madison. The Eye & The Ear: The Ethics of Art in The Bluest Eye**

**Oral Presentation**

Critics have long debated the ethical functions of literature and art, from Plato's *Ion* and *Republic* to Bakhtin's heteroglossia and Rita Felski's work. Toni Morrison's *The Bluest Eye* (1970) contributes to this discourse by engaging with multiple artistic forms—literature, film, and music—within its diegetic landscape. This paper explores how *The Bluest Eye* both investigates and embodies ethical art. Thomas H. Fick's "Toni Morrison's 'Allegory of the Cave'" and Cat Moses' "The Blues Aesthetic in Toni Morrison's *The Bluest Eye*" analyze film and music in Morrison's novel. Fick argues that film in *The Bluest Eye* enforces Platonic realism, portraying an unattainable white ideal that distorts Black characters' realities. In contrast, Moses examines the blues as a Black cultural form that enables Claudia's survival, suggesting music as an ethical artistic medium. Thus, Morrison contrasts film's harmful illusions with the blues' resilience, illustrating both unethical and ethical art. Building on these analyses, this paper argues that Morrison's novel not only discusses ethical art but also exemplifies it. While *The Bluest Eye* presents unethical artistic forms diegetically, it also functions non-diegetically as an ethical novel. Specifically, Morrison's portrayal of Cholly, a morally reprehensible character, demands a sympathetic imagination from the reader. By insisting on compassion for a man who commits an unspeakable crime, *The Bluest Eye* challenges conventional moral judgments and exemplifies the ethical complexity of literature, ultimately demonstrating how art can foster empathy while confronting difficult truths.

**Petagna, Kristen. Bridging Disciplines: The Influence of Greenspace Exposure on Physiological and Psychological Well-Being in College Students**

**Oral Presentation**

Poor mental health is at an all-time high (APA, 2024), prompting research into strategies for

improving well-being. Greenspace exposure has been shown to enhance physical and psychological health (Jimenez et al., 2021; Twohig-Bennett & Jones, 2018). While studies have compared urban and natural environments, few have examined differences between specific types of greenspaces (Guan et al., 2017; Lee et al., 2018). This randomized controlled trial investigated the physiological and psychological effects of resting in two greenspaces: a wild forested area and a maintained college common. Participants (N=100) were randomly assigned to rest for 15 minutes in either a forest (n=48) or a maintained commons (n=52) on a Northeastern university campus. Measures included self-reported affect, attention, perceived restoration, and physiological indicators such as heart rate variability and salivary cortisol and oxytocin levels. Mixed-effect ANOVAs analyzed changes in affect and hormonal activity over time, while independent t-tests compared physiological responses and perceived restoration across locations. Results showed that negative affect decreased in both conditions, highlighting the general benefits of greenspace exposure. However, participants rated the forest as more restorative, and those who perceived higher restoration experienced greater increases in positive affect. Physiologically, interbeat interval increased (indicating a slower heart rate), but respiratory sinus arrhythmia and cortisol levels remained unchanged. Notably, oxytocin levels decreased only in the forest condition. These findings provide insights for mental health interventions, urban planning, and conservation efforts. They emphasize the need to protect wild greenspaces, which may offer distinct well-being benefits beyond maintained environments.

-R-

**Raoufi, Ali. Electric Vehicle Closed-Loop Supply Chain with Blockchain Integration**

**Oral Presentation**

**Poster Presentation**

Although the demand for electric vehicle (EV) is increasing less dramatically than expected, there remains a critical need for a closed-loop supply chain for EVs. This is due to the rare minerals required in lithium-ion batteries, which are essential from production to consumption and beyond. This paper investigates the role of

blockchain technology in enhancing the closed loop EV supply chain and building a more sustainable and efficient EV industry. To address the challenges of dynamic market conditions and fluctuating demand within the EV supply chain, we leverage a game theory approach to determine optimal production levels and pricing strategies.

### **Ribeiro, Iris. The Misreading of Mr. Skimpole: Acknowledging the Presence of Neurodivergence in Bleak House**

#### **Oral Presentation**

Was Mr. Skimpole the most misunderstood character in Charles Dickens' *Bleak House*, or was he truly the indolent, unbothered, manipulative villain that the majority of scholars have claimed him to be? Early on, Harold Skimpole is introduced as a playful manchild with an oversized head and an inability, or disinterest, in completing his societal responsibilities. Inevitably, the reader begins to develop a distaste for Mr. Skimpole, essentially labeling him as a self-centered, lazy, irresponsible narcissist. I, on the other hand, will argue that Mr. Skimpole's behaviors were not from a place of ill intent, but instead, reflect the mannerisms of a person who presents as neurodivergent, making him unable to understand the weight of his actions. Although neurodivergent conditions had not been recognized as disorders until the twentieth century, it would not be uncommon to come across misdiagnosed neurodivergent persons within nineteenth-century society. While investigating the history of developmental disorders, my research will show the way in which these early undiagnosed people lived and existed in a community of care, without institutional medical interventions; they were simply looked at and cared for like children. Moreover, phrenology, the study of heads, faces and the brain, had become popular in the Victorian Era, potentially inspiring the way in which Dickens would attribute features and personality traits to his characters. Although debunked and considered to be pseudoscience, phrenology would have inspired Dickens to develop his way of understanding the oddities that could make a person less likely to conform to society's norms. Furthermore, Dickens would commonly create characters that were inspired by people he

interacted with in his everyday life. Many scholars have traced a likeness of Harold Skimpole to a man by the name of Leigh Hunt, a poet and friend of Dickens. While examining the life of Hunt, I expect to find that he may have suffered from mental conditions that would, in our modern day, share symptoms of neurodivergence. By comparing the moments in which Dickens exposes Mr. Skimpole's odd behaviors to the actions of the real-life Leigh Hunt, this paper will establish a proper, more realistic reading of his character. In conclusion, we will see both in a new perspective, ultimately providing the reader an opportunity to connect and sympathize with the heavily misunderstood Harold Skimpole.

-S-

### **Salganik, Natalya. Results of a Pharmacist-Directed Interdisciplinary Continuous Glucose Monitoring Program in Primary Care**

#### **Poster Presentation**

Continuous glucose monitors (CGMs) are increasingly used in diabetes care, providing real-time blood glucose data to improve management. Professional CGM (proCGM) allows clinicians to place a temporary CGM on patients for 10–14 days, offering valuable insights for treatment. Clinical pharmacists in primary care are well-positioned to support proCGM use, including device placement, patient education, and medication optimization. This quality improvement project evaluated a pharmacist-directed proCGM program across six Rhode Island primary care sites (August 2022–July 2024). Patients (N=396) were eligible if they were ≥18 years old, not using a personal CGM, and met at least one predefined enrollment criterion (e.g., A1C above goal). We assessed baseline and post-proCGM A1C levels, examining factors such as clinical site, insurance type, and age group. An end-of-project survey captured care team perspectives. Results showed a significant reduction in A1C from 9.35% to 8.25% ( $p < 0.0001$ ). Most patients (55.1%) were 50–69 years old, and Medicare was the most common insurance (41.4%). Medication adjustments occurred in 69.5% of patients. Survey responses (n=50) highlighted the importance of pharmacist involvement in diabetes care, with



strong agreement that interdisciplinary collaboration enhanced patient outcomes and team well-being. This study supports pharmacist-directed proCGM as an effective diabetes management tool in primary care. While limitations include a short follow-up period and potential selection bias, findings underscore the need for continued research on long-term benefits and expanded interdisciplinary approaches to diabetes care.

### **Satkowski, Seraphina. Field Performance Evaluation of Selectively Bred Eastern Oyster Lines in New Jersey and Rhode Island**

#### **Poster Presentation**

Eastern oyster aquaculture has increased steadily over the last three decades, but the industry has yet to achieve its full potential. In the Northeast USA, production is limited in part by a lack of high performing stocks suited to the geographically broad and heterogenous growing environment. For this study, hatchery lines from Maine, New York, and New Jersey as well as crosses between each hatchery line and the selectively bred Northeast high survival (NEH) line, were deployed at oyster farms in Rhode Island and New Jersey for performance evaluation. Replicates of each line were stocked and maintained according to standard husbandry practices. Oyster survival and growth were monitored for 15 months. At 4, 6, 11, 15 and 18 months post spawn, live and dead oysters were counted in each replicate and shell height and total weight were measured for a subset of oysters per replicate to track survival and growth trajectories. In addition, during the second summer of the evaluation period, a subsample of seed from each line were tested for parasites *Perkinsus marinus* (Dermo) and *Haplosporidium nelsoni* (MSX) to provide context for observed patterns of mortality at the Rhode Island farm. All lines within each farm site will be compared to assess differences in performance. Line survival and growth between the two farms will be compared to identify genotype by environment (GxE) interactions. Based on previous studies, we expect that hybrid lines will outperform their purebred counterparts and significant GxE interactions will result in different performance rankings between farms. The side-by-side evaluation of local hatchery lines and their hybrids with NEH at representative Rhode Island

and New Jersey oyster farms will contribute to the development of breeding strategies that effectively support the Northeast USA eastern oyster aquaculture industry.

### **Sighapurage, Helani A.S. High-Resolution Coherent Raman Spectroscopy of Phonon Equilibria in Semiconducting Oxide Barium Stannate**

#### **Oral Presentation**

We present real-time measurements of ultrafast optical phonon decay in Barium Stannate ( $\text{BaSnO}_3$ , BSO) using time-domain coherent Raman spectroscopy with  $<120$  fs time and  $\sim 0.1 \text{ cm}^{-1}$  spectral resolution. We traced phonon decay within multiple orders, with lifetimes ranging from 1.26 to 1.58 ps, and explained decay mechanisms via parametric phonon interactions. **Objectives:** BSO, a wide-bandgap semiconductor, exhibits high electron mobility, crucial for high-voltage transistors and other electronic applications. Carrier-phonon scattering impacts mobility, making phonon properties essential for understanding conductivity. Phonon decay times are inversely proportional to scattering rates. We used time-domain Coherent Anti-Stokes Raman Spectroscopy (td-CARS) to determine phonon decay times and linewidths due to its ability to detect weak phonon modes with high spatial and spectral resolution. **Methods:** We used two Optical Parametric Oscillators (OPOs) driven by ultrafast Ti:Sapphire laser pulses (120 fs, 76 MHz). The OPOs excited selected Raman-active vibrations in BSO, while a probe pulse tracked anti-Stokes signals to determine decay times. Experimental data was fitted with a theoretical model to extract decay constants ( $T_2$ ), decay rates ( $\Gamma$ ), and linewidths ( $\Delta\nu$ ). **Results & Conclusion:** We measured decay times of 1.26 ps (LO2 at  $465 \text{ cm}^{-1}$ ) and 1.47 ps (LO3 at  $630 \text{ cm}^{-1}$ ), yielding linewidths of  $8.25$  and  $7.22 \text{ cm}^{-1}$ , respectively. DFT analysis identified phonon decay channels. The study provides high-precision phonon decay data critical for understanding electronic and optical properties, with td-CARS offering superior resolution over traditional Raman techniques.

**Singh Thakuri, Pratik. Evaluating Landslide Susceptibility in Central Middle Himalayas: A Comparative Study of Bivariate Statistical and Multi-Criteria Decision Analysis Approaches**

**Oral Presentation**  
**Poster Presentation**

Sidhartha Pokharel, Pratik Singh Thakuri, Soni Pradhanang

Nepal is highly prone to natural disasters, particularly landslides, which cause significant damage and loss of life. The Ramechhap district, located in the central-middle Himalayas, frequently experiences landslides due to its rugged terrain. Developing a landslide susceptibility map is crucial for mitigating risks and reducing losses. This study evaluates landslide susceptibility in Ramechhap using two approaches: (a) Bivariate Statistical Approach, including Frequency Ratio (FR) and Information Value (IV), and (b) Multi-Criteria Decision Analysis (MCDA), including Analytical Hierarchy Process (AHP) and Fuzzy AHP models. A total of 215 landslide sites were identified using data from Nepal's National Disaster Risk Reduction and Management Authority (NDRRMA) BIPAD portal. These sites were used for training and testing susceptibility maps. Nine factors—Slope, Aspect, Land Use, Geology, Rainfall, Distance from Rivers, Soil, Elevation, and Topographic Wetness Index (TWI)—were considered as causative factors. All four models successfully produced landslide susceptibility maps with fair accuracy. Model validation using the Area Under the Receiver Operating Characteristic (ROC) Curve (AUC) yielded values of 0.751 (IV), 0.779 (FR), 0.847 (AHP), and 0.852 (Fuzzy AHP). The MCDA models predicted susceptibility with greater accuracy, while IV and FR, though widely used, tended to overestimate landslide-prone areas. This overestimation highlights the need for further research to refine these models and improve susceptibility assessments.

**Stevianita, Maria. Crisis Communication in Indonesia's Free Meal Program: Analyzing Government Narrative Control and Response Strategies**

**Oral Presentation**

**Poster Presentation**

Indonesia's new president launched the 'Makan Bergizi Gratis (MBG)' program on January 6, 2025, aiming to provide free nutritious meals to 82.9 million students and pregnant women in 38 provinces to address malnutrition and stunting. With a budget of 10.69 billion, the program faces challenges, including poor food quality, unbalanced nutrition, food poisoning incidents, and delays in distribution. Within 60 days, student protests in Papua demanded better access to education over the MBG program, highlighting concerns about educational disparities. This research examines the government's crisis communication in response to issues within the MBG program using Situational Crisis Communication Theory (SCCT). Initial analysis reveals a mix of crisis strategies: denial, diminishment, and rebuild. Logistical delays and food quality issues were met with a diminishment strategy, while the food poisoning case saw initial denial followed by corrective actions. In the case of the Papua protests, officials denied the complaints, focusing on students' rights to choose participation. The Papua case highlights the need for more empathy and region-specific approaches to crisis communication. Despite controversies, a survey by Indikator Politik Indonesia two weeks after the MBG launch showed 53.8% satisfaction, with 69.4% supporting the program. However, the survey's focus on awareness over effectiveness and the low percentage of direct beneficiaries may explain the high satisfaction rate. This study suggests that future surveys should differentiate between beneficiaries and non-beneficiaries to provide more accurate feedback and improve crisis communication strategies, emphasizing transparency and long-term trust-building.

**-T-**

**Tenawe, Marike A. Evaluating Hydroclimatic Trends of Pawtuxet River in Rhode Island**

**Poster Presentation**

The annual average precipitation and temperature in Rhode Island have increased every year, which contributes to the hydrological changes in state rivers, including the Pawtuxet River. The changes in these events impact the natural variability of streamflow characteristics of riverine systems.

Furthermore, it will also disrupt the ecosystems and ecological health of the surrounding habitats. Therefore, understanding hydroclimatic trends is critical for effective water resource management where rivers play a vital role in support. This study utilizes the daily hydrologic streamflow data from the United States Geological Survey (USGS) and the climatic data from the National Oceanic and Atmospheric Administration (NOAA) databases. This study will analyze the daily streamflow data from 1943-2022. Similarly, analysis of the climatic data will be performed using the daily precipitation, daily minimum and maximum temperatures of “*Rhode Island T.F. Green International Airport, RI US*” station, over the same period. The hydrologic and climatic indicators will be developed for the river system and analyzed using the streamflow indicators and climate indices. This study applies IHA (Indicators of Hydrologic Alteration) that provides a robust method for assessing trends in streamflow, magnitude, duration, timing, and frequency of streamflow events. Using historical streamflow, climate data, and statistical trend analysis, we evaluate alterations in significant trends in hydrologic responses. Our expected results indicate significant trends in hydrologic responses. We anticipate that low-flow conditions may suggest emerging drought risks and potential ecological impacts. On the other hand, peak flows are associated with rising temperatures and precipitations, due to extreme storm events. These findings will highlight the importance of integrating IHA-based assessments into climate adaptation planning to mitigate the impacts of changing hydroclimatic conditions on water resources.

### **Tiliouine, Oliver. Fixed Lines, Fluid Law: Advisory Opinions and the Politics of Baseline Preservation**

#### **Oral Presentation**

This paper examines the role of advisory opinions in developing international law regarding maritime baselines in the context of sea-level rise (SLR). As rising seas threaten to submerge coastlines and low-lying islands, the legal status of baselines—which determine maritime territorial claims—remains ambiguous under the United Nations Convention on the Law of the Sea (UNCLOS). We investigate how the advisory opinion mechanism

might clarify whether baselines should remain fixed or move (“ambulate”) with changing coastlines. Building on recent climate-related advisory opinions requested by Small Island Developing States (SIDS), we analyse the prospects for a baseline-specific opinion request to either the International Tribunal for the Law of the Sea (ITLOS) or the International Court of Justice (ICJ). The paper considers four factors influencing the potential acceptance of such an opinion: its substantive content, the moral authority of SIDS, patterns of regional differentiation, and the credibility of the tribunal. We demonstrate that advisory opinions, while limited to interpreting existing law, could prove instrumental in crystallising emerging norms that favour fixed baselines. However, their effectiveness ultimately depends on state acceptance, particularly from major maritime powers. This analysis contributes to understanding international legal development at the intersection of climate change and ocean governance, highlighting how formal judicial mechanisms interact with informal law making efforts to address novel challenges to the territorial foundation of the international system.

### **Thomakos, Olivia. Empathetic Teaching: Why Authentic Blind Representation in Curricula Matters**

#### **Oral Presentation**

Understanding the lived experience of blindness is challenging for sighted individuals. While literature can provide insights into this experience, many portrayals are written by sighted authors who rely on metaphor or their own fears of blindness. For blind authors, the challenge of connecting with sighted readers is compounded by the fact that reading itself is performed differently by sighted and non-sighted individuals. This essay explores how authentic authorship can foster empathy and understanding of blindness, and how introducing students to literature with genuine blind representation in school curricula can positively influence perceptions of blindness. Mark Paterson's article “Blindness, empathy, and ‘feeling seeing’” emphasizes the role of imagination in fostering empathy, noting that prose struggles to fully convey the sensory experiences of blind individuals. To create spaces for authentic blindness representation, teachers can use children’s picture

books and poetry. Early exposure to blindness can normalize disability and reduce misunderstandings over time. For older students, Russell Brakefield's poetry about his own vision loss offers an insightful perspective. Chloë Hughes' article "Seeing Blindness in Children's Picturebooks" demonstrates how young students can engage with books depicting blindness, such as *Sarah's Sleepover*. By integrating disability literature into education, schools can play a pivotal role in fostering empathy and understanding of disability.

### **Tollkuci, Antonia. Incorporation and Expression of Unnatural Amino Acids**

#### **Poster Presentation**

*KRAS* mutations are among the most common oncogenic mutations in human cancers. The *KRAS* gene produces two splice variants, of which the universally expressed variant, *KRAS-B*, is of interest for manipulation by incorporation of an unnatural amino acid (UAA) with the intent of inhibiting its carcinogenic activity when mutated. The method for expressing this mutant protein is through the use of plasmids coding for the (UAA)-specific tRNA and tRNA synthetase; this method is being refined using green fluorescent proteins (GFP) instead of *KRAS*. Two plasmids are currently being used: sfGFP151TAG, which codes for a superfolded GFP (sfGFP) with a stop codon inserted at position 151, and pUltra\_CNF, which incorporates the unnatural amino acid 4-cyano-phenylalanine. Both plasmids were transformed into BL21(DE3) *E. coli* cells via electroporation and sequenced to confirm the presence of the desired mutations. Colonies were selected for further growth in culture and were induced to express the UAA-containing protein via isopropyl  $\beta$ -D-1-thiogalactopyranoside (IPTG). Protein size, determined via gel electrophoresis, and fluorescence levels were measured to determine the presence or absence of the desired proteins and to evaluate their functionality at the following intervals: pre-induction, after two hours of IPTG induction, and after overnight induction. The results were compared to wild-type sfGFP size and fluorescence levels at the same intervals. Fluorescence levels were shown to be significantly lower in mutant protein samples compared to the wild-type, but still higher than those of the

truncated proteins. Gel electrophoresis revealed that both mutant and truncated proteins were present where expected, but the former in a lesser quality, suggesting a potential issue with how well the pUltra\_CNF plasmid can incorporate the UAA. Further research is being done using this plasmid combination as well as others, but the limited success shown is still promising.

### **Trinh, Catherine. Defining Recovery and Demographics in Alcohol Use Disorder Neuroimaging Studies: A Systematic Review**

#### **Poster Presentation**

The National Institute on Alcohol Abuse and Alcoholism's (NIAAA) definition of recovery from alcohol use disorder (AUD) includes remission from AUD symptoms and cessation from heavy alcohol use, however, prior neuroimaging studies of people recovering from AUD utilized abstinence-only outcomes. Additionally, many neuroimaging studies report limited sample demographic information and there is generally significant underrepresentation of diverse samples in neuroimaging research. The aims of this systematic review were to: (1) update a prior systematic review by Parvaz et al. (2022) of neuroimaging research on AUD recovery; (2) apply the NIAAA definition of recovery to newly identified articles and articles in the Parvaz et al. (2022) review; and (3) report demographic information from new articles and articles in the original review. Published articles between May 2021 and March 2024 that used structural neuroimaging techniques in adults recovering from AUD were included in the updated search and one study was identified. We also reviewed the demographic reporting practices from articles in the Parvaz et al. (2022) review. The article identified in the March 2024 search used the NIAAA definition of AUD recovery, however, none of the 19 articles in the Parvaz review used this definition. Further, demographic information in the 19 original articles was limited to age, sex assigned at birth, and educational attainment. Reporting on race, ethnicity, and other indicators of socioeconomic status was scarce. Future neuroimaging studies should include duration of AUD symptom remission, cessation of heavy alcohol use, and demographic information like race, ethnicity, and measures of socioeconomic status.

-U-

**Uche, Samuel. Deep Learning-Based Analysis of Heel-to-Heel, One-Leg Stand, and Normal Walk for Alcohol Intoxication Detection Across Ascending and Descending BAC Phases**

**Oral Presentation**

**Poster Presentation**

Alcohol intoxication impairs motor functions, affecting balance and gait. Traditional field sobriety tests (FSTs), such as Heel-to-Heel (H2H), One-Leg Stand (OLS), and Normal Walk (NW), are used to assess intoxication levels, but their effectiveness varies. This study leverages a deep learning framework to determine which of these tasks provides the most reliable intoxication detection and whether classification performance differs between the ascending and descending phases of Blood Alcohol Concentration (BAC). We employ a 1D Convolutional Neural Network (1D-ConvNet) coupled with a BiLSTM and self-attention mechanism to analyze time-series gait data captured from smartphone accelerometer sensors. The model learns temporal dependencies and contextual relationships in gait patterns across different tasks. Results show that Normal Walk achieves the highest intoxication detection accuracy (93%), followed by Heel-to-Heel (92%), while One-Leg Stand performs significantly worse (66%). Additionally, preliminary findings suggest variations in detection efficacy between the ascending and descending BAC phases, highlighting the influence of intoxication dynamics on gait patterns. This work demonstrates the potential of deep learning for real-time intoxication monitoring using widely available smartphone sensors, with implications for roadside sobriety testing and personal safety applications.

-V-

**Vaezinejad, Soode. A Multi-method Approach to Identifying Necessary and Sufficient Conditions of Information Asymmetry in Supply Chain Networks**

**Poster Presentation**

This work seeks to identify conditions leading to information asymmetry within supply chains. The passion behind this study stems from the fact that the concepts of sufficiency and necessity have not been extensively explored in supply chains. This research comprises a three-part study. The first phase involved a systematic literature review to identify potential factors causing information asymmetry. The second phase utilized a three round Delphi study to rank key contributing factors. The final phase employed a separate survey incorporating Necessary Condition Analysis (NCA) and fuzzy-set Qualitative Comparative Analysis (fsQCA) to determine the necessary and sufficient configurations of these factors. By identifying the conditions that lead to information asymmetry, this research can help organizations develop strategies to mitigate these conditions, improving transparency and efficiency in supply chains.

-W-

**Winkel, Steve. Mental Health Disclosures in the Workplace**

**Oral Presentation**

This convergent mixed-methods study investigates the impact of employee disclosure of mental health conditions (MHCs) on workplace outcomes like job satisfaction, commitment, motivation, and turnover intention. The research draws on Social Identity Theory, Social Determination Theory, and Social Exchange Theory to examine how disclosure decisions and factors like supervisor support and High Commitment Human Resources Management (HCHRM) influence employee experiences. The study collected data from 572 U.S. employees, split between those who disclosed and concealed their MHCs, using quantitative scales and qualitative insights. Multivariate analysis showed that MHC disclosure significantly increased job satisfaction, affective and normative commitment, and motivation, while reducing turnover intentions. Supervisor support and HCHRM were key mediators in amplifying these effects, with authenticity mediating job satisfaction and motivation. Qualitative findings revealed that nearly 80% of disclosing employees reported positive outcomes, including relief and

empowerment, when they felt supported by supervisors and the organization. However, some experienced stigma, fear of job loss, and skepticism. The study emphasizes the importance of supportive disclosure conversations, transparent policies, and inclusive environments in driving positive outcomes. Practical recommendations include flexible work arrangements, targeted supervisor training, and stigma-free organizational cultures. The research highlights the need for workplaces to create psychologically safe environments that support MHC disclosure, fostering engagement and retention. This study bridges gaps in mental health business literature and advocates for mental health to be a key part of workforce well-being and performance, with implications for future research on disclosure in diverse contexts.

**Wisesa, Nara. Coastal Community Perspectives on Marine Resource Conservation and Access in Rote Island, Indonesia**

**Oral Presentation**

Indonesia's coastal and marine environment supports high marine biodiversity, with conservation efforts aimed at sustainable management. Marine Protected Areas (MPAs), such as the Savu Sea MPA, play a key role in these efforts. Rote Island, located on the eastern side of this MPA, has coastal communities heavily reliant on marine resources, primarily fishing and seaweed farming. While conservation measures impact local resource access, there is limited research on their socio-cultural dimensions, particularly from the perspective of local stakeholders. Although conservation should prioritize local communities, studies indicate minimal involvement in planning and implementation. This study examines how marine conservation affects Rote's coastal communities from their perspective. Fieldwork in October 2024 involved over 50 key informant interviews with local representatives, government officials, and conservation practitioners, alongside field observations. Findings reveal that while most respondents are aware of marine conservation, their understanding is largely limited to habitat and species protection, with many unaware of the MPA's existence. Community involvement is often limited to sporadic events, though some villages

have resource monitoring groups and customary governance mechanisms. Concerns include the lack of conservation authority presence and enforcement, as well as emerging ocean grabbing in tourism areas, where non-local actors dominate marine tourism, restricting community access. While tourism offers an alternative livelihood, its negative impacts on conservation and resource access remain overlooked. These findings highlight the need for inclusive conservation strategies, stronger enforcement mechanisms, and greater community participation to ensure sustainable and equitable marine resource management in Rote.

-Y-

**Young, Tanya. A Haunted Form: Phillis Wheatley, Black Double Consciousness, and the Racialized History of the American Lyric**

**Oral Presentation**

The American lyric as a poetic form is haunted by the specter of slavery. The origin of its popularity is attributed to the influential work of Black poets of the late eighteenth and nineteenth centuries. Slavery haunts the form through the authors' personal histories and unique experiences with slavery and racism. By nature, the lyric often regards an exploration of the inner identity of the writer as well as other themes common of Romanticism. Writer Phillis Wheatley was the first enslaved person to publish a book of lyric verse in the United States. Her work would go on to influence poets for centuries and helped popularize the American lyric. It is for this reason that the present assertion that the American lyric is a haunted form, relates so closely to the life and work of Phillis Wheatley. Moreover, the presence of what Du Bois calls "double consciousness" becomes clear through an examination of her work and biography. Slavery cannot be unwoven from the tapestry of her history. Therefore, as her work influences poets, but particularly those writers of the eighteenth and nineteenth centuries, the lyric has become a haunted form. Shadowed by the lingering specter of slavery, the American lyric, as it is known today, is a haunted object that is rooted in the tangled web of American racism.

-Z-



**Zeng, Jingmei. Evaluation of Cluster of Differentiation 36 (CD36) as a Critical Factor in Perfluorooctanesulfonic Acid (PFOS)-Induced Adverse Liver Outcomes**

**Poster Presentation**

Perfluorooctanesulfonic acid (PFOS) is a synthetic perfluoroalkyl substance widely present in the environment and known to adversely affect human health. PFOS causes liver enlargement, induces steatosis, and causes cytotoxicity. CD36 is a membrane glycoprotein that facilitates the import of long-chain fatty acids into cells and contributes to lipid accumulation within the liver. The PFOS structure closely resembles a long-chain fatty acid, suggesting that CD36 may facilitate PFOS uptake into the liver. *In vitro* and modeling studies point to CD36 having PFOS binding sites. Therefore, it was hypothesized that CD36 is a critical factor for PFOS uptake and adverse liver effects. To investigate this, a Cd36-deficient mouse model was used to evaluate the role of CD36 in PFOS distribution and liver effects. Wild-type mice (WT, C57BL6 /J) and mice with Cd36 globally deleted (Cd36<sup>-/-</sup>, B6.129S1-Cd36<sup>tm1Mfe</sup>/J) between the ages of 7-9 weeks were administered vehicle (0.5% Tween20 in PBS) or PFOS (10 mg/kg in 0.5% Tween20 in PBS) by oral gavage for seven days. PFOS administration increased the liver-to-body weight ratio by 66% in WT mice and 72% in Cd36<sup>-/-</sup> mice. It also increased total liver lipids concentration similarly in WT and Cd36<sup>-/-</sup> mice by ~97%. Lastly, PFOS administration elevated liver triglyceride concentration by 83.7% in WT mice and 25% increase in Cd36<sup>-/-</sup> mice. Overall, these preliminary findings suggest that lack of Cd36 has a modest effect on PFOS-induced liver alterations. Ongoing studies will evaluate whether lack of Cd36 modified liver PFOS concentration.

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