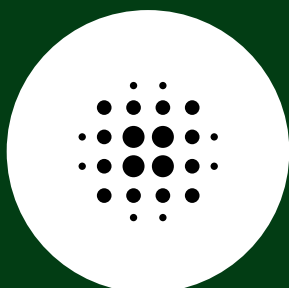


GRADUATE RESEARCH AND CREATIVE ACTIVITY CONFERENCE (GRCAC)



FRIDAY, MARCH 15, 2024

9:00am - 4:30pm

Student Center

3rd Floor

**PRESENTED BY THE OFFICE OF GRADUATE STUDIES AND
RESEARCH**

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EASTERN MICHIGAN UNIVERSITY

Graduate Studies and Research

Welcome to the 2024 Graduate Research and Creative Activity Conference!

On behalf of the Office of Graduate Studies and Research, I welcome you to the 2024 Graduate Research and Creative Activity Conference (GRCAC). The GRCAC is an event that combines two primary missions of the Office of Graduate Studies and Research. The Office of Research Development and Administration supports and promotes all research activities at Eastern Michigan University (EMU), including the GRCAC. Meanwhile, the Graduate School supports academic programs that emphasize the highest forms of intellectual development in each discipline, which includes the creation of the new knowledge that you see at the GRCAC.

This year's GRCAC is EMU's 25th annual celebration and showcase of graduate student scholarly and creative activities. Students from many disciplines will deliver formal accounts of their work by way of over 100 oral presentations, poster presentations, and artistic displays. The activities they present took significant investments of time and were performed over countless hours outside the traditional classroom. These students and their work are sponsored by faculty who wisely guided the students' activities and, in many cases, gave students access to their laboratories, studios, and specialized equipment.

This year, Shavonne Coleman will be our luncheon keynote speaker. Professor Coleman graduated from EMU with a Master of Fine Arts for Applied Drama/Theatre for the Young. Currently she is an Assistant Professor in the Department of Theatre & Drama at the University of Michigan. She has received the Emerging Leadership in Theatre for Young Audiences Fellowship, the Teaching Innovation Grant and the President's Staff Award from the University of Texas at Austin, and the Anne K. Flagg Multicultural Award.

I wish to thank the students and faculty mentors for their hard work in carrying out their projects and in preparing the presentations. I thank everyone who had a role in planning, promoting, and facilitating today's activities. We thank Professor Coleman for her message. And, of course, we thank those who are attending today's event who wish to support our students and to learn and experience something new



Steven Pernecky, Ph.D.
Interim Associate Provost
Associate VP for Graduate Studies & Research

A Message from the Psychologists of Color

The Psychologists of Color (PSYOC) and the Office of Graduate Studies and Research are proud to announce their continued collaboration for the 2024 Graduate Research and Creative Activity Conference (GRCAC). This year's conference will feature a dedicated symposium focused on Diversity, Equity, and Inclusion (DEI). This partnership and symposium exemplify Eastern Michigan University's ongoing commitment to fostering DEI principles within its research endeavors and in the broader community.

PSYOC was initially created by and for clinical psychology graduate students of color to share their unique experiences in a traditionally White-dominated field. PSYOC's mission is threefold: to promote open dialogue regarding the unique experiences of people of color within the field of psychology, to foster a supportive community, and to increase opportunities for social interaction among graduate students of color and allies. PSYOC's core values include diversity, equity, inclusion, and a commitment to humility and lifelong learning.

Historically, research has disproportionately used Western, Educated, Industrialized, Rich, and Democratic (WEIRD) samples. The partnership between PSYOC and the Office of Graduate Studies and Research aims to address this imbalance by fostering a deeper understanding of DEI issues in both research and practice. We hope that the 2024 GRCAC will empower DEI research by amplifying the voices of, and highlighting the important work of EMU graduate students.

It is imperative that we embrace DEI at every turn, as these principles serve as the foundation for progress within our community. Another crucial aspect of DEI is ensuring representation among researchers. Providing platforms such as the GRCAC, where non-WEIRD researchers can share their invaluable insights, is essential to embracing the unique contributions that researchers from diverse backgrounds offer. It is our hope that the DEI symposium will foster a sense of belonging and validation within the research community. We also acknowledge the pervasive issue of stigmatization and bias within academic settings. Our goal is to actively address these challenges and create a research environment that is free from stigmatization and bias, where all voices are heard and empowered.

Last but not least, the DEI symposium will help increase connection and community among individuals from diverse cultures and perspectives through research and scholarship. It will bring together students and professors from various fields of study, backgrounds, and identities, to challenge biases, share views on DEI, and enhance learning. In line with this aim, the conference is inclusive of research in the natural sciences, social sciences, and arts, such that people can learn about perspectives different from their own and grow with each other.

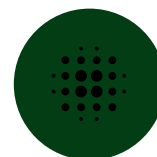
It is important to acknowledge that the journey toward inclusivity and equity is ongoing. While we hope to take a small step forward with this DEI symposium, there is still a long road to travel. Each of us carries biases that shape our perspectives and actions. It is essential to continuously reflect on these biases and their impact on our professional endeavors and personal lives.

Moving forward, we must commit to actively challenging these biases, seeking to understand diverse perspectives, and amplifying marginalized voices. By doing so, we aspire to create environments that are truly inclusive, where everyone feels valued, respected, and empowered to contribute their unique insights and experiences.

Let us not view inclusivity as a destination but rather as a continuous journey, one that requires dedication, humility, and commitment to growth and learning. Together, let's bind our efforts, unite our voices, and strive to build a more inclusive world for all.

Love and Regards,
The Psychologists of Color Group

SCHEDULE OF EVENTS



MORNING

8:30am Registration Begins

9:00-10:15am Oral Presentations: Education, History & Philosophy, Technology in Society, Mental & Public Health

10:00-11:30am Poster Session A

10:30-11:45am Oral Presentations: Applied Linguistics, Mathematics & Technology, Education (DEI focus), Biology

LUNCH

11:45am-1:00pm GRCAC Luncheon

11:45am-12:00pm Buffet is open

12:00-12:05pm Introduction from Steve Pernecky

12:05-12:10pm Psychologists of Color

12:15-12:35pm Keynote speech from Shavonne Coleman

12:35-12:40pm Best Abstract Winners

12:40-12:50pm Three-Minute Thesis Winners Jane Venezia and Bradley Allendorfer

AFTERNOON

1:15-2:30pm Oral Presentations: Computer Aided Engineering, History, Health & Education, Education (DEI focus)

1:30-3:00pm Poster Session B

1:45-2:30pm Arts Front Presentations in the Kiva Room

2:45-4:15pm Oral Presentations: History (DEI Focus), Linguistics, Social Systems, Chemistry (Chemistry will conclude at 4:15pm)

2024 GRCAC LUNCHEON

Graduate Studies
and Research at
Eastern Michigan
University

This year, Shavonne Coleman will be our luncheon keynote speaker. Professor Coleman graduated from EMU with a Master of Fine Arts for Applied Drama/Theatre for the Young. Currently she is an Assistant Professor in the Department of Theatre & Drama at the University of Michigan. She has received the Emerging Leadership in Theatre for Young Audiences Fellowship, the Teaching Innovation Grant and the President's Staff Award from the University of Texas at Austin, and the Anne K. Flagg Multicultural Award.

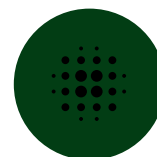


**KEYNOTE
SPEAKER**

*Shavonne
Coleman*

SPONSORED BY THE MICHIGAN DEPARTMENT OF LABOR AND ECONOMIC
OPPORTUNITY, KCP VISITING PROFESSOR PROGRAM.

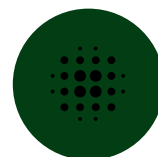
ORAL PRESENTATION SCHEDULE



MORNING PRESENTATIONS: 9:00–10:15AM

Name	Academic Program(s)	Title	Faculty Mentor
Session 1, Room 320 - Education - 9:00-10:15am, Moderator, Michael McVey			
Deanna Gower	Educational Studies [Ph.D.]	Parental Preferences on Comprehensive Sexuality Education	Robert Carpenter
Adam Bogedain	Educational Studies [Ph.D.]	Perspectives of Educational Technology and Instructional Design Programs in Higher Education	Michael McVey
Cristin L Bobee	Curriculum and Instruction [M.A.]	Democratic Education Reform in the 21st Century Classroom	Joe Bishop
Jennifer Bennett	Educational Studies [Ph.D.], Clinical Mental Health Counseling [M.A.]	Food Pantry Use in a University Community	Chris Robbins
Cassidy Cartwright			
Session 2, Room 330 - History and Philosophy - 9:00-10:15am, Moderator Jenny Kindred			
Justin Reamer	Philosophy [M.A.]	PsychoTx: A Practice Framework for Psychopathy	Brian Sellers
Charles Calcaterra	History [M.A.]	Maintenance Deferred, Preservation Denied: Brown-Munson and Historic EMU Buildings	James Egge
Dylan Wolfe	Philosophy [M.A.]	The Phenomenology of Normativity and Ethics in Merleau-Ponty	Laura McMahon
Session 3, Room 350 - Technology in Society - 9:00-10:15am, Moderator Bilquis Ferdousi			
Soujanya Pillala	Technology [Ph.D.]	Analysis of Feasibility Investigation for Implementing Autonomous	Kasim Korkmaz
Hanna Brodeur	Cybersecurity [M.S.]	Cybersecurity and Children: How to Ensure Safety Online	Bilquis Ferdousi
Tehetna Hailu	Construction Management [Ph.D.]	Analyzing Traffic Crashes in Proximity to Elementary Schools in Ann Arbor: A Comparative Spatial Case Study of Construction-Related Road Closures	Suleiman Ashur
Chotika Pitaktouyhan	Human Resource Management and Organizational Development [M.S.]	AI Competencies for HR Professionals	Diana Wong
Session 4, Room 352 - Mental and Public Health - 9:00-10:15am, Moderator Uttara Manohar			
Aisha Tahir	Communication [M.A.]	We're Different, We are the Same: Examining Conflict Management in Intercultural Marriages	Uttara Manohar
Alex Boskovic	Psychology - Clinical Behavioral [M.S.]	An Examination of the Coping Strategies of Grocery Store Employees	Alankrita Pandey
Marin Kempen	Clinical Mental Health Counseling [M.A.]	Discernment Couples Therapy: A Review of the Literature and Relevant Considerations for Counselors	Quentin Hunter
Ayesha Syeda	Communication [M.A.]	Opportunities from Artificial Intelligence Technologies for Persons With Disabilities: A Literature Review	Nick Romerhausen

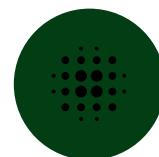
ORAL PRESENTATION SCHEDULE



MORNING PRESENTATIONS: 10:30-11:45AM

Name	Academic Program(s)	Title	Faculty Mentor
Session 1, Room 320 - Applied Linguistics - 10:30-11:45am, Moderator, Ildiko Porter-Szucs			
Gabrielle Heier	Communication Sciences and Disorders [M.A.]	Current Practice of Supporting Communication of Children with Complex Communication Needs: A Case Study	Sarah Ginsberg
James Cason	Teaching English to Speakers of Other Languages / TESOL [Graduate Certificate]	Unlocking Language Learning: Exploring ChatGPT's Impact on Intercultural Communicative Competence	Ildiko Porter-Szucs
James DeMink	Teaching English to Speakers of Other Languages / TESOL [Graduate Certificate]	Enhancing Language Instruction: Bridging Gaps in Krashen's Theory	Ildiko Porter-Szucs
Session 2, Room 330 - Mathematics and Technology - 10:30-11:45am, Moderator Khairul Islam			
Yinbin Lei	Applied Statistics [M.S.]	Modeling Activity Related Interaction and Well-being of Adult Americans	Khairul Islam
Emmanuel Robertson Apaa	Applied Statistics [M.S.]	Epidemiological Prediction of Type-2 Diabetes Mellitus Using Machine Learning.	Tanweer Shapla
Fatemeh Fallah	Technology [Ph.D.]	Development of Chrome-Free Coating for Al-Alloys	Vijaykumar Mannar
Tahereh (Neda) Hayeri	Polymers and Coatings Technology [M.S.]	Non-Acrylate LED Nail Gel Based on Bio-Based Organic-Inorganic Hybrid System	Vijaykumar Mannar
Session 3, Room 350 - Education, DEI - 10:30-11:45am, Moderator Cierra Presberry			
Dikea Taylor-Santiago	Educational Leadership [Ph.D.]	Why Us! Impact of School Discipline Policies on Black Girls	Cierra Presberry
Mia A. Rollack	Educational Leadership [Ph.D.]	Flipping the Script: Mitigating Deficit Thinking of Black Students	Brenna Breshears
Simone Brown	Educational Leadership [Ph.D.]	Tales of a Robotic Coach. A Critical Unveiling of a District's Coaching Model and Protocols	Davis Clement
Monai Ward	Educational Leadership [Ph.D.]	An Autoethnographic Exploration of Pay Equity Issues in K-12 Human Resource Roles	Cierra Presberry
Brent Allen Miller			
Session 4, Room 352 - Biology - 10:30-11:45am, Moderator Margaret Hanes			
Emily Edwards	Biology - General [M.S.]	Documenting Plant Biodiversity at the Parsons Center for Arts and Sciences	Maggie Hanes
Bradley Allendorfer	Ecology, Evolution and Organismal Biology [M.S.]	Maternal Care to Dispersal: An Examination of Juvenile Colorado Brown Tarantula (<i>Aphonopelma hentzi</i>) Group Activities	Cara Shillington
Rachel Koski	Biology - General [M.S.]	Changes in Distribution and Abundance of Freshwater Jellyfish (<i>Craspedacusta sowerbii</i>) in Southeast Michigan Lakes	Cara Shillington
Anam Rahman	Biology - General [M.S.]	Induction of Silent Secondary Metabolites Using Known Antibiotics	Paul Price

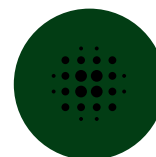
ORAL PRESENTATION SCHEDULE



AFTERNOON PRESENTATIONS 1:15–2:30PM

Name	Academic Program(s)	Title	Faculty Mentor
Session 1, Room 320 - Computer Aided Engineering - 1:15-2:30pm, Moderator, Tony Shay			
Zaid Herzallah	Computer Aided Engineering [M.S.]	Dispensing System Environment	Tony Shay
William Jones	Computer Aided Engineering [M.S.]	Economic Tools for Gravity Batteries	Tony Shay
Sandeep Reddy Parlapalli	Computer Aided Engineering [M.S.]	An Exhaustive Investigation of NVH Compact Simulator in Automotive Engineering	Tony Shay
Stephen Slachta	Computer Aided Engineering [M.S.]	Best Practices for Use of Metalworking Fluids at the Game Above School of Engineering	Tony Shay
Session 2, Room 330 - History - 1:15-2:30pm, Moderator, John McCurdy			
Hannah Doty	History [M.A.]	The Fair Housing Act and H.U.D.: Origins and Efficacy	Mary-Elizabeth Murphy
Chris Baker	History [M.A.]	Reassessing King John: An In-depth Analysis of His Reign and Legacy	John McCurdy
Alan Sangster	History [M.A.]	Violent Communist Rhetoric, Freedom of Speech, and the American Legal System: The Smith Act Prosecutions	John McCurdy
Session 3, Room 350 - Health and Education - 1:15-2:30pm, Moderator, Joan Cowdery			
Luke Woodworth	Special Education [MAT]	Teacher Survey for Using Manipulatives with Students that have a Cognitive Impairment	Jacquelyn McGinnis
Christine Ribbens Grimm	Nursing – Adult Gerontology Primary Care Nurse Practitioner [MSN]	The Impact of Nurse Mentors on Student Learning	Valerie Pauli
Parita Patel Latifat Raifu	Master of Public Health - Health Education (MPH)	Empowering Health through Effective Health Education: Creating Informative Materials for a Hospital System	Joan Cowdery
Caleb Mathison	Applied Econometrics [M.S.]	Frac Sand Mining in the Midwest: Impacts on Public Health	Jenni Putz
Session 4, Room 352 - Education, DEI - 1:15-2:30pm, Moderator, Tana Bridge			
Rachel Dick	Educational Studies [Ph.D.]	Neoliberalism's Impact on Education and Wellness with a Socially Responsive Pedagogical Framework Rooted in Care Ethics	Paul (Joe) Ramsey
Rachel Robbins-Whited	Educational Studies [Ph.D.]	Role Play and Hard History: Transformative or Traumatic?	Jessica Swan
Janet Leppala	Educational Studies [Ph.D.]	Educator Perceptions of Bilingual Education, Bilingualism, and the Seal of Biliteracy	Joe Bishop

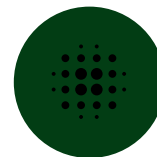
ORAL PRESENTATION SCHEDULE



AFTERNOON PRESENTATIONS 2:45-4:00PM

Name	Academic Program(s)	Title	Faculty Mentor
Session 1, Room 320 - History, DEI - 2:45-4:00pm, Moderator, Joseph Engwenyu			
Nicolas Chretien	History [M.A.]	Spirit Possession and Spirit Mediums in Africa: Nyabingi and Nehanda	Joseph Engwenyu
Mackenzie John Kortez	History [M.A.]	In the Shadows of the Rising Sun: Organized Crime in Japan	Roger D. Long
Motunrayo Agboola	Women's and Gender Studies [M.A.]	POWERFUL WOMEN: Funmilayo Ransome-Kuti: An African Feminist Par Excellence	Joseph Engwenyu
Finn Vincent-Fix	Historic Preservation [M.S.]	Andrew Jackson Blackbird: Eastern Michigan University's First Student of Color	Alexis Braun Marks
Session 2, Room 330 - Linguistics - 2:45-4:00pm, Moderator, Janet Leppala			
Christa Niemann		Archiving Local Memory: Creating an Oral History Website	
Olivia Ziemelis			
Racheal Anthony	English Linguistics [M.A.]	Showcasing Life and Language in Jewish Detroit "Boy, is he wearing a tux!": On the Syntax and Semantics of	Eric Acton
Christa Niemann	English Linguistics [M.A.]	English Exclamatives	Daniel Seely
Olivia Ziemelis	English Linguistics [M.A.]	The Me Problem: Pronouns and Proper Names as Modifiers	Daniel Seely
Sierra Morrissey	English Linguistics [M.A.]	Getting /srs About Tone Tags	Daniel Seely
Session 3, Room 350 - Social Systems - 2:45-4:00pm, Moderator, Peter Blackmer			
Samuel Howard	Public and Nonprofit Administration [M.A.]	Politics-Administration Dichotomy: A Look at Strong Mayor vs. Council-Manager Systems	Barbara Patrick
Emmanuel D Ogundare	Urban and Regional Planning [M.S.]	Understanding the Mediating Role of Artificial Intelligence in Urban Smart City Development and Implications for the United States	Heather Khan Welsh
Md Imamul Hossain	Sociology [M.A.]	Systematic Denial of Rohingya's Citizenship Rights: A Preliminary Study using Symbolic Interactionism and Double Consciousness Theory	Robert Orrange
Malik Pitchford	Africology and African American Studies [M.A.]	Underdeveloped Sport: Recreation Programs, Neoliberalism, and Internal Colonialism in Black America	Peter Blackmer
Session 4, Room 352 - Chemistry - 2:45-4:15pm, Moderator, Ruth Ann Armitage			
Chimi Dolker Sherpa	Chemistry [M.S.]	Mapping the Interaction Between Atg11 and Atg9 in Selective Autophagy	Steven Backues
Jeff Bond	Chemistry [M.S.]	Method Validation of Plasma-Chemical Oxidation Sample Preparation for AMS Radiocarbon Analysis of Known-age Materials	Ruth Ann Armitage
Tara Fairchild	Chemistry [M.S.]	Chemical Analysis of Pedra Cuberta Samples to Determine Binding Medium of Paints to Separate for Dating	Ruth Ann Armitage
Caroline Wozniak	Chemistry [M.S.]	Examining Regulation of Soluble E-Cadherin Signaling in Non-Small-Cell Lung Cancer Cells	Hedeel Evans
Jennifer Kean	Chemistry [M.S.]	Exploring Novel Structural and Functional Binding Interactions of UHRF2 with H3.	Brittany Albaugh

ARTS FRONT PRESENTATIONS

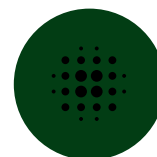


ARTS FRONT PRESENTATIONS 1:45-2:30PM

Name	Academic Program(s)	Title	Faculty Mentor
Arts Front, Kiva Room - 1:45-2:30pm, Moderator Meriah Sage			
Meredith Murphree	Applied Drama & Theatre for the Young [MFA]	EMU Theatre for the Young Touring Teaching Artists	Meriah Sage
Sam Carter Olivia Allen	Applied Drama & Theatre for the Young [MFA]	<i>Ronnie and Scales' Magnificent Tale</i> : Multi-sensory Theatre Created for Neurodivergent Audiences	Meriah Sage



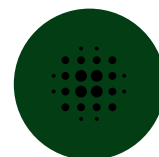
POSTER PRESENTATIONS



**POSTER SESSION A 10:00–11:30AM, ROOM
310 A/B**

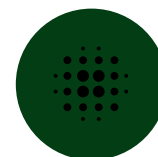
Name	Academic Program(s)	Title	Faculty Mentor
Issah Seidu	Chemistry [M.S.]	Synthesis and Evaluation of N- and C-terminal Biotinylated Peptides Based on Insulin-like Growth Factor Binding Protein-3	Deborah Heyl-Clegg
Matthew Veach	Cybersecurity [M.S.]	Ethical Framework to Prevent AI Misuse	Tauheed Khan Mohd
Brieanna Hurley	Ecology, Evolution and Organismal Biology [M.S.]	Spatial Familial Relationships of California Condors (<i>Gymnogyps californianus</i>)	Jonathan Hall
Heather Anne Oertel	Educational Leadership [Ph.D.]	The Effect of Emotional Support Animals on College Experience Satisfaction	Robert Carpenter
Ally Roberts	Higher Education Student Affairs (HESA)[MA]	First-Generation Students: What Now? Inaccessible Accessibility: How Higher Education Institutions Are Failing Students With	Ronald Flowers
Emerson Storlie	Higher Education/Student Affairs	Accommodations	Ronald Flowers
Amy Coomer	History [M.A.]	The Easter Rising of 1916: Decolonizing Ireland.	John McCurdy
Evan Veenhuis	Molecular/Cellular Biology [M.S.]	Would You Want to Swim in this Water?	Daniel Clemans
Harshit Rathore	Polymers and Coatings Technology [M.S.]	Corrosion Resistance Study of Organic-Inorganic Coatings Obtained by Plural-cure Mechanism	Vijay Kumar Mannari
Jared Carmichael	Psychology - General Clinical [M.S.]	Executive Functioning and Internalizing/Externalizing Symptoms in Typically Developing Preschool-age Children	Renee Lajiness-O'Neill
Julia Pleskaczynska	Psychology - General Clinical [M.S.]	Resting-State Brain Activity and its Association with Working Memory Performance	Naomi Hashimoto
Ayowale Soyemi	Technology [Ph.D.]	Sustainable Transformation of Construction, Domestic, and Agricultural Wastes into Innovative Composites for Eco-friendly Construction Practices	Professor Benedict Ilozor

POSTER PRESENTATIONS



**POSTER SESSION B 1:30–3:00PM, ROOM 310
A/B**

Name	Academic Program(s)	Title	Faculty Mentor
Fallon Mosier	Biology - General [M.S.]	Evaluating The Efficacy of California's Statewide Lead Ammunition Ban on the California Condor (<i>Gymnogyps californianus</i>): A Geographic and Ecological Analysis of Conservation Policy.	Jonathan Hall
Johnathan Platt	Clinical Mental Health Counseling [M.A.]	Incels and Rampant Misogyny in Online Spaces	Quentin Hunter
Alina Dillahunt	Clinical Psychology [Ph.D.]	Maternal Anxiety, Child Temperament, and the PediaTracTM v3.0 Motor Domain	Renée Lajiness-O'Neill
Elise Thomas	Clinical Research Administration [M.S.]	An Analysis of Mental Health in Popular Teen Girl Magazines Published in 2012-2022	Marissa Brandt
Jane Venezia	Ecology, Evolution and Organismal Biology [M.S.]	Stealing or Scavenging? Necessity of Breeding Interactions Between Unisexual Ambystoma Salamanders and Sexual Males	Katy Greenwald
David Knott	Orthotics and Prosthetics [M.S.]	Compression and Tensile Strength Tests of Materials Commonly Used to 3D Print Devices in O&P	Jacob Lindquist
Ellie Barga	Orthotics and Prosthetics [M.S.]	The Influence of Ankle Supports on Ankle Range of Motion of Gymnasts with Previous Ankle Injuries	Sun Hae Jang
Hannah Mullan	Orthotics and Prosthetics [M.S.]	The Perceived Role of the Physical Therapist and Prosthetist in Treating Lower Limb Amputees	Jacob Lindquist
Jessica Townsend	Orthotics and Prosthetics [M.S.]	How Does a Yoga Program Influence Balance in Lower Limb Amputees	Rebecca Spragg
Jocelyn Tongue	Orthotics and Prosthetics [M.S.]	The Affects of Socket Alignment on Biomechanical Performance in Unilateral Transtibial Amputees in the Coronal Plane	Jacob Lindquist
Kayla Griffith	Orthotics and Prosthetics [M.S.]	Prevalence of Burnout in O&P Administrative Staff	Rebecca Spragg
Kelsey Crist	Orthotics and Prosthetics [M.S.]	Design and Evaluation of a Rowing-Specific Upper Limb Prosthetic Terminal Device for Novice Rowers	Nathan Kearns
Keri Johnson	Orthotics and Prosthetics [M.S.]	Survey of Material Choices for 3D printing in Orthotics and Prosthetics	Nate Kearns
Sydney Feekings	Orthotics and Prosthetics [M.S.]	Burnout Rates among Graduate Students in an Orthotics and Prosthetics Masters program	Sun Hae Jang
Tyler Griffith	Orthotics and Prosthetics [M.S.]	Effect of a Custom, Immersive VR App and Headset as a Study Aid in Learning Muscular Anatomy of the Legs	Frank Fedel
Fateme Honarvar	Studio Art [M.A.]	The Hyrcanian Forest	Leslie Atzmon

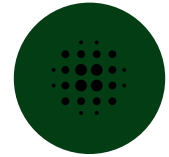


DIVERSITY, EQUITY, AND INCLUSION PRESENTATIONS

PRESENTATION TIMES AND LOCATIONS LISTED BELOW

Session 1, Room 320 - Education - 9:00-10:15am, Moderator, Michael McVey			
Jennifer Bennett	Educational Studies [Ph.D.], Clinical Mental Health Counseling [M.A.]	Food Pantry Use in a University Community	Chris Robbins
Session 3, Room 350 - Education, DEI - 10:30-11:45am, Moderator Cierra Presberry			
Dikea Taylor-Santiago	Educational Leadership [Ph.D.]	Why Us! Impact of School Discipline Policies on Black Girls	Cierra Presberry
Mia A. Rollack	Educational Leadership [Ph.D.]	Flipping the Script: Mitigating Deficit Thinking of Black Students	Brenna Breshears
Simone Brown	Educational Leadership [Ph.D.]	Tales of a Robotic Coach. A Critical Unveiling of a District's Coaching Model and Protocols	Davis Clement
Monai Ward	Educational Leadership [Ph.D.]	An Autoethnographic Exploration of Pay Equity Issues in K-12 Human Resource Roles	Cierra Presberry
Session 3, Room 350 - Health and Education - 1:15-2:30pm, Moderator, Joan Cowdery			
Parita Patel	Master of Public Health - Health Education (MPH)	Empowering Health through Effective Health Education: Creating Informative Materials for a Hospital System	Joan Cowdery
Session 4, Room 352 - Education - 1:15-2:30pm, Moderator, Tana Bridge			
Sharon Korth	Educational Leadership [Ph.D.]	Challenges Faced by People Identifying as Childfree/Childless Women Employed at Post-Secondary Institutions	Rachel Radina
Rachel Dick	Educational Studies [Ph.D.]	Neoliberal Impact on Education and Wellness and a Socially-Responsive Pedagogical Framework Rooted in Care Ethics	Paul (Joe) Ramsey
Rachel Robbins-Whited	Educational Studies [Ph.D.]	Role Play and Hard History: Transformative or Traumatic?	Jessica Swan
Session 1, Room 320 - History, DEI - 2:45-4:00pm, Moderator, Joseph Engwenyu			
Nicolas Chretien	History [M.A.]	Spirit Possession and Spirit Mediums in Africa: Nyabingi and Nehanda	Joseph Engwenyu
Mackenzie John Kortes	History [M.A.]	In the Shadows of the Rising Sun: Organized Crime in Japan	Roger D. Long
Motunrayo Agboola	Women's and Gender Studies [M.A.]	POWERFUL WOMEN: Funmilayo Ransome-Kuti: An African Feminist Par Excellence	Joseph Engwenyu
Finn Vincent-Fix	Historic Preservation [M.S.]	Andrew Jackson Blackbird: Eastern Michigan University's First Student of Color	Alexis Braun Marks
Session 3, Room 350 - Social Systems - 2:45-4:00pm, Moderator, Peter Blackmer			
Md Imatul Hossain	Sociology [M.A.]	Systematic Denial of Rohingya's Citizenship Rights: A Preliminary Study using Symbolic Interactionism and Double Consciousness Theory	Robert Orrange
Arts Front, Kiva Room - 1:45-2:30pm, Moderator Meriah Sage			
Sam Carter	Applied Drama & Theatre for the Young [MFA]	<i>Ronnie and Scales' Magnificent Tale</i> : Multi-sensory Theatre Created for Neurodivergent Audiences	Meriah Sage
Poster Session A, 10:00-11:30am, Room 310A/B			
Heather Anne Oerte	Educational Leadership [Ph.D.]	The Effect of Emotional Support Animals on College Experience Satisfaction	Robert Carpenter
Ally Roberts	Higher Education Student Affairs (HESA)[MA]	First-Generation Students: What Now?	Ronald Flowers
Emerson Storlie	Higher Education/Student	Inaccessible Accessibility: How Higher Education Institutions Are Failing Students With Accommodations	Ronald Flowers
AYOWALE SOYEMI	Technology [Ph.D.]	Sustainable Transformation of Construction, Domestic, and Agricultural Wastes into Innovative Composites for Eco-friendly Construction Practices	Professor Benedict Ilozor
Poster Session B, 1:30-3:00pm, Room 310A/B			
Johnathan Platt	Clinical Mental Health Counseling [M.A.]	Incels and Rampant Misogyny in Online Spaces	Quentin Hunter
Jessica Townsend	Orthotics and Prosthetics [M.S.]	How Does a Yoga Program Influence Balance in Lower Limb Amputees	Rebecca Spragg

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Aisha Tahir

Communication [M.A.]

We're Different, We are the Same: Examining Conflict Management in Intercultural Marriages

Faculty Mentor: Dr. Uttara Manohar

Session 4, Room 352 - Mental and Public Health - 9:00-10:15am, Moderator Uttara Manohar

This research proposal will examine communicative challenges in marriages where two individuals share the same ethnicity, but do not share nationality and other cultural values. The literature review will examine existing research about different sources of conflict and conflict management strategies in intercultural marriages, with a focus on marriage between individuals from collectivist and individualistic cultures and other cultural patterns framework. A review of the existing research reveals that common sources of conflict include traditional gender roles, external family pressures, communication style, child-rearing, leisure, expression, and conflict management. Some research also identifies effective conflict management strategies that include appreciation for cultures and gender role flexibility. It is also important to note that self-awareness and flexibility leads to effective adaptation to various sociocultural expectations.

Overall, the literature review indicates that while intercultural marriages might be a widely studied topic, it does not acknowledge nuanced scenarios where couples have intercultural similarities (ethnicity, religion) as well as differences (nationality, other cultural values, etc.).

Therefore, this research proposal examines a unique and understudied area of intercultural relationships. The proposed study will involve examination of this phenomenon through qualitative interviews with heterosexual married couples who share the same ethnicity but have different nationalities.

Alan Sangster

History [M.A.]

Violent Communist Rhetoric, Freedom of Speech, and the American Legal System: The Smith Act Prosecutions

Faculty Mentor: Dr. John McCurdy

Session 2, Room 330 - History - 1:15-2:30pm, Moderator, John McCurdy

This presentation will cover the proposed topic of my graduate thesis: the Smith Act prosecutions of Communist Party members in the United States for their speech in the late 1940's and early 1950's. My thesis will compare and contrast two sets of prosecutions: those that occurred in the federal Southern District of New York court district, and the more obscure prosecution of the "Michigan Six" in the Eastern District of Michigan. Using my legal background and my current training in historical research and methodology, I aim to conduct a comparative historical analysis of not only the legal history, but also relevant political and social history of these regions to expose crucial gaps in the literature regarding the tension between legitimate national security concerns and illiberal crackdowns on civil liberties.

Alex Boskovic

Psychology - Clinical Behavioral [M.S.]

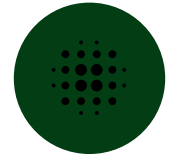
An Examination of the Coping Strategies of Grocery Store Employees During the COVID-19 Pandemic

Faculty Mentor: Dr. Alankrita Pandey

Session 4, Room 352 - Mental and Public Health - 9:00-10:15am, Moderator Uttara Manohar

This study examines the coping strategies of grocery store employees during the COVID-19 pandemic. Many of the workers are from underrepresented demographics in research and face immense pressure to perform their duties in a time of widespread uncertainty. A recent search of peer-reviewed articles from 2020 to the present revealed that poor communication and a lack of resources from employers were sources of stress. Some supermarket employees recall experiencing substandard working conditions that created intense psychological pressure from a lack of organizational and managerial support. Much of the coping research from the pandemic is based on healthcare workers. This research study addresses the gap in the literature by examining coping methods of non-healthcare frontline employees. Studies of U.S. medical workers concluded that feelings of confidence and preparedness were linked to higher levels of resilience. Grocery store workers, while deemed essential, were too often required to deal with hostile working conditions, belligerent customers, and insensitive supervisors during the pandemic. Furthermore, studies suggest that some grocery store workers were able to deal with extreme stress more effectively when provided with the appropriate tools for success. This research addresses these critical workers and the coping mechanisms that helped them to handle workplace safety during COVID-19.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Alina Dillahunt

Clinical Psychology [Ph.D.]

Maternal Anxiety, Child Temperament, and the PediaTrac™ v3.0 Motor Domain

Faculty Mentor: Dr. Renee Lajiness-O'Neill

Poster Session B, 1:30-3:00pm, Room 310 A/B

Self-report maternal postpartum anxiety and depressive symptoms have been found to be negatively associated with parent-reported infant motor ability by and before 12-months. Additionally, higher infant negative affectivity (NA) has been shown to be negatively associated with motor ability and infants with higher NA are more vulnerable to the negative effects of maternal depression on motor development.

This study aims to understand if maternal factors similarly relate to the PediaTrac™ v3.0 motor domain, a caregiver-report scale developed using item response theory modeling, and whether a moderating effect exists with infant temperament.

Participants were subsamples of a longitudinal infant development study of 571 caregiver-infant dyads; 42% born pre-term, 52% male, and highly diverse with 53% self-identifying in non-White categories and/or Hispanic/Latino. At 9- and 12-months, maternal anxiety and depression were assessed with the Brief Symptom Inventory (BSI), child NA with the Infant Behavior Questionnaire (IBQ), and child motor ability with the PediaTrac™ v3.0 motor domain (MOT).

At 9-months, there were significant negative correlations between MOT and BSI-anxiety ($r = -.17, p < .01$) as well as BSI-depression ($r = -.17, p < .01$). To investigate further, correlations were run in groups stratified by term status (i.e., pre-term, and term). The correlations for both BSI-anxiety ($r = -.21, p < .01$) and BSI-depression ($r = -.17, p < .01$) with MOT remained significant in the term but not pre-term infants. Significant negative correlations between MOT and BSI-anxiety ($r = -.16, p < .01$) and BSI-depression ($r = -.14, p < .01$) also were found at 12-months. It was found that the correlations with MOT and anxiety ($r = -.19, p < .01$) and depression ($r = -.17, p < .01$) remained significant in pre-term infants but not in term infants. There were no significant moderation effects found at either timepoint or within either term status group.

Further analyses are needed to explore whether other factors (e.g., demographic variables) may influence the relationship between maternal anxiety and depression and infant motor development.

Amy Coomer

History [M.A.]

The Easter Rising of 1916: Decolonizing Ireland

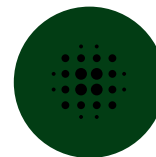
Faculty Mentor: Dr. John McCurdy

Poster Session A, 10:00-11:30am, Room 310 A/B

In 1649, English forces invaded Ireland and claimed it as their territory. This began centuries of English colonial presence in Ireland and contributed to the loss of the Irish language. In 1916, the Irish revolted against colonial control in what came to be known as the Easter Rising of 1916. This was an act of armed rebellion that began a long series of rebellion and civil war in Ireland. Additionally, this can be seen as a point of explosion for home-rule, or Irish independence, movements. These movements encourage the reclamation of culture that was often banned from practice.

By examining the timeline of the Irish language and the events of the Easter Rising of 1916, we can look at the process of decolonization of formerly colonized peoples. The long reckoning that the Irish must do to decolonize their nation is similar to that of many former colonies across the globe. In recovering what has been taken from them by force, formerly colonized peoples can reinvent their identities by their means.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Anam Rahman

Biology - General [M.S.]

Induction of Silent Secondary Metabolites Using Known Antibiotics

Faculty Mentor: Dr. Paul Price

Session 4, Room 352 - Biology - 10:30-11:45am, Moderator Margaret Hanes

The era of antibiotic discovery may no longer be able to effectively treat simple illnesses and infections caused by bacteria. This is mainly due to resistance towards both natural antimicrobial products as well as synthetic drugs. The high rates of secondary infections, frequently linked to multidrug-resistant bacteria that are seen in hospitalized patients and those with already weakened immune systems, are an underappreciated but worrying component of the COVID-19 pandemic. Considerable progress has been made to resolve the antibiotic resistance crisis through programs such as the Tiny Earth initiative, dedicated to discovering novel antibiotics. This project investigates a strategic approach for increasing the production levels of these molecules so that we can make them available on a scale sufficient for isolation and identification. The production of antimicrobial compounds by soil bacteria can be increased/induced by adding signaling compounds during the fermentative stage. The addition of low levels of known antibiotic concentrations into the culture of bacterial strains can trigger a signal event that results in the synthesis of secondary metabolites by specific bacterial strains. Further testing for secondary metabolites with antimicrobial activity using auto-biography and plate-based assays with ESKAPE pathogens was used to test for relative antibiotic production. Our gathered data indicates a notable increase in the quantity of the product compared to the extracts from cultures that were not subjected to any environmental triggers.

Ayesha Syeda

Communication [M.A.]

Opportunities from Artificial Intelligence Technologies for Persons With Disabilities: A Literature Review

Faculty Mentor: Dr. Nick Romerhausen

Session 4, Room 352 - Mental and Public Health - 9:00-10:15am, Moderator Uttara Manohar

Artificial intelligence is an application that raises significant concerns when it comes to education and credibility. However, it is essential to realize that artificial intelligence applications can help break barriers when this technology comes to providing an education that is diverse in nature, equitable, accessible, and inclusive to all. With the literature review of artificial intelligence applications, I outline what artificial intelligence is, what learning disabilities and accessibility barriers are, and how artificial intelligence can be used to enhance educational experiences.

Bradley Allendorfer

Ecology, Evolution and Organismal Biology [M.S.]

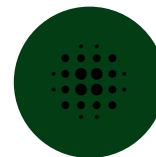
Maternal Care to Dispersal: An Examination of Juvenile Colorado Brown Tarantula (*Aphonopelma hentzi*) Group Activities

Faculty Mentor: Dr. Cara Shillington

Session 4, Room 352 - Biology - 10:30-11:45am, Moderator Margaret Hanes

Many invertebrate groups, including many arachnids, have both solitary and social periods throughout their lifecycle. Although tarantulas typically do not tolerate conspecifics for the majority of their life, juveniles (spiderlings) will exhibit a temporary gregarious stage shortly after emergence from the egg sac. This communal period is short-lived, however, as individuals will eventually depart from their emergence site in a process known as natal dispersal. This study aimed to document emergence and natal dispersal patterns of Colorado brown tarantula (*Aphonopelma hentzi*) spiderlings. These observations represent the first analysis for this species, contributing to the knowledge base for tarantulas as a collective, with only three existing publications of these processes for this group. In southeast Colorado, tarantula burrows were continually monitored for juvenile activity with periodic camera traps. Four observations of spiderling emergence were observed during this study, with individuals residing in close proximity to their siblings and mother within the maternal burrow for multiple days. Distinct behaviors, such as grabbing each other's front appendages, were noted during this stage. After emergence, discarded egg sacs containing juvenile exoskeletons were collected. Based on counts of these molts, an average of 213 individuals successfully emerge from the egg sac within this population. Group dispersal from the maternal burrow was later documented, occurring in a mass event. Some dispersers traveled as a coordinated group, forming aggregations of up to 9 individuals, while others dispersed individually. Up to 26 individuals could be seen at one time during the dispersal process. All dispersers eventually began to separate into the vegetation or under compact soil, likely finding a suitable settlement site. These observations highlight important events in the life history of Colorado brown tarantulas and help us to understand the particularly understudied juvenile life stage of this species

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COLLEGE OF ARTS AND SCIENCES

Brieanna Hurley

Ecology, Evolution and Organismal Biology [M.S.]

Spatial Familial Relationships of California Condors (*Gymnogyps californianus*)

Faculty Mentor: Dr. Jonathan Hall

Poster Session A, 10:00-11:30am, Room 310 A/B

California condors are a critically endangered, highly social, and long-lived bird species. Parental care is crucial to condor survival, but most of what is known about parent and chick behavior comes from observing captive breeding pairs. In this study I use movement data collected via GPS-GSM telemetry units attached to free-flying condors in California to characterize the spatial dynamics of condor fledglings (young) and adult members of the flock. I am particularly interested in the spatial proximity and overlap of condor fledglings and their parents for the first three years of a fledgling's life. Over the first three years, I expect fledgling subadult condor spatial proximity to increase and overlap with their parents to decrease. Contrastingly, I expect no significant change in the same spatial metrics between parents and other adult members of the free-flying population. I will evaluate the significance of spatial dynamic change between parents and offspring using a linear mixed effects model. I will then use an ANOVA to evaluate the significance of distance between parents and adult members of the flock. My study will aid in the conservation of the California condor by informing managers about the spatial relationships of California condor parents and their offspring during the first three years of the offspring's life. Knowing more about the spatial familial relationships of condor offspring and their parents would give more insight into the potential causes of chick mortality, the social structure of the free-flying population, and where juvenile condors are learning foraging behaviors.

Caleb Mathison

Applied Econometrics [M.S.]

Frac Sand Mining in the Midwest: Impacts on Public Health

Faculty Mentor: Dr. Jenni Putz

Session 3, Room 350 - Health and Education - 1:15-2:30pm, Moderator, Joan Cowdery

With the increase in fracking for oil and natural gas, the demand for inputs in this industry has risen. Thus, there has been an emergence of frac sand mining, the process of mining sand that is used to prop open fractures in the ground to extract the oil and natural gas in hydraulic fracking. These industrial silica mines may have negative impacts on communities around them, including impacts on water and air quality. This paper will test for a causal relationship between health outcomes, in particular lung conditions, and frac sand mining sites at the county-level. Specifically, we combine two decades of county-level data on industrial sand mining and mortality rates to quantify the association between sand mining and health risks across demographic groups using two-way fixed effects models and generalized synthetic controls. Results from this study may be used in policy-making regarding mine locations and pollution, and may also speak to concerns about the inequities experienced in local pollution exposure.

Caroline Wozniak

Chemistry [M.S.]

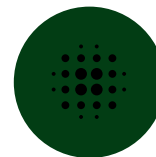
Examining Regulation of Soluble E-Cadherin Signaling in Non-Small-Cell Lung Cancer Cells

Faculty Mentor: Dr. Hedeel Evans

Session 4, Room 352 - Chemistry - 2:45-4:15pm, Moderator, Ruth Ann Armitage

Strong cell-cell interactions are reported to be a barrier to the mobility of cancer cells. Loss of intercellular adhesion by the transmembrane protein, E-cadherin, known to have tumor suppressor functions, represents a fundamental change reported to occur during cancer progression to an invasive state. In this study, we used Non-Small-Cell Lung Cancer (NSCLC) cells to investigate how the ectodomain of the E-cadherin can be cleaved and released in a soluble form referred to as soluble E-cadherin, or sE-cad, accounting for decreased E-cadherin levels at the cell surface.

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COLLEGE OF ARTS AND SCIENCES

Charles Calcaterra

History [M.A.]

Maintenance Deferred, Preservation Denied: Brown-Munson and Historic EMU Buildings

Faculty Mentor: Dr. James Egge

Session 2, Room 330 - History and Philosophy - 9:00-10:15am, Moderator Jenny Kindred

As the architects behind the Welcome Home 2025 Project construct Eastern Michigan University's newest student dormitories, it remains important to remember and preserve the history of our campus. Under the auspices of the 2025 Project, the historic Brown and Munson residence halls—today conjoined as Brown-Munson Apartments—are scheduled for closure and demolition. Little is remembered, however, about EMU's second and third oldest, operational residence halls on campus. This study combs through nearly three decades of Eastern Echo student newspapers, with corroboration from Aurora yearbooks and The Ypsilanti Daily Press, to illustrate how Munson Hall was once part of a deal to save the Michigan State Normal College—now EMU—from indefinite closure. Between the construction of Munson in 1939 and Brown in 1949, the Normal College experienced not only passionate campaigns to preserve the campus as an academic instruction, but also efforts by its administration to accommodate the needs of the nation during the Second World War. After the war, the construction of Brown Hall welcomed the flood of new students to campus. Brown and Munson, therefore, both provided venues which housed the institution's answers to the crises of the 1940s. In addition to recounting such forgotten episodes in our campus history, this study seeks to address sustainable preservation strategies for how the university should treat and document its remaining historic buildings. Through long-term investments like LEED certification, interest in researching campus history, and the immediate requirements of ADA accessibility, buildings like Brown-Munson can be remembered, refurbished, or rehabilitated to meet the standards of modern living, education, and administration. As demolition fences spring up around old and forgotten buildings on campus, students and staff alike must help document and preserve the shared tangible and intangible history of EMU.

Chimi Dolker Sherpa

Chemistry [M.S.]

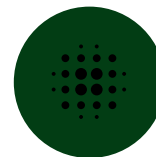
Mapping the Interaction Between Atg11 and Atg9 in Selective Autophagy

Faculty Mentor: Dr. Steven Backues

Session 4, Room 352 - Chemistry - 2:45-4:15pm, Moderator, Ruth Ann Armitage

Selective autophagy is a process of degradation or removal of specific unwanted cellular components. For example, mitophagy targets damaged mitochondria for recycling. It helps prevent neurodegenerative diseases like Parkinson's or Huntington's, cancer, and infection by bacterial pathogens. It forms a double-membrane vesicle, an autophagosome, that wraps around the cargo and takes it to the vacuole/lysosome for degradation. Atg11 is the central organizer of the autophagy initiation complex in selective autophagy. It acts as a scaffold protein that interacts with Atg9, Atg1, and other Atg proteins to initiate the formation of the autophagosome. Atg9 is a critical binding partner of Atg11. Atg1 also interacts with Atg11 in autophagosome formation. Our research goal is to find mutations that specifically cause a loss of interaction between Atg11 and Atg9 without interfering with its dimerization or interaction with Atg1. We are focusing on residues 455-535 of Atg11 as a putative Atg9 interaction site. We performed mutagenesis on four residues in this region of Atg11 that we hypothesized to be important based on a sequence alignment of Atg11 homologs. Then, we used yeast-2-hybrid and coimmunoprecipitation to test for a loss of interaction with Atg9. These results for the quadruple mutant showed a loss of interaction between Atg11 and Atg9 and only a partial loss between Atg11 and Atg1. Next, we tested two double mutants. However, one showed no loss of interaction with Atg9 or Atg1, while the other showed at most a partial loss of interaction. Thus, none of these residues could be individually identified as essential for the specific interaction of Atg11 with Atg9. Our next step will be to identify and test other potential residues in Atg11's 455-535 region that may be critical for its interaction with Atg9.

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COLLEGE OF ARTS AND SCIENCES

Chris Baker

History [M.A.]

Reassessing King John: An In-depth Analysis of his Reign and Legacy

Faculty Mentor: Dr. John McCurdy

Session 2, Room 330 - History - 1:15-2:30pm, Moderator, John McCurdy

This research reevaluates the historical perspectives on King John of England, challenging the traditional portrayal of him as a tyrant and ineffective ruler. Contrary to prevailing negative views, this research suggests that his unfavorable reputation may be attributed to a combination of external challenges, administrative policies, and the collapse of the Angevin Empire rather than inherent flaws in his character. Through a comprehensive analysis of primary sources and insights from modern historians, the study proposes a more nuanced understanding of King John's reign. While acknowledging the burdens of high taxes and imperial decline, the analysis highlights King John's effective administrative skills, which contributed to alienating the barons who resented centralized power. This research, while acknowledging historical realities and challenges he faced, suggests that his negative reputation may be a result of a complex interplay of external pressures and administrative decisions rather than inherent flaws in his character.

Christa Niemann

English Linguistics [M.A.]

"Boy, is He Wearing a tux!": On the Syntax and Semantics of English Exclamatives

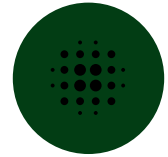
Faculty Mentor: Dr. T. Daniel Seely

Session 2, Room 330 - Linguistics - 2:45-4:00pm, Moderator, Janet Leppala

Of the four main clause types, exclamatives are imprecisely defined in linguistic literature and significantly under-researched. The literature that does exist focuses on traditional wh-exclamatives (e.g., What a nice tux he's wearing!) and does not provide a unified theory of the wider range of exclamative sentence types. These additional types include verb-initial exclamatives (e.g., Boy, is he wearing a tux!), nominal exclamatives (e.g., The tux he's wearing!), and so-called Mad Magazine sentences (e.g., Him, wear a tux?!), which may also be a type of exclamative (Akmajian, 1984). The purpose of my research is to construct a unified theory of exclamatives accounting for the properties of all exclamative types.

I will start by presenting and extending the analysis of Zanuttini and Portner (2003), who define exclamatives based on two features. I adopt an extended version of their notion of widening, which captures the sense of "surprise" associated with exclamatives. I also adapt the notion of factivity, which accounts for the presupposition associated with exclamatives (for example, the sentence What a nice car you have! presupposes that the addressee has a car). After introducing and appropriately modifying these two semantic features, I will show how each is encoded in the syntax and demonstrate how they apply to each type of exclamative, reconciling aspects of Rett (2011) and Brandner's (2010) analyses of exclamative degree properties. I will then explain which aspects of Zanuttini and Portner's (2003) theory might be further revised based on the inclusion of a fuller range of data – namely, that widening in certain verb-initial exclamatives can account for an ambiguity in meaning. This investigation can inform subsequent attempts to define the nature of English exclamatives and describe their underlying structure, and at the same time provide insight into the syntactic-semantic-pragmatic interface.

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COLLEGE OF ARTS AND SCIENCES

Christa Niemann

Olivia Ziemelis

Racheal Anthony

English Linguistics [M.A.]

Archiving Local Memory: Creating an Oral History Website Showcasing Life and Language in Jewish Detroit

Faculty Mentor: Dr. Eric Acton

Session 2, Room 330 - Linguistics - 2:45-4:00pm, Moderator, Janet Leppala

The Jewish Life and Language Project (JLLSM) works with a collection of sociolinguistic interviews with Jewish community members born and raised in Metro Detroit between 1924 and 1999. These interviews are primarily conversational accounts of participants' upbringings, memories, and experiences as Jewish community members in Detroit. Participants were also asked to read a list of words and answer specific questions related to language. Our previous linguistic analysis of a subset of ten interviews found that young Jewish women in the region are moving away from a distinctly regional dialect towards a more supra-regional one while still emphasizing their Jewish identities through use of the Jewish ethnolinguistic repertoire (Benor, 2010). Beyond linguistic analysis, however, these interviews are also rich with oral history. This year, our focus is creating a space to house and share excerpts from these oral histories online, documenting the voices and stories of our participants for both linguistic and community interests. There are many challenges associated with such a task. Braber and Davies (2016) have noted, for instance, the tendency of archivists as appraisers to "cherry-pick" excerpts, over-representing certain dialect features and leading viewers to overgeneralize about a community. Likewise, Cook (2013) cautions about the tendency of archivists to imbue their own values into archives by virtue of selecting excerpts worthy of inclusion. In this talk, we'll first give an overview of our prior sociolinguistic research, then grapple with these archival concerns and discuss approaches to ethical and methodological considerations for our own oral archive. We'll also share excerpts from our interviews to demonstrate the kinds of stories and linguistic features we hope to document. Lastly, we will share our vision for the meaning of this archive for the communities it involves and welcome feedback from others interested in linguistics, language change, history, sociology, and other related disciplines.

Dylan Wolfe

Philosophy [M.A.]

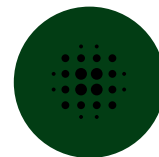
The Phenomenology of Normativity and Ethics in Merleau-Ponty

Faculty Mentor: Dr. Laura McMahon

Session 2, Room 330 - History and Philosophy - 9:00-10:15am, Moderator Jenny Kindred

This essay explores the phenomenological basis of normativity and ethics through the lens of Maurice Merleau-Ponty's work on virtual spaces. While several scholars have already touched on this subject, this paper clarifies and synthesizes their ideas into a more cohesive phenomenological account of moral experience. By first examining the fundamental levels of normativity in human perception, I build on the idea that we inhabit shared "virtual spaces" in which moral sensitivity and standards of correctness become possible. My analysis begins by uncovering the nascent perceptual norms that guide and motivate our experience of the world. I uncover these norms by appealing directly to one's own experiences and the purported experiences of others. Along the same lines as Merleau-Ponty, I show that these norms point to inherently motivating qualities in objects, which then shape and influence our perception and felt-spatiality. I then move to the idea of virtual spaces and lived realities as they are described by Merleau-Ponty. In agreement with Merleau-Ponty, I argue that it is only through our power of abstraction and habitation in "virtual" or "possible" spaces that the world can show itself as meaningful to our human situation. That is, we can only experience the world as a "lived reality" of things to be interacted with through our situatedness in virtual space. Lastly, I show that different virtual spaces can be freely entered into, but we are always already embedded within some virtual space. Furthermore, inhabiting different virtual spaces will reveal new meanings within the world, and so open up and delimit what we perceive in different ways. In shared virtual spaces, in which others exist, this amounts to the ability to perceive which actions are moral or immoral, and so offers a basis for standards of correctness in ethics.

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COLLEGE OF ARTS AND SCIENCES

Emily Edwards

Biology - General [M.S.]

Documenting Plant Biodiversity at the Parsons Center for Arts and Sciences

Faculty Mentor: Dr. Maggie Hanes

Session 4, Room 352 - Biology - 10:30-11:45am, Moderator Margaret Hanes

Eastern Michigan University (EMU) owns an 86-acre property in northwest Michigan called the Parsons Center for Arts and Sciences. Here we present the first plant species checklist for the Parsons Center. Field-work was conducted in the summers of 2022 and 2023. The following workflow was followed for each plant species we observed at the Parsons Center: 1) plant specimens were collected and pressed in the field; 2) images were taken of each species in the field and uploaded to iNaturalist in a Parsons Center project; 3) plant specimens were dried, labeled, mounted, and deposited into the EMU herbarium; and, 4) collection data were digitized in the Consortium of Midwest Herbaria. Prior to the summer of 2022 zero plant specimens had been documented or collected at the Parsons Center. Our collections uncovered at least 183 species in 136 genera and 57 families. We recovered about 18% of species and 41% of the plant families known from Benzie County. In addition to documenting plant diversity at the center, this work created two online, publicly available databases that provide important resources for EMU students, all Parsons users (e.g., artists and community members), and county biologists. Such a collection will also bring awareness to the Parsons Center and highlight its botanical value. Plant collection will continue at the Parsons Center in the plant systematics course.

Emmanuel D Ogundare

Urban and Regional Planning [M.S.]

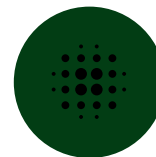
Understanding the Mediating Role of Artificial Intelligence in Urban Smart City Development and Implications for the United States

Faculty Mentor: Dr. Heather Khan Welsh

Session 3, Room 350 - Social Systems - 2:45-4:00pm, Moderator, Peter Blackmer

As urbanization rates continue to rise globally, cities are increasingly leveraging cutting-edge technologies, particularly artificial intelligence (AI), to address environmental, business, and societal concerns. This paper explores the transformative role of AI in the development of smart cities, highlighting its potential applications in citizen services, predictive maintenance, and sustainability programs. Despite its widespread adoption, there remains a lack of comprehensive understanding regarding AI's functions, applications, and potential ramifications in smart cities. The integration of AI into essential aspects of smart cities, such as transportation systems, cybersecurity, smart grids, and healthcare, presents both promises and challenges. This article aims to classify scientific research on AI in smart city issues, identifying emerging paths for future research. The progression of AI technologies, such as rule-based systems and deep learning, plays a crucial role in delivering public services and managing vast amounts of data generated by the Internet of Things. This paper acknowledges potential dangers, including ethical concerns, data privacy, and the risk of exacerbating social disparities, also as the exploration of AI's impact on public transportation infrastructure, law enforcement, crime detection, and urban governance underscores the potential for cities to become more sustainable, safe, inclusive, and resilient.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Emmanuel Robertson Apaa

Applied Statistics [M.S.]

Epidemiological Prediction of Type-2 Diabetes Mellitus Using Machine Learning

Faculty Mentor: Dr. Tanweer Shapla

Session 2, Room 330 - Mathematics and Technology - 10:30-11:45am, Moderator Khairul Islam

Diabetes is the number one risk factor for most killer diseases (cancer, heart disease, stroke, chronic lower respiratory diseases, etc.) in the United States. The exploration of pharmaceutical companies for addressing diabetes has become increasingly crucial due to the substantial impact of diabetes on patients and the healthcare system. Understanding the underlying biological mechanisms contributing to diabetes and developing interventions targeting these mechanisms is a priority. However, there is a current lack of predictions utilizing genetic variation to predict diabetes.

Several machine learning models have been used to predict and classify diabetes types. However, most of these models focused on environmental factors that cause diabetes. In this study, we will focus on genes that cause type-2 Diabetes mellitus using machine learning algorithms. The recursive feature elimination method will be used for the feature engineering process and six machine learning algorithms will be employed. Performance evaluation metrics will assess each of the machine learning algorithms and the algorithm with the best evaluation metric will be interpreted to be the best model for predicting type-2 Diabetes Mellitus. Data sets were collected from the South Texas Obesity and Diabetes Research Institutes.

The selected biomarkers (genes) from this study can provide crucial information to improve diagnosis of diabetes and to focus clinical trials of diabetic treatment through drug development. The study model would serve as a primary predictive indicator to help medical experts determine, from the onset, the presence of diabetes so that they can make an early and effective decision for the patients.

Evan Veenhuis

Molecular/Cellular Biology [M.S.]

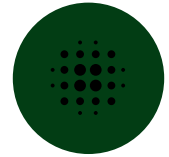
Would You Want to Swim in this Water?

Faculty Mentor: Dr. Daniel Clemans

Poster Session A, 10:00-11:30am, Room 310 A/B

The presence of organisms such as *Escherichia coli* within the Huron River indicates environmental fecal contamination. The objective of this study was to determine the level of fecal and other coliform contamination in the Huron River and the antibiotic sensitivity patterns of these isolates. It is hypothesized that with the removal of the Peninsular Park Dam, microbial loads behind the dam will be released downstream. Water and sediment samples were taken from seven sites ranging from just below Superior Dam to Lower Huron Metropark. Culture-based methodologies used CHROMagar™ to enumerate fecal coliforms, coliforms, and other Gram-negative bacteria. Molecular techniques were utilized to characterize specific isolates, and antibiotic sensitivity testing (AST) was performed to determine susceptibility to six antibiotics. The implications of pathogens and antibiotic resistance pose significant challenges to public health, raising concerns about the effectiveness of current treatment strategies and the potential for increased difficulty in managing infectious diseases.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Fallon Mosier

Biology - General [M.S.]

Evaluating the Efficacy of California's Statewide Lead Ammunition Ban on the California Condor (*Gymnogyps californianus*): A Geographic and Ecological Analysis of Conservation Policy

Faculty Mentor: Dr. Jonathan Hall

Poster Session B, 1:30-3:00pm, Room 310 A/B

Lead poisoning in wildlife, particularly scavenging birds, poses a significant threat to many species. In 2019 the state of California issued a ban on the use of lead ammunition for hunting game species, the remains of which are one of the primary food sources for scavenging birds like the California condor. Despite this ban, lead remains the primary cause of mortality in the condor population. Previous research has shown a relationship between increased blood lead concentration (BLC) and amount of time spent foraging on unmanaged land. This study will evaluate the effectiveness of the lead ban in reducing BLC in condors and to understand the relationship between land management types and lead exposure in these birds. The research involves a comprehensive analysis of BLC data in condors, gathered semi-annually by the US Fish and Wildlife Service. The study will compare BLC data from three years prior to the 2019 ban (2016-2018) with three years post-ban (2020-2022). Additionally, the project will investigate the correlation between land management types (public vs. private) and BLC from 2019-2022.

By analyzing telemetry data from GPS units attached to the birds, the study will determine the percentage of time each bird with elevated BLC spends on different land types. This will enable the identification of specific risk factors associated with lead exposure and help in pinpointing geographical areas where conservation efforts should be concentrated. The broader impact of this research aims to provide concrete evidence on the effectiveness of lead regulation policies, guiding policymakers and field biologists in developing more informed and effective conservation strategies. The findings will be instrumental in protecting the California condor, a critically endangered species, and in enhancing our understanding of lead exposure impacts on wildlife in human-dominated landscapes.

Fatemeh Honarvar

Studio Art [M.A.]

The Hyrcanian Forest

Faculty Mentor: Leslie Atzmon

Poster Session B, 1:30-3:00pm, Room 310 A/B

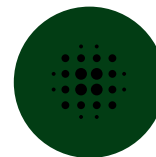
The Hyrcanian Forest serves as a testament to the profound beauty and alarming plight of the Hyrcanian Forest, a natural treasure spanning Iran and neighboring regions. Through the medium of a 3D paper layer poster, I aim to shed light on the critical issue of mismanagement and the consequential devastation faced by this ancient forest ecosystem.

The Hyrcanian Forest, once teeming with a myriad of unique plant species and serving as a sanctuary for a diverse array of wildlife found nowhere else, now bears the scars of human negligence. Over time, the mismanagement and lack of effective conservation efforts have led to the irreversible loss of precious flora and fauna. Tragically, some species that were exclusively inhabitants of this majestic forest have vanished from existence.

I aspire for this piece to evoke contemplation and dialogue about the dire consequences of neglecting our environment. It is a silent outcry against the unchecked destruction of ecosystems and a call to preserve the irreplaceable biodiversity that thrives within the Hyrcanian Forest.

May this artwork serve as a catalyst for change, inspiring individuals and authorities alike to prioritize the conservation and sustainable management of this invaluable natural gem before it's too late.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Finn Vincent-Fix

Historic Preservation [M.S.]

Andrew Jackson Blackbird: Eastern Michigan University's First Student of Color

Faculty Mentor: Alexis Braun Marks

Session 1, Room 320 - History, DEI - 2:45-4:00pm, Moderator, Joseph Engwenyu

The purpose of this archival research project was to analyze the life of Eastern Michigan University's (EMU) first student of color, the last hereditary chief of the L'Arbre Croche band of Ottawa Indians, Andrew Jackson Blackbird. This research hoped to uncover how Blackbird came to attend EMU in 1856 (then known as the Michigan State Normal School), his experience as a student, and how his education at the school impacted the remainder of his life. Research for this project was conducted in the EMU Archives and utilized both digital and physical archival materials and peer-reviewed academic literature to discover evidence of Blackbird's life and connection with the institution. This project discovered that Blackbird originally intended to attend the University of Michigan but was instead convinced to attend the Michigan State Normal School (MSNS) by Senator Lewis Cass, a politician known to be a friend to Michigan's Indigenous population. The U.S. government promised to finance Blackbird's tuition and living expenses but only provided enough financial aid to cover tuition costs. Without access to financial aid, Blackbird was forced to abandon his education after two-and-a-half years as a result of being malnourished and in poor physical health due to his inability to afford firewood to heat his shelter in the winter months. Despite being unable to graduate, Blackbird utilized the English language and grammar skills he acquired at the MSNS to preserve the history, language, and cultural traditions of his people in "The History of the Ottawa and Chippewa Indians of Michigan" (1887). This research serves to share the experience of EMU's first student of color while shedding light on the hardships Blackbird faced while trying to obtain his education and exist as an Indigenous man in Western society.

Hannah Doty

History [M.A.]

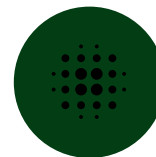
The Fair Housing Act and H.U.D.: Origins and Efficacy

Faculty Mentor: Dr. Mary-Elizabeth Murphy

Session 2, Room 330 - History - 1:15-2:30pm, Moderator, John McCurdy

The purpose of this study was to understand the issues of housing and the problems that ultimately necessitated the passing of the Fair Housing Act as Title VIII and IX of the Civil Rights Act of 1968. In addition, this study seeks to understand the legacy and efficacy of the Act as well as its relation to the U.S. Department of Housing and Urban Development (H.U.D.) through Detroit and African American women. By using archival research to identify the institutional and personal significance of housing within Detroit, this study discovered that the Act was only effective in silencing broader displays of discrimination. This left room for more subtle displays of discrimination due to fair housing being vague in definition. At the same time the Act was put into motion, the city of Detroit was still acquiring federal funding for revitalizing the urban center. However, this study found that the city of Detroit would not completely fulfill its promise to demolish abandoned buildings and rebuild new properties. Instead, the city would establish buildings for demolition but would then leave the property to sit, forcing residents and businesses owners out of their property uncompensated. In particular, African American women were vulnerable to this vagueness and were forced from their homes with little notice and with almost always no compensation. The burden of upholding the Act through government would not occur until 2015 and in 2023, as before it placed responsibility of upholding fair housing onto the individual through legal proceedings. The racial unrest of the 1960s, the change from open to subtle discrimination in housing due to the Act, and the dictation of who is responsible for upholding the Act that changes over time serve to understand the legacy and efficacy of the Fair Housing Act.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Issah Seidu

Chemistry [M.S.]

Synthesis and Evaluation of N- and C-terminal Biotinylated Peptides Based on Insulin-like growth Factor Binding Protein-3

Faculty Mentor: Dr. Deborah Heyl-Clegg

Poster Session A, 10:00-11:30am, Room 310 A/B

IGFBP-3 (Insulin-like Growth Factor Binding Protein-3) is known to protect against lung cancer, inhibiting the survival and growth of non-small cell lung cancer A549 cells. The protein contains a C-terminal hyaluronan (HA) binding motif which may be linked to its anticancer effects. We have shown that an 18 amino acid peptide derived from this region (215-KKGFYKKKQCRPSKGRKR-232) retains anticancer properties, while a mutant IGFBP-3 peptide lacking the HA-binding motif (K228A, R230A) does not. In order to further investigate the mechanism of these activities, in this study we report on the synthesis of two analogs of each peptide linked to a biotin moiety, either attached on the N-terminal lysine side chain, or via a linker at the C-terminus. Given the binding affinity of biotin for streptavidin, these analogs can be used as tools for assessing and quantifying interactions between IGFBP-3 and HA as well as with other players in the process such as humanin. MTT assays were utilized to first examine any influence of the biotin tag on the peptides' effects on A549 cell viability, and compared to normal Beas-2b cell controls.

James Cason

Teaching English to Speakers of Other Languages / TESOL [Graduate Certificate]

Unlocking Language Learning: Exploring ChatGPT's Impact on Intercultural Communicative Competence

Faculty Mentor: Dr. Ildiko Porter-Szucs

Session 1, Room 320 - Applied Linguistics - 10:30-11:45am, Moderator, Ildiko Porter-Szucs

My research explores the intersection of language learning, Intercultural Communicative Competence (ICC), and Artificial Intelligence (AI), focusing specifically on Open AI's ChatGPT chatbot. I investigated ChatGPT, an AI-driven conversational tool, to understand its potential to enhance communication skills within and between subcultures, promoting interpersonal competence and an intercultural mindset in English as a Foreign Language (EFL) instruction. As an intelligent language-learning companion, ChatGPT engages users in dialogue. While some educators have expressed enthusiasm, others have voiced concerns about AI replacing teachers. My study provides valuable insights for educators navigating the evolving language learning environment in the digital age.

James DeMink

Teaching English to Speakers of Other Languages / TESOL [Graduate Certificate]

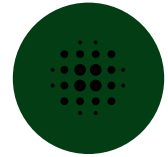
Enhancing Language Instruction: Bridging Gaps in Krashen's Theory

Faculty Mentor: Ildiko Porter-Szucs

Session 1, Room 320 - Applied Linguistics - 10:30-11:45am, Moderator, Ildiko Porter-Szucs

This paper aims to address the challenges posed by Krashen's Input Hypothesis, an influential theory of second language acquisition, which is inconsistent with actual language development among students (Swain, 1985). While Krashen's theory promotes passive exposure and comprehension, students taught in this way often struggle with speaking, writing, and grammatical accuracy (Swain, 1985). This research will explore the benefits of combining the Input Hypothesis with Swain's Output Hypothesis, to optimize language instruction and foster more consistent development in various language skills. The proposal reviews relevant literature and specifically findings from three studies, each investigating different aspects of language instruction and output.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Jane Venezia

Ecology, Evolution and Organismal Biology [M.S.]

Stealing or Scavenging? Necessity of Breeding Interactions Between Unisexual Ambystoma Salamanders and Sexual Males

Faculty Mentor: Dr. Katy Greenwald

Poster Session B, 1:30-3:00pm, Room 310 A/B

The unisexual *Ambystoma* salamander-complex is a lineage of all female salamanders that use a unique form of reproduction, called kleptogenesis. Kleptogenesis requires access to sperm from males of sexually reproducing species, potentially putting unisexual and sexual females in competition for male access. We investigated whether unisexual *Ambystoma* salamanders require courtship from sexual males or if they are able to access sperm left in the environment from sexual breeding pairs. We placed unisexual salamanders into breeding boxes containing water, minimal substrate, and spermatophores from previous courtship, and examined if they laid eggs and what proportion of those eggs began developing into larvae. We also genotyped breeding adults and embryos to assess parentage. The unisexuals without access to males produced eggs, but the proportion that developed was lower than those from unisexual salamanders with access to males. Additionally, our genotype analysis was able to link several of the developing eggs to the experimental males who had left spermatophores in the breeding boxes. These results suggest that unisexual *Ambystoma* salamanders are able to use discarded spermatophores without direct access to males, but this method of reproduction may result in lower breeding success.

Jared Carmichael

Psychology - General Clinical [M.S.]

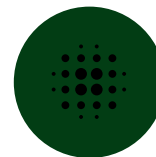
Executive Functioning and Internalizing/Externalizing Symptoms in Typically Developing Preschool-age Children

Faculty Mentor: Dr. Renee Lajiness-O'Neill

Poster Session A, 10:00-11:30am, Room 310 A/B

Executive functioning (EF) skills are necessary for daily life and underpin emotional regulation, school readiness, and social functioning. Preschool is a time of rapid EF development (Garon et al., 2008). Difficulties in developing EF during this period have been linked to externalizing symptoms (aggression, inattention, lack of self-control) in children with clinically significant behavioral problems (Raaijmakers et al., 2008). However, few studies have examined this relationship in typically developing children. Moreover, the link between EF and internalizing problems in preschool-age children is far less studied. The present study aims to build upon existing knowledge by determining if EF is linked to externalizing and internalizing symptoms in a sample of typically developing preschool-aged children. It was hypothesized that increased inhibitory control and decreased cognitive flexibility and working memory would be associated with more internalizing symptoms, while decreased executive functioning in all domains would be associated with more externalizing symptoms. Three domains of EF were directly measured in 26 children: working memory. Internalizing and externalizing problems were assessed through caregiver-report. Spearman's rank correlation showed that more externalizing symptoms were significantly associated with higher working memory scores ($p < .01$) but were not associated with inhibitory control or cognitive flexibility. Internalizing scores were not significantly associated with EF components. The hypotheses were not supported potentially due to small sample size and limited variability in EF ability. These results may also reveal that the association between EF and internalizing/externalizing symptoms only exist in populations with clinically significant emotional or behavioral concerns.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Jeff Bond

Chemistry [M.S.]

Method Validation of Plasma-Chemical Oxidation Sample Preparation for AMS Radiocarbon Analysis of Known-age Materials

Faculty Mentor: Dr. Ruth Ann Armitage

Session 4, Room 352 - Chemistry - 2:45-4:15pm, Moderator, Ruth Ann Armitage

Rock paintings are found on every continent except Antarctica. Often, rock paintings are the only evidence of past human activity, and as such, many archaeologists are interested in determining their age. Applying radiocarbon dating to samples from rock paintings is complicated by the presence of other components like soil humic acids and the underlying limestone substrate, both of which can potentially lead to an erroneous age determination. Because complete combustion at high temperature is the standard method of preparing charcoal-pigmented rock paintings for accelerator mass spectrometric (AMS) radiocarbon dating, it is necessary to remove these undesired contaminants first. Plasma-chemical oxidation (PCO) is an alternative method for preparing carbon dioxide from such samples that does not decompose the limestone substrate, due to running at a lower temperature, requiring only base pretreatments to remove humics. This study explores whether the various pretreatments used in conventional combustion sample preparation affect the precision and accuracy of the dates obtained from the PCO-AMS. Reference samples were prepared from known-age materials, including charcoal from the Mashteuish site in Quebec (3500 ± 15 radiocarbon years before present), Third International Radiocarbon Intercomparison Ellanmore humic acid (consensus age of $11,129 \pm 12$ ^{14}C years before present), and limestone (^{14}C -free, so of infinite radiocarbon age). A variety of different acid and base pretreatments aimed at removing one or more of the contaminants were applied to the mixtures, which were then subjected to both plasma oxidation and combustion and then dated by AMS as well as infrared spectroscopy. The results provide information to help validate PCO-AMS as an alternative process for dating rock painting samples by evaluating the effects of these pretreatments, both in comparison to each other and the nature of their interactions with the components of the sample.

Jennifer Kean

Chemistry [M.S.]

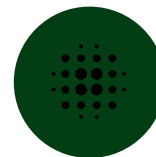
Exploring Novel Structural and Functional Binding Interactions of UHRF2 with H3

Faculty Mentor: Dr. Brittany Albaugh

Session 4, Room 352 - Chemistry - 2:45-4:15pm, Moderator, Ruth Ann Armitage

Ubiquitin-like containing plant homeodomain and ring finger 2 (UHRF2) is an epigenetic reader protein with roles in regulating DNA methylation, gene repression, cell cycle, and DNA repair. UHRF2 has been overexpressed in certain cancers (colon/gastric) and its expression has been lost/reduced in other cancers (lung, leukemias). UHRF2 contains two reader domains, TTD and PHD, that engage Histone 3 which is trimethylated on lysine 9. Recently, our lab has solved the crystal structure of UHRF2 in complex with histone H3. From this structure, we identified novel interactions between the histone-binding domains of UHRF2 and H3. To test these interactions, we created mutants and measured their binding interactions with an H3K9me3 peptide by fluorescence polarization. We used software such as AlphaFold to further analyze the structure of UHRF2. By studying these novel interactions, we will be able to identify new avenues for targeting UHRF2.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Julia Pleskaczynska

Psychology - General Clinical [M.S.]

Resting-State Brain Activity and its Association with Working Memory Performance

Faculty Mentor: Dr. Naomi Hashimoto

Poster Session A, 10:00-11:30am, Room 310 A/B

Working memory is an umbrella term for cognitive processes, such as reasoning, language comprehension, or learning, involved in the temporary storing and processing of information needed for task completion. This study aimed to uncover insights into the resting state electroencephalography (EEG) patterns and their potential link with individual differences in working memory among young adults. Eleven participants were recruited through the SONA research participation system. All participants were undergraduate students at Eastern Michigan University, aged between 18 and 24. The study included two main phases. First, subjects underwent a battery of behavioral tests to assess cognitive functions. Subsequently, resting-state electrical activity of their brains was recorded using EEG in an eyes-open condition. Participants were prepared for EEG recordings by the application of conductive gel and placement of an EEG electrode cap. They were then instructed to sit still and quietly with their eyes open for a duration of 5 minutes. Following the EEG recording, the acquired data underwent preprocessing. This involved removal of the noise and extraction of resting-state EEG parameters whose frequency ranged from 1-80 Hz. We plan to analyze the alpha, beta, delta, gamma, and theta frequency bands across multiple participants to investigate the correlation between these parameters and participants' working memory performance. Based on the across-participant analysis of the data, these results will support the use of electrical activity patterns as a viable means to examine complex cognitive constructs such as working memory.

Justin Reamer

Philosophy [M.A.]

PsychoTx: A Practice Framework for Psychopathy

Faculty Mentor: Dr. Brian Sellers

Session 2, Room 330 - History and Philosophy - 9:00-10:15am, Moderator Jenny Kindred

Antisocial personality disorder is a complex condition that involves a lack of conscience, a lack of remorse and empathy, and impetuous behavior. Psychopaths, the people who possess this condition, typically find themselves in trouble with the law, quite often to the point where they cannot be rehabilitated back into society, regardless of the penitentiary to which they are sentenced. The purpose of this essay is to provide a practice framework in the criminal justice system for which one may possibly rehabilitate psychopaths into society altogether. As such, this essay aims to explore the complex nature of psychopathy, the issues with it, and the possible therapies that could contribute to rehabilitation altogether. This research project should help psychopaths reintegrate into society if implemented properly. For this reason, we have provided this practice framework to solve the problem of antisocial personality disorder in wider society altogether. As such, we should be able to help psychopaths fit in, so to speak, so they need not find themselves in trouble ever again.

Mackenzie John Kortes

History [M.A.]

In the Shadows of the Rising Sun: Organized Crime in Japan

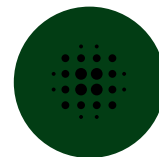
Faculty Mentor: Dr. Roger D. Long

Session 1, Room 320 - History, DEI - 2:45-4:00pm, Moderator, Joseph Engwenyu

Crime is a fact of life in any civilization. Japan, through the tumult and tribulations of its modern history, is no different in this regard, and its organized crime syndicates, the yakuza, are at the epicenter of this branch of Japanese history. The clans color a great degree of the popular image of Japan both at home and abroad, but outside their country precious little academic work has been done to study and understand the nature of these families and their illicit dealings. Beyond the natural difficulties arising in studying a fundamentally clandestine and subversive culture within its historical context, the modern yakuza are so wildly different from both their Western counterparts and some of their own historical predecessors that myth and rumor continue to circle around the clans. This obscurity is a deliberate move on part of contemporary yakuza, as they have achieved what many a career criminal has dreamt of and failed to achieve – they have gone legitimate. The modern yakuza has become as integral an institution to the Japanese state as the diet and the country's corporations. This situation arose in Japan in parallel to the modernization of the nation. The origins, traditions, and evolution of the yakuza into what they are today mirrors that of the Japanese government and society's shift from the shogunate to empire and finally postwar democracy.

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COLLEGE OF ARTS AND SCIENCES



Malik Pitchford

Africology and African American Studies [M.A.]

Underdeveloped Sport: Recreation Programs, Neoliberalism, and Internal Colonialism in Black America

Faculty Mentor: Dr. Peter Blackmer

Session 3, Room 350 - Social Systems - 2:45-4:00pm, Moderator, Peter Blackmer

This presentation explores the relationship between sport and recreation provision, neoliberal reforms, and the perpetuation of internal colonial relationships within Black America. This research presents the limited sport programs offered to communities as manifestations of broader political-economic interests, critically analyzing how sport can help either reinforce or assist in the removal of existing inequalities. Using Midnight Basketball as a case study reveals the limits of many recreation programs in responding to the underdevelopment of African American communities, showcasing sport's potential as a tool within a system of social control.

Md Imamul Hossain

Sociology [M.A.]

Systematic Denial of Rohingya's Citizenship Rights: A Preliminary Study Using Symbolic Interactionism and Double Consciousness Theory

Faculty Mentor: Dr. Robert Orrange

Session 3, Room 350 - Social Systems - 2:45-4:00pm, Moderator, Peter Blackmer

The Rohingya's statelessness is a result of their systematic exclusion from protection mechanisms and citizenship rights. The Burmese government and the majority Buddhist population have marginalized and discriminated against the Rohingya, deeply impacting identity politics among the Rohingya. Due to their lack of a national identity document, the Rohingya are easy targets for discrimination and violence. The fact that they are not legal residents has also made it hard for them to receive essential support. The paper carefully analyzes the nexus between citizenship rights denial and the human rights violation of the Rohingya as well as the aftermath challenge to maintain their self-identity. To understand the social construction of citizenship, the Rohingya's struggle for recognition, and their lived experience of statelessness, this paper employs symbolic interactionism and double consciousness theory. It also unmasks how dominant narratives, power relations, and symbolic representations contribute to the systematic exclusion of Rohingya from Myanmar's national identity. Moreover, the findings of the study delineate the Rohingya population's lack of human rights and acute psycho-social problems because of their statelessness. Due to the preliminary and descriptive nature of the study, a range of public records and documents have been examined utilizing qualitative analysis. Furthermore, the concepts of symbolic interactionism and double consciousness are used as significant tools in constructing the sense of self and belonging of the Rohingya. Finally, the study proposes some highly effective recommendations to promote and protect equality and justice for the Rohingya community, addressing the underlying factors of this severe human rights crisis.

Meredith Murphree

Applied Drama & Theatre for the Young [MFA]

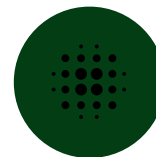
EMU Theatre for the Young Touring Teaching Artists

Faculty Mentor: Meriah Sage, MFA

Arts Front, Kiva Room - 1:45-2:30pm, Moderator Meriah Sage

This creative project explores the administration and implementation of EMU Theatre for the Young Touring Teaching Artists, a program connecting Eastern Michigan University Applied Drama and Theatre for the Young (ADTY) graduate students to classroom teachers in the community. This connection will be facilitated through the EMU Theatre for the Young Tour via a Google form, allowing teachers to request a teaching artist to teach one to two 50 minute lessons to their class during either Session One—March or Session Two—April. All lessons will be aligned to Michigan State Education Standards and National Core Arts Standards. Classroom teachers can indicate the type of drama lesson they would like to have in their classroom, if there are certain subject areas they would like covered, particular days of the week they would like to schedule, and any other information they would like to share. Once a request form is received, the classroom teacher will be placed in contact with an ADTY Teaching Artist (ADTY TA) and their date(s) will be scheduled. The ADTY TA has the option to create and facilitate their own lesson plan for their visit or they can refer to the teaching artist resources folder within the shared Google drive for the project and choose to use one of the already prepared base lesson plans written as a part of this project. Feedback will be considered from classroom teachers and ADTY TA throughout the duration of the fieldwork in order to ensure the efficiency and efficacy of the program as it launches. Inspired by mission-driven, non-profit theatre education initiatives nationally, this project serves as a step toward strengthening the long-lasting ties the ADTY graduate program has with the community of Southeast Michigan. This presentation will feature an excerpt of a TA resource drama lesson and discussion of the program's administration.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Motunrayo Agboola

Women's and Gender Studies [M.A.]

POWERFUL WOMEN: Funmilayo Ransome-Kuti: An African Feminist Par Excellence

Faculty Mentor: Dr. Joseph Engwenju

Session 1, Room 320 - History, DEI - 2:45-4:00pm, Moderator, Joseph Engwenyu

This study delves into the life and impact of Funmilayo Ransome-Kuti (FRK), an iconic, intersectional, African feminist whose remarkable contributions have left an indelible mark on the feminist movement in Nigeria and beyond. The study aims to unravel the intricate interplay between Kuti's background, activism, and legacy. This research aims to answer the following questions: How does Funmilayo Ransome-Kuti's feminism square with Western feminism? In what ways did FRK's background and upbringing influence her feminist ideology and activism? What were the key contributions of FRK to the feminist movement in Nigeria? How did FRK collaborate with other feminists' activists and organizations both locally and globally? A most interesting conclusion of the study is that whilst on the one hand, FRK's intersectionality tended to unite feminists around the world over common causes; her commitment to the details of the Nigerian experience also exposes the challenges of peculiarities and particularities of specific experiences. This tension is of direct relevance to the global feminist movement today and going forward.

Nicolas Chretien

History [M.A.]

Spirit Possession and Spirit Mediums in Africa: Nyabingi and Nehanda

Faculty Mentor: Dr. Joseph Engwenyu

Session 1, Room 320 - History, DEI - 2:45-4:00pm, Moderator, Joseph Engwenyu

The Nyabingi Cult originated in Rwanda but also had adherents in Southwestern Uganda, among the Bakiga ethnic group in Kigezi. Nyabingi mediums were often related to Rwandan royalty and advocated for its stability. The spirit medium character in this study, possessed by Nyabingi, was a woman called Muhumusa. In contrast, Nehanda was a rainmaking spiritual cult whose mediums were generally tied to noble Shona families in Zimbabwe's current state. The Shona woman whom Nehanda possessed was Charwe. Firstly, this project is a comparative study of the indigenous operations of the Nyabingi and Nehanda spiritual cults. The core of the study is how the two cults subsequently became pivotal in rallying protest against colonialism at the turn of the nineteenth century. Initially, while in Southwestern Uganda, Muhumusa called on the power of the Nyabingi Cult to help her son in a succession dispute in Rwanda. However, the Bakiga of Southwestern Uganda welcomed her as a rallying figure in opposing the newly established harsh British rule in the area, which was made worse by the employment of foreign British agents from Buganda in Kigezi. Stiff resistance against British colonial rulers and their Baganda agents occurred in Southwestern Uganda from 1914 to the 1920s, even after Muhumusa was arrested and placed in British custody from 1911 to 1945. Meanwhile, in 1893, White settlers invaded and plundered Ndebele and Shona land and livestock in Zimbabwe. Other natural disasters followed. Charwe, who Nehanda had possessed in 1884 and again in 1896, now came to be seen as the leader of the Ndebele and Shona uprisings of 1896-1897, when the region exploded into the revolt, also known as Chimurenga I, the first war of liberation from colonialism.

Olivia Ziemelis

English Linguistics [M.A.]

The Me Problem: Pronouns and Proper Names as Modifiers

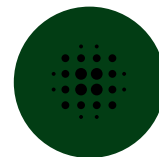
Faculty Mentor: Dr. T. Daniel Seely

Session 2, Room 330 - Linguistics - 2:45-4:00pm, Moderator, Janet Leppala

Conversion is a well-established word formation process, which usually allows for the creation of nouns or verbs from preexisting words of a different grammatical category. For example, the proper noun "Google" may also be used as a verb, as in "I googled the answer," to describe the action of searching something on the internet regardless of the search engine. Conversion is a productive and well-researched phenomenon. However, there is one type of conversion which is extremely productive yet understudied.

Consider examples such as "This is a me problem" or "This shirt is so Sue." In these sentences, a noun--specifically a pronoun and proper name--seem to function as adjectives. In the first sentence, the "problem" has a certain property of being associated with me. In the second sentence, the "shirt" has a property that is Sue-like. This suggests that nouns are able to undergo conversion into adjectives. This presentation provides a careful analysis of the syntax, morphology, and suprasegmental features of examples such as these, ultimately arguing that this is conversion and not compound formation. The findings suggest that this is a highly productive process that can extend beyond nouns to whole phrases, such as "He's an I'd-never-date-him guy," which has interesting implications for current views on the syntax-morphology interface.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Rachel Koski

Biology - General [M.S.]

Changes in Distribution and Abundance of Freshwater Jellyfish (*Craspedacusta sowerbii*) in Southeast Michigan Lakes

Faculty Mentor: Dr. Cara Shillington

Session 4, Room 352 - Biology - 10:30-11:45am, Moderator Margaret Hanes

Invasive species are non-native organisms that cause harm to their environment. The freshwater jellyfish, *Craspedacusta sowerbii*, is the most successfully widespread freshwater cnidarian, but due to lack of research on this species and its effects on the ecosystem, there is debate as to whether they are non-native or invasive. This far-ranging species is native to China and was introduced to Michigan's lakes and streams in 1933. These organisms have a dimorphic life cycle that includes a free-swimming medusa (typical jellyfish stage) and a sessile polyp stage. Because of the difficulties in finding the polyp stage, our study focuses on the free-swimming medusa which is usually active from July - October. Aggregations of jellyfish in the medusa stage are referred to as blooms. In other species of jellyfish, food availability has been found to be the main driver of these events. Our aim was to understand changes in the distribution and abundance of *C. sowerbii* medusae over a 24-hr period and throughout the medusa season. In the field, *C. sowerbii* count data were collected at different times of day, as well as water and air temperature measurements and weather conditions. During the 2022 field season (September - October), we tracked abundance of *C. sowerbii* in Pickerel Lake. We found more jellyfish present earlier in the season and by mid-October, *C. sowerbii* were no longer present. During the 2023 season, field work took place at Pickerel Lake and Cordley Lake. *C. sowerbii* were first found in low numbers in late August and their abundance increased throughout September with peak abundance occurring in early October. Throughout the season, *C. sowerbii* were found in higher quantities at the water's surface at night. Knowing how *C. sowerbii* abundance and distribution changes over time is the first step in fully understanding their impact on their ecosystems.

Sam Carter

Olivia Allen

Applied Drama & Theatre for the Young [MFA]

Ronnie and Scales' Magnificent Tale: Multi-sensory Theatre Created for Neurodivergent Audiences

Faculty Mentor: Meriah Sage, MFA

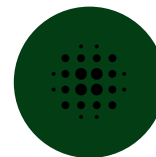
Arts Front, Kiva Room - 1:45-2:30pm, Moderator Meriah Sage

Ronnie and Scales' Magnificent Tale is an immersive, multi-sensory theatre adventure designed for small groups of neurodivergent individuals, with music by R. MacKenzie Lewis. This performance was crafted by studying and adapting the principles of Sensory Theatre, which was coined by Tim Webb, Claire de Loon, and Max Reinhardt; the founders of Oily Cart Theatre in the United Kingdom. Sensory Theatre is defined by Dr. Molly Mattaini as: "An immersive piece of theatre in which the audience has intimate sensory experiences...built with a thoughtful structure that is intentionally flexible...[is] highly permissive of socially restricted behavior...designed with core motivation to include an audience...previously excluded from theatre because of their cognitive status." This piece was devised by combining theatre and drama techniques with an emphasis on student engagement and the six senses: sight, smell, taste, touch, hearing, and the kinesthetic sense; or the movement of your body in space. This performance was brought to life by graduate and undergraduate students with specialties ranging from theatre, design and technology, visual art, and education.

Through the framework laid out by "Eastern Michigan University's Theatre for the Young Tour," the company will visit special education classrooms, libraries, and community centers throughout March and April. In addition, *Ronnie and Scales' Magnificent Tale* features three public performances held on March 15th at 7:00 P.M., and March 16th at 10:00 A.M. and 2:00 P.M. in the Sponberg Theatre.

Play Synopsis: Ronnie is inviting you over to her house to go swimming with Scales, the family's pet fish! Upon arrival, we learn that it's Fall and it's much too cold to swim. Join us as we pivot activities and use our imaginations to travel to unknown lands and meet new friends. This performance is appropriate for people of all ages and abilities.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Samuel Howard

Public and Nonprofit Administration Combined [B.A. + MPA]

Politics-Administration Dichotomy: A Look at Strong Mayor vs. Council-Manager Systems

Faculty Mentor: Dr. Barbara Patrick

Session 3, Room 350 - Social Systems - 2:45-4:00pm, Moderator, Peter Blackmer

This paper analyzes the Politics-Administration Dichotomy by taking a closer look at the strong mayor and council-manager forms of local government. Through interviews conducted with actors in local governments primarily located in southeast Michigan, this paper addresses arguments for both methods and allows for local government actors to speak on some of the concerns about their management roles. Interviewees consist of a strong mayor and multiple city managers in diverse cities with expansive knowledge of local government management. I illustrate how these actors view their jobs and the jobs of their elected or appointed counterparts to make fair and representative decisions for the residents of their city. Results indicate that these actors, unsurprisingly, find their profession to be the most effective, although each concedes that their role may have some drawbacks. The implications and limitations of this paper are noted, and lead to areas of future research.

Sierra Morrissey

English Linguistics [M.A.]

Getting /srs About Tone Tags

Faculty Mentor: Dr. T. Daniel Seely

Session 2, Room 330 - Linguistics - 2:45-4:00pm, Moderator, Janet Leppala

In digital modes of communication, speakers may struggle to convey their tone and emotions to their readers and interlocutors. This complication leads to questions surrounding the state of the conventions for conveying tone in digital utterances (e.g., tweets). This talk explores one such way that speakers overcome this struggle, which are known as tone tags. Tone tags are linguistic items consisting of a forward slash and an alphabetic character or characters that serve to represent some word or phrase. We carefully analyze these items, including necessary context, an explanation of how tone tags relate to pre-existing features of English, and a linguistic analysis of tone tags collected from various social media platforms, specifically in regard to their syntactic distribution and semantic scope. We conclude with the idea that tone tags, while related to other lexical items (e.g., adverbs), project their own syntactic category with a range of unique linguistic properties.

Tara Fairchild

Chemistry [M.S.]

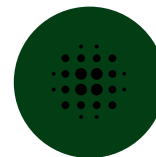
Chemical Analysis of Pedra Cuberta Samples to Determine Binding Medium of Paints to Separate for Dating

Faculty Mentor: Dr. Ruth Ann Armitage

Session 4, Room 352 - Chemistry - 2:45-4:15pm, Moderator, Ruth Ann Armitage

Paintings were found at the Pedra Cuberta dolmen site in Spain. The paintings were done in red, black, and white paints. Our collaborator in Spain wants to date and characterize the paints from this site. Samples were sent to us of the red, black, and white paints. Black samples are easier to determine how to date, as a binder doesn't have to be present, just the source of the black needs to be determined. The colored paints, red and white, require a binding medium mixed with the color. In order to date the samples, the binding medium is determined, which helps to separate the binder and the color itself. To determine the binder and how to best prepare the samples for dating, we ran a variety of tests including Raman spectroscopy, FTIR, SEM, and DART-MS. We compared results from these tests to standard binders as well as the control soil sample given to determine what was present on the samples. This information will inform further studies of separating binder from color, and dating samples.

ABSTRACTS



COLLEGE OF ARTS AND SCIENCES

Yinbin Lei

Applied Statistics [M.S.]

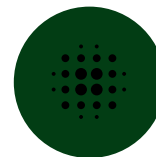
Modeling Activity Related Interaction and Well-being of Adult Americans

Faculty Mentor: Dr. Khairul Islam

Session 2, Room 330 - Mathematics and Technology - 10:30-11:45am, Moderator Khairul Islam

The Well-being (WB) module of the American Time Use Survey (ATUS) provides significant information of adult Americans' involvement in various activities, and their quality of life related to the underlying activities. It also provides information on general life satisfaction and emotional well-being. In the ATUS, sample cases for the survey are selected monthly, and interviews are conducted continuously throughout the year among households that have completed their eighth (final) interview for the Current Population Survey (CPS). American Time Use Survey sample households are selected to ensure that estimates will be nationally representative of the U.S. civilian noninstitutional population age 15 and older. Using the most recent survey data, this research seeks to understand how involvement in activities are associated with physical well-being, hypertension, intake of pain medication, amount of rest, and overall emotions. For the test of association between activity involvement and various well-being measures, chi-squared tests have been utilized. Preliminary bi-variate analysis suggests that activity-related interaction is significantly related to various well-being measures. To better understand the relationship and to evaluate the odds of activity-related interaction due to well-being measures, a multiple logistic regression has been employed. This study provides exposure to nationally-representative complex survey data and explores appropriate statistical methodologies to extract the relationship between activity involvement and health and well-being measures.

ABSTRACTS



COLLEGE OF EDUCATION

Adam Bogedain

Educational Studies [Ph.D.]

Perspectives of Educational Technology and Instructional Design Programs in Higher Education

Faculty Mentor: Dr. Michael McVey

Session 1, Room 320 - Education - 9:00-10:15am, Moderator, Michael McVey

Technological tools in education have been increasing steadily over the last couple of decades. The integration of Information Communication Technologies (ICT), powerful electronic devices, and developing data infrastructure has aided in the growth. Technology incorporation into education and corporate training sectors has created an area that requires learning, technology, and design. The study will review the outlook for graduates in educational technology and instructional design related programs for K-12 education, higher education, corporate, healthcare, along with other sectors. The grounds for the study are based on a southeast Michigan university which once offered a Masters of Arts program developed in 2005 in Educational Media and Technology. In 2017, the program became Learning Technology and Design and added a Graduate Certificate in Online Teaching. The highest enrollment was in 2013 with 21 students and was down to nine students by 2016, and as a result, the program was discontinued in 2019 due to lack of enrollment. In 2020 when the pandemic came into full swing and nearly all education was entirely online, it could be thought that the market may shift to spark the interest of future potential students, which could lead to a resurrection of the program. The study will consider other universities' perspectives and gauge their demand for the growth of educational technology and instructional design disciplines according to their program history and outlook. The study will also examine the career target population, K-12 teacher education, higher education faculty, and instructional design disciplines. Findings directly impacting enrollment are student awareness of programs and name recognition. Students who do not clearly understand a program by name are less likely to enroll. In addition, an interdisciplinary approach across disciplines is cost-effective and a cross-marketing strategy.

Ally Roberts

Higher Education Student Affairs (HESA)[MA]

First-Generation Students: What Now?

Faculty Mentor: Dr. Ronald Flowers

Poster Session A, 10:00-11:30am, Room 310 A/B

This poster focuses on the barriers that first-generation college students face, what institutions have historically done to help mitigate these barriers, and what institutions can do going forward. I created this poster using peer-reviewed studies and academic articles on the subject to define the barriers first-generation students face and why. Based on this information, I was able to continue finding sources that outlined and explained measures that institutions take to empower and aid these students through their college experience. I also used these articles to discover what institutions could improve upon to better support students in the future.

Cristin L Bobee

Curriculum and Instruction [M.A.]

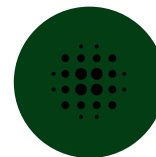
Democratic Education Reform in the 21st Century Classroom

Faculty Mentor: Dr. Joe Bishop

Session 1, Room 320 - Education - 9:00-10:15am, Moderator, Michael McVey

Teachers are leaving the education field in record numbers. Standardized testing is heavily entrenched in our school systems. Student apathy seems to be at an all-time high and the public's trust in our public school system is abysmal. Why have United States public schools gone from being places where students learn how to be democratic citizens who are personally responsible, participate in their community, and are social justice-oriented to places where students feel as if nothing in school applies to their real lives? Now is the time to reevaluate No Child Left Behind legislation and look at the damage it is doing to our schools, including the heavily entrenched standardized testing protocols. We need educational reform, but not more rigorous state and federal testing measures. The current curriculum in school systems needs to incorporate democratic curricula that teach our students how to be critical thinkers, problem solvers, and community activists who look for ways to change systemic issues. In my proposed presentation, I will discuss how schools need to evaluate the type of democratic citizenship they want to teach and how to go about making changes to the curriculum so students can become active learners in their education.

ABSTRACTS



COLLEGE OF EDUCATION

Deanna Gower

Educational Studies [Ph.D.]

Parental Preferences on Comprehensive Sexuality Education

Faculty Mentor: Dr. Robert Carpenter

Session 1, Room 320 - Education - 9:00-10:15am, Moderator, Michael McVey

American adolescents engage in casual sexual relationships and tend to not use contraception. Furthermore, there are elevated rates of sexually transmitted infections in the American adolescent population. Over the last 25 years, there has been a push for abstinence-only education. The purpose of this study is to examine parental perspectives of comprehensive sexuality education. This researcher hypothesizes that parents are in favor of their child obtaining age-appropriate sex education. Inclusion criteria for the study included being a parent to a child currently in grades kindergarten through grade 12. A recruitment email containing a link for informed consent and the descriptive survey were sent through the College of Health and Human Services and through a Facebook post to obtain participants. The survey contained 12 demographic and 39 Likert scale questions assessing preferences on the following subjects: overall sex education, contraception, Sexually Transmitted Infections, healthy relationships, and controversial topics. In addition to examining if parents were in favor of age-appropriate sex education, the effect of political party, religion, and gender were examined. There were 21 participants (n=21) and the majority were female, married, in the age range of 41-50, and were white. A one-way ANOVA determined that political party and frequency of religious service attendance did not affect parental opinions regarding overall sex education but did influence their opinion concerning controversial topics. A t test determined that men were more supportive of overall sex education and controversial topics when compared with women. Most parents were in favor of their child obtaining sexuality education.

Dikea Taylor-Santiago

Educational Leadership [Ph.D.]

Why Us! Impact of School Discipline Policies on Black Girls

Faculty Mentor: Dr. Cierra Presberry

Session 3, Room 350 - Education, DEI - 10:30-11:45am, Moderator Cierra Presberry

In K-12 schools, there is a disproportion in how students are disciplined. Black students receive harsher and more frequent disciplinary actions in comparison to students of other races, including white, Asian, and Hispanic students. Insubordination, dress code violation, and disruptive behavior are a few examples of infractions. Black students receive higher disciplinary office referrals that lead to in-school and out-of-school suspensions. This proposed study will focus on the disproportionality in school discipline and how it relates to Black girls. The discipline gap is large between Black students and other races. For Black boys and boys of other races; however, the gap is higher between Black girls and girls of other races. Using the Intersectionality Framework, we will look at how the school's discipline policies and procedures impact Black girls' school experience.

Emerson Storlie

Educational Leadership - Higher Education/Student Affairs [M.A.]

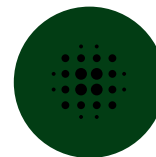
Inaccessible Accessibility: How Higher Education Institutions are Failing Students With Accommodations

Faculty Mentor: Dr. Ronald Flowers

Poster Session A, 10:00-11:30am, Room 310 A/B

Through the medium of a literature review, the researcher explored the question of how institutions can better serve students who have academic accommodations. This included understanding and exploring the difficulties students and faculty face and how training can only do so much. This research also expanded on how conflicts surrounding accommodations are not just an interpersonal conflict between faculty and students, but are in fact an institutional issue that needs to be addressed at a systemic level.

ABSTRACTS



COLLEGE OF EDUCATION

Gabrielle Heier

Communication Sciences and Disorders [M.A.]

Current Practice of Supporting Communication of Children with Complex Communication Needs: A Case Study

Faculty Mentor: Dr. Sarah Ginsberg

Session 1, Room 320 - Applied Linguistics - 10:30-11:45am, Moderator, Ildiko Porter-Szucs

This case study sought to develop an understanding of the practice patterns of a single Speech-Language Pathologist (SLP) in evaluating and treating a child with Complex Communication Needs (CCN) within a school setting. There is currently a gap in literature as to how to approach children with this classification to ensure that they are receiving appropriate treatment. This is important to note since one in every 150 school aged children have CCN. Over the span of ten weeks, students aged three to ten were observed in both individual and group settings to gain insight into multiple techniques utilized depending on the age, group size, and goals being addressed. The SLP touches on what to do once a student with CCN gets put on their caseload, how the clinician goes about evaluation and treatment services, how vocal nonverbal communications are honored, how to promote natural speech during the services, and more. This information helps to give current and future SLPs in their practice when working with students and children with CCN.

Heather Anne Oertel

Educational Leadership [Ph.D.]

The Effect of Emotional Support Animals on College Experience Satisfaction

Faculty Mentor: Dr. Robert Carpenter

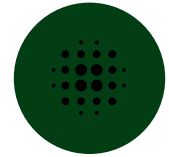
Poster Session A, 10:00-11:30am, Room 310 A/B

As many colleges and universities struggle to retain students from first-year orientation through graduation, and an increasing number of students reporting mental health concerns enter higher education, schools are also seeing an increase in students requesting pets or emotional support animals in campus living. Although several studies have looked at how animals can help people in various settings, not much research has been done specifically on the impact of emotional support animals on college students. This study was conducted as a class project for EDST 805: Quantitative Methods to assess the impact of emotional support animals on students' self-reported college satisfaction using a new survey instrument, the College Experience Satisfaction Scale (CESS).

The hypothesis of this study was that students with emotional support animals would report higher levels of institutional belonging and emotional satisfaction, but lower levels of social satisfaction than students without emotional support animals. The survey was sent out via an email listserv in November 2023. Participants (n = 29) completed an informed consent form, a short demographic survey and the CESS survey online via Google Forms. The data was analyzed through SPSS version 29. A one-way ANOVA was conducted on each of the levels of college satisfaction: overall, academic, social, institutional, and emotional. No significant results were detected for any of the satisfaction levels.

Although this study did not detect any significant differences among levels of college experience satisfaction among owners of emotional support animals, future research among a larger sample using this instrument should be considered.

ABSTRACTS



COLLEGE OF EDUCATION

Janet Leppala

Educational Studies [Ph.D.]

Language Ideology in Education: A Look at Teacher Perceptions of Bilingual Education, Bilingualism, and the Seal of Biliteracy

Faculty Mentor: Dr. Joe Bishop

Session 4, Room 352 - Education - 1:15-2:30pm, Moderator, Tana Bridge

Learning more than one language has cognitive, emotional, and social benefits. Despite evidence in favor of bi/multilingualism, and a growing multilingual American population, bilingual education programs are scarce in the United States. The goal of the current study is to understand the opinions and perceptions of educators regarding bilingualism and bilingual education, to perhaps shed light on why bilingual programs are so rare in American schools. To do so, this study examines the Seal of Biliteracy (SoBL), which is an American educational initiative that started in California in 2011 and has been adopted by 49 states. The SoBL is a designation on a student's high school transcript that indicates that they are proficient in more than one language. The current study uses discourse analysis to uncover educator opinions about the implementation of the SoBL, bilingualism, and bilingual education. Language from participant interviews will be analyzed.

Jennifer Bennett

Cassidy Cartwright

Educational Studies [Ph.D.]

Clinical Mental Health Counseling [M.A.]

Food Pantry Use in a University Community

Faculty Mentor: Dr. Christopher Robbins

Session 1, Room 320 - Education - 9:00-10:15am, Moderator, Michael McVey

The expenses of pursuing higher education along with the cost of living is a challenge for many university students. Tuition costs, living expenses, and unpredictable life events can all contribute to food insecurity and create barriers to students pursuing their educational and life goals. Without access to food, students may have to choose extra work shifts over attending class or studying for exams, or they may need to consider discontinuing their degree in order to pay their bills. By providing access to nutrition, food pantries on university campuses help reduce these barriers and support students in achieving their goals. Exploring the experiences of community members who get groceries from on-campus food pantries can help increase understanding of the importance of food pantries and inform the development of social programs and policies. This study explores the lived experiences of university students who shop at a food pantry. Amplifying the voices of food pantry shoppers, as shared in personal stories on an online survey, this study used reflexive thematic analysis to develop patterns in their responses. Conclusions focus on the themes in the stories participants shared, especially those related to the impact of the food pantry on their lives.

Johnathan Platt

Clinical Mental Health Counseling [M.A.]

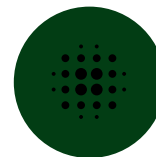
Incels and Rampant Misogyny in Online Spaces

Faculty Mentor: Dr. Quentin Hunter

Poster Session B, 1:30-3:00pm, Room 310 A/B

Online spaces have become a central means for engaging in social behavior. It has never been easier for a person to find and connect with others who have similar interests and beliefs. While this ease of connectivity can and should be regarded as a tool that can be used for positive social engagement, recent history has seen online spaces becoming venues for radical and violent extremist ideologies. QAnon, a driving force behind the January 6th insurrection, was a radical conspiracy theory that garnered followers in the millions, with social media being its primary means of proliferation. Neo-Nazis, Jihadis, and other violent extremist groups use online mediums as means to engage with and recruit members, utilizing the perceived anonymity of the medium as a safeguard against detection by state agencies. Enter Incels, a loosely connected, online group of men with radical ideologies and enough similarities to be reasonably compared to QAnon, Neo-Nazis, and Jihadis, but different enough in the nature of their cohesion to warrant distinction. Incels are men who identify as involuntary celibates, who assign blame to women for their lack of sexual access. Recent history has seen extremist violence arise from this group with women as the intended targets. Mental health professionals are in a position to intervene, and to begin the process of deradicalization when they encounter incel clients in their work.

ABSTRACTS



COLLEGE OF EDUCATION

Luke Woodworth

Special Education [MAT]

Teacher Survey for Using Manipulatives with Students that have a Cognitive Impairment

Faculty Mentor: Dr. Jacquelyn McGinnis

Session 3, Room 350 - Health and Education - 1:15-2:30pm, Moderator, Joan Cowdery

This study will survey educators who teach students that have a cognitive impairment, to find out if they use tangible manipulatives when teaching mathematics. Tangible manipulatives are sensory items that students can use, rather than simply learning with pen and paper. The survey will gather critical data of whether teachers believe that tangible manipulatives are beneficial in teaching students with cognitive impairments, whether teachers are provided with tangible manipulatives, and whether teachers feel like they know how to use these sensory items. Overall, this study seeks to find out if teachers believe that using tangible manipulatives in mathematics is beneficial for students with cognitive impairments.

Marin Kempen

Clinical Mental Health Counseling [M.A.]

Discernment Couples Therapy: A Review of the Literature and Relevant Considerations for Counselors

Faculty Mentor: Dr. Quentin Hunter

Session 4, Room 352 - Mental and Public Health - 9:00-10:15am, Moderator, Uttara Manohar

Discernment couples counseling is a brief type of therapy that is used when couples are unsure of whether they want to continue their relationship or not. This type of intervention may also be used when one party wants to end the relationship, and the other party is focused on preserving the relationship. This approach helps the couple in question, by allowing them to consider all of their options. In turn, couples will be able to make a well-informed decision about the trajectory of their relationship. With many factors involved in this complex process, it is natural that there would be both positive and negative outcomes. As such, I intend to explore both the positive and negative outcomes of this therapeutic intervention. I will then be providing an overview of the relevant literature and offering suggestions, as well as considerations, for practicing counselors.

Mia A. Rollack

Educational Leadership [Ph.D.]

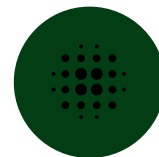
Flipping the Script: Mitigating Deficit Thinking of Black Students

Faculty Mentor: Dr. Brenna Breshears

Session 3, Room 350 - Education, DEI - 10:30-11:45am, Moderator, Cierra Presberry

This proposed dissertation study aims to uncover how culturally responsive professional development, specifically equity-focused book studies, can influence educators' perspectives and practices. The research addresses deficit thinking, where students from marginalized communities are held responsible for the challenges pervading the US educational system. Additionally, these marginalized groups, particularly Black students, endure educational oppression caused by a history of racism. Furthermore, receiving K-12 education and teacher education in this country, it is no surprise that Black teachers also hold a deficit perspective of Black students due to internalized racism. In the classroom, internalized racism can manifest in students when socialized toward negative self-perceptions with an emphasis on white culture. A combined focus on culturally responsive leadership and deficit thinking informed the following research question: How might culturally responsive professional development opportunities, such as equity-focused book studies, impact educators' ideologies and practices while educating Black students? Conducted in a K-8 school with a predominantly Black student body, this study, utilizing narrative analysis, will take a person-centered, in-depth examination of Black teachers participating in professional development. Data collection will encompass written reflections by teachers, interviews, observational data, and teacher artifacts. The anticipated outcomes of the proposed study are to offer strategies to mitigate deficit thinking and enhance the educational experiences of Black students.

ABSTRACTS



COLLEGE OF EDUCATION

Monai Ward

Brent Allen Miller

Educational Leadership [Ph.D.]

An Autoethnographic Exploration of Pay Equity Issues in K-12 Human Resource Roles

Faculty Mentor: Dr. Cierra Presberry

Session 3, Room 350 - Education, DEI - 10:30-11:45am, Moderator, Cierra Presberry

Employing an autoethnographic approach, this qualitative study delves into the experiences of one K-12 Human Resources (HR) professional in a Michigan school district. We explore how issues related to pay equity intersect with union group classifications. Specifically, we leverage a narrative inquiry methodology to showcase one professional's lived experiences and explore the nuances of challenges faced by K-12 HR professionals.

Findings reveal that the existing research landscape, predominantly centered around teachers and administrators, has neglected the unique challenges and experiences of other school staff. This presentation contributes to filling that gap by exploring the challenges faced by non-teaching staff and highlighting the importance of their distinct role within the broader educational framework. The study's implications extend to informing educational leaders and policymakers about the unique needs of K-12 human resource professionals, and what strategies might be pursued to improve their experiences.

Rachel Dick

Educational Studies [Ph.D.]

Neoliberalism's Impact on Education and Wellness with a Socially Responsive Pedagogical Framework Rooted in Care Ethics

Faculty Mentor: Dr. Joe Ramsey

Session 4, Room 352 - Education - 1:15-2:30pm, Moderator, Tana Bridge

This paper will explore the impact of neoliberalism on education policies and their implementation in the school systems. Through examining the idea of a stratification system that perpetuates the "pathology of normalcy" in society, the paper argues that neoliberal education policies are making our schools "sick." To counter this, based on a synthesizing of past pedagogical frameworks and principles, the paper proposes a new, socially-responsive pedagogical framework for implementing care-based strategies in the classroom.

Rachel Robbins-Whited

Educational Studies [Ph.D.]

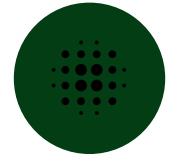
Role Play and Hard History: Transformative or Traumatic?

Faculty Mentor: Dr. Jessica Swan

Session 4, Room 352 - Education - 1:15-2:30pm, Moderator, Tana Bridge

Role-Play Simulations (RPS) have been shown to be beneficial for students if the RPS are high-quality and are facilitated by a skilled practitioner. However, there are a concerning number of editorials that claim that RPS is a dangerous pedagogy that trivializes hard history and induces trauma, especially in Black and Brown students. As a social justice and anti-racist educator, this gap between scholarly and anecdotal evidence creates unacceptable dissonance. In an effort to begin making sense of the disconnect between the literature, my experience as a U.S. History teacher who successfully used role play to teach hard history, and public opinion, I conducted a systematic review to understand what, according to the research, is necessary for successful use of RPS. In this literature review, several themes were identified, and then synthesized into two categories that ensure high quality (i.e., integrity and rigor) in a role play simulation: curricular attributes and pedagogical dispositions. Using the themes and categories identified, I developed a model of what constitutes high quality in both curriculum and teacher pedagogy when using RPS. In this presentation, attendees will experience an example of a high quality role play simulation based on the conceptual model developed from my findings and I will suggest implications for future research.

ABSTRACTS



COLLEGE OF EDUCATION

Simone Brown

Educational Leadership [Ph.D.]

Tales of a Robotic Coach. A Critical Unveiling of a District's Coaching Model and Protocols

Faculty Mentor: Dr. Davis Clement

Session 3, Room 350 - Education, DEI - 10:30-11:45am, Moderator, Cierra Presberry

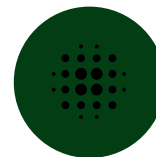
Culturally responsive leadership guides teachers' understanding of learning from their students and improves their teaching to better address learning needs. This study posits that culturally responsive leaders must support underrepresented students through the knowledge and practices undergirded by culture, racism, and equity. Culturally Responsive School Leadership (CRSL) is comprised of four strands or tenets: critical self-awareness, culturally responsive curricula and teacher preparation, culturally responsive and inclusive school environments, and engaging students and parents in community contexts.

Culturally Responsive Coaching encourages teachers to foster student-centered learning environments, coaching through an antiracist perspective to promote community building, knowledge development, and the cultivation of critical consciousness.

The current study concerns district-level instructional coaching policies and practices in a large urban school district where over 95% of students are Black. Given the demographic makeup of the district, a CRSL approach to instruction, leadership, and coaching is called for, but is it happening? This study asks the following research questions: In what ways are district administrators asking instructional coaches and curriculum leaders to engage in coaching activities in a predominantly Black urban district? To what extent are these coaching activities culturally responsive?

I am using the frameworks of Culturally Responsive School Leadership and Culturally Responsive Coaching to critically analyze a district's protocol for instructional coaching, including caseload management, data monitoring, and classroom observation and feedback cycles. This critical qualitative document analysis will provide insight on the extent to which such coaching processes are culturally responsive.

ABSTRACTS



GAMEABOVE COLLEGE OF ENGINEERING AND TECHNOLOGY

Ayowale Soyemi

Technology [Ph.D.]

Sustainable Transformation of Construction, Domestic, and Agricultural Wastes into Innovative Composites for Eco-friendly Construction Practices

Faculty Mentor: Dr. Benedict Ilozor

Poster Session A, 10:00-11:30am, Room 310 A/B

Construction waste is a significant and unavoidable byproduct of the construction industry, encompassing a diverse range of materials generated during the planning, execution, and completion of construction projects. As urbanization and infrastructure development continue to surge, the volume of construction waste has become a pressing environmental concern globally. These wastes include various materials such as wood, plastics, gypsum, cement, paper, cardboard, metals, bricks, glass, and other domestic and agricultural wastes. In addition to their sheer volume, these wastes pose challenges related to environmental sustainability, resource depletion, and the increasing strain on landfill capacities.

This research endeavors to revolutionize the construction industry's materials landscape by addressing the ecological concerns associated with wood usage through the innovative conversion of construction wastes into high-performance wood composites. Focused on sustainability and waste reduction, the study aims to explore the potential of repurposing diverse wastes into a composite material that surpasses traditional wood in strength, durability, and environmental impact. The research methodology involves a multifaceted approach, encompassing waste characterization, optimization of recycling processes, and meticulous evaluation of the resulting wood composites' mechanical, thermal, and structural properties. This research addresses the critical need for sustainable alternatives to traditional wood, mitigating deforestation concerns and reducing the carbon footprint associated with conventional construction materials. By presenting a comprehensive analysis of the mechanical and structural performance of the wood composites, this study aims to provide compelling evidence for their application in load-bearing structures, decking, and other construction elements.

Ayowale Soyemi,* Benedict Ilozor**

*Research student, Polymers & Coatings Technology. GameAbove College of Engineering & Technology.

** Innovation Concept Originator & Mentor, Construction Management. GameAbove College of Engineering & Technology

Fatemeh Fallah

Technology [Ph.D.]

Development of Chrome-free Coating for Al-alloys

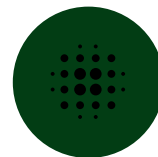
Faculty Mentor: Dr. Vijay Mannari

Session 2, Room 330 - Mathematics and Technology - 10:30-11:45am, Moderator, Khairul Islam

Organic-inorganic hybrid (OIH) coatings derived from the sol-gel process have been successfully employed as sustainable alternatives to toxic heavy metal-based systems for pretreatment of AL and Al-alloys. Superior adhesion could be achieved in such systems due to the formation of metallosiloxan bonds between the OIH matrix and the metal substrate. In conventional wet process for application of such pretreatments, metal substrate is dipped in a bath containing dispersion of sol-gel precursors in water/alcohol mixture (sol) followed by curing at ambient or elevated temperature (gel). While this application process is commercially employed, it is constrained by limited film thickness, a large amount of liquid hazardous waste generation, and sensitivity of the process to PH among others. Our research group developed an innovative super acid-catalyzed thermally-cured OIH system that does not require an aqueous bath, and hence eliminates the associated limitations. In this work, new precursors with different silane content were synthesized and the effect of precursor (silane content) and film thickness on the anti-corrosion performance of coatings were investigated using quantitative techniques such as DC polarization, electrochemical impedance spectroscopy (EIS).

ABSTRACTS

GAMEABOVE COLLEGE OF ENGINEERING AND TECHNOLOGY



Hanna Brodeur

Cybersecurity [M.S.]

Cybersecurity and Children: How to Ensure Safety Online

Faculty Mentor: Dr. Bilquis Ferdousi

Session 3, Room 350 - Technology in Society - 9:00-10:15am, Moderator, Bilquis Ferdousi

This study addresses the growing concerns of risks children face in the cyberworld. It focuses on the specific danger children can be exposed to, how to spread awareness of these cybersecurity issues, and how to address the threat to children's cybersecurity to keep them safe. The study specifically addresses following questions:

1. What security threats do children face in the cyberworld?
2. How do we protect children from the dangers of the cyberworld?

The methods used for addressing these concerns were data collected from published peer reviewed articles in journals, conference proceedings, and other reliable sources.

The main findings demonstrated that an awareness of child safety in the cyberworld was needed at the government, school and institutions, and parental levels. It also showed that communication between parents and adult caregivers is essential to keep children safe online. To protect children from predators online, adult figures working and caring for them must be aware of signs that a child is being exploited, how to report said exploitation to the proper authorities, and to empower themselves and the child with information and resources to prevent exploitation in all forms.

Harshit Rathore

Polymers and Coatings Technology [M.S.]

Corrosion Resistance Study of Organic-Inorganic Coatings Obtained by Plural-Cure Mechanism

Faculty Mentor: Dr. Vijay Mannari

Poster Session A, 10:00-11:30am, Room 310 A/B

Due to good adhesion to metal substrates and hydrophobicity, organic-inorganic hybrid (OIH) coatings are considered sustainable and efficient alternatives to conventional chromium-based pretreatments. In the past, alkoxysilane-modified epoxy precursors have been studied to form primer-less OIH pretreatments. However, such precursors have technical challenges related to short pot-life and storage stability. In this study, bisphenol-A (BPA) epoxy resin has been modified by acetoacetylation of hydroxyl groups. The modified epoxy was crosslinked with acrylate functional silanes, epoxy acrylates and diamines. A blocked base catalyst was used to initiate concomitant crosslinking by Michael's addition reaction between acetoacetate-modified epoxy and acrylic components and sol-gel reaction between silane functional groups. The OIH films were evaluated for static water contact angle, cross-hatch adhesion, pencil hardness, and pendulum hardness. The corrosion resistance of OIH films was studied by electrochemical impedance spectroscopy and accelerated salt spray test (ASTM B117). The corrosion resistance of OIH pretreatments in comparison to conventional hexavalent chromium-based Cr (VI) pretreatments on aluminium 2024-T3 substrate will be presented in this poster.

Matthew Veach

Cybersecurity [M.S.]

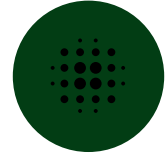
Ethical Framework to Prevent AI Misuse

Faculty Mentor: Dr. Tauheed Khan Mohd

Poster Session A, 10:00-11:30am, Room 310 A/B

Artificial Intelligence (AI) has proven its capabilities for improving work production, managing massive data sets, performing predictive analytics, and much more. However, despite all of these benefits there are a myriad of negatives that come from AI that are being overlooked in favor of the positives. This problem is becoming more apparent as governments around the world scramble to create guidelines and frameworks that will help manage this technology. A human observation framework can help limit the misuse of AI for practical purposes. To test this Google Bard, a generative AI tool provided by Google, is asked various questions across different fields. Upon being questioned multiple times, the results were tallied to analyze the performance of the service when it came to accurately answering the questions. Bard was able to handle almost all questions pertaining to a numeric field, but struggled heavily with questions based in emotion such as philosophy and the ethos of a work. This study shows that AI can make mistakes, the best way to manage this is through human oversight and other protective guidelines.

ABSTRACTS



GAMEABOVE COLLEGE OF ENGINEERING AND TECHNOLOGY

Sandeep Reddy Parlapalli

Computer Aided Engineering [M.S.]

An Exhaustive Investigation of NVH Compact Simulator in Automotive Engineering

Faculty Mentor: Dr. Tony Shay

Session 1, Room 320 - Computer Aided Engineering - 1:15-2:30pm, Moderator, Tony Shay

This extensive study thoroughly investigates the capabilities and uses of a desktop NVH simulator utilizing VI-NVHSim software. The simulator allows real-time engagement by using a physical steering wheel and pedals and producing realistic vehicle sounds which significantly decreases the dependence on physical prototypes. The research examines a wide range of the simulator's uses, spanning from virtual prototyping and competitor evaluation to powertrain sound quality assessment. By strengthening decision-making confidence for engineers and non-experts alike, this research contributes to the optimization of sound design processes in automotive engineering. The study aims to advance the field by providing a good understanding of the simulator's influence on virtual vehicle assessment, thus shaping the future of automotive design and development practices.

Soujanya Pillala

Technology [Ph.D.]

Analysis of Feasibility Investigation for Implementing Autonomous Vehicles

Faculty Mentor: Dr. Kasim Korkmaz

Session 3, Room 350 - Technology in Society - 9:00-10:15am, Moderator, Bilquis Ferdousi

The research objective of this study is to create a feasibility matrix with various parameters to provide better infrastructural adaptation of Autonomous Vehicles (AV's). That will provide information to stakeholders as they prepare for the future infrastructure evolution advanced by AV's. Reviewing the literature available gives us the highway infrastructure elements that may be directly impacted by implementation and operationalization of AV's in the future, technology and innovation, Policy and Legislation, and Consumer Acceptance.

Stephen Slachta

Computer Aided Engineering [M.S.]

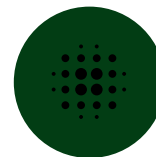
Best Practices for Use of Metalworking Fluids at the GameAbove College of Engineering and Technology

Faculty Mentor: Dr. Tony Shay

Session 1, Room 320 - Computer Aided Engineering - 1:15-2:30pm, Moderator, Tony Shay

In factories around the world, metalworking fluids have been elevated from caustic consumables to a high-tech essential tool. As performance requirements of these fluids change over time, the science of composition and health and human safety factors evolve as well. The purpose of this study is to explore the science behind contemporary metalworking fluids, as well as systems to circulate, filter, and recycle them. By researching and benchmarking current applications, the GameAbove College of Engineering and Technology can provide a safer environment for its students.

ABSTRACTS



GAMEABOVE COLLEGE OF ENGINEERING AND TECHNOLOGY

Tahereh (Neda) Hayeri

Polymers and Coatings Technology [M.S.]

Non-Acrylate LED Nail Gel Based on Bio-Based Organic-Inorganic Hybrid System

Faculty Mentor: Dr. Vijaykumar Mannari

Session 2, Room 330 - Mathematics and Technology - 10:30-11:45am, Moderator, Khairul Islam

Nail gels have experienced widespread utilization and gained substantial popularity in the cosmetic and beauty industry with its market expected to reach \$65.8 million by 2026. The composition of conventional nail gels is typically based on acrylate oligomers, reactive diluents, and appropriate photo-initiators, which are cured with low-intensity UV-LED sources, most commonly in professional salons. The presence of monomeric acrylate reactive diluents raises concerns about health risks due to their toxicity and skin sensitivity. Besides, the acrylate systems present the technical challenge of oxygen inhibition (poor curing at the surface) requiring multiple step application.

In the present study, we have investigated LED nail gels derived from a novel organic-inorganic hybrid binder system with high bio-based content (~60%) effectively eliminating hazardous monomeric acrylates and overcoming challenges associated with free radical polymerization. Thus, the nail gel compositions are 100% solid, free from VOC and HAPs, with substantial bio-renewable content making them safer and more sustainable. The synthesis of novel oligomers used for the nail gel, sol-gel cure mechanism, and some preliminary results of nail-gel will be presented.

Tehetna Hailu

Construction Management [Ph.D]

Analyzing Traffic Crashes in Proximity to Elementary Schools in Ann Arbor: A Comparative Spatial Case Study of Construction-Related Road Closures

Faculty Mentor: Dr. Suleiman Ashur

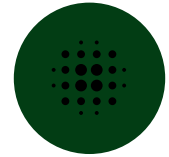
Session 3, Room 350 - Technology in Society - 9:00-10:15am, Moderator, Bilquis Ferdousi

The impact of construction-related road closures on traffic safety in areas with continuous urban development, particularly near elementary schools, is a crucial issue. To address this, the comparative spatial study explores the complex relationship between construction-related road closures and traffic crashes in Ann Arbor's elementary school zones. The research focuses on understanding the implications of such disruptions on road safety. It employs Geographic Information Systems (GIS) software as an advanced spatial analysis technique for comprehensive examination.

The primary goal of this study is to assess and compare the frequency and severity of traffic crashes occurring close to elementary schools during construction-related road closures. By examining the spatial and temporal aspects of these incidents, the research aims to uncover patterns and trends that shed light on the dynamics of traffic safety in the vicinity of school zones. The research is important because it has the potential to provide additional remedies for urban planning and traffic management strategies, like the Michigan Department of Transportation (MDOT). This study's results could help inform policy decisions and interventions to reduce risks associated with construction-related disruptions in areas where elementary school children are frequently present.

Through an in-depth analysis of crash data, considering variables such as location, time, and the duration of road closures, the research aims to provide valuable knowledge to the ongoing discussion on urban safety. Ultimately, the finding could provide a noticeable understanding of the spatial dynamics of traffic accidents in the vicinity of elementary schools, especially before, during, and after road closures due to construction. The findings will help implement evidence-based strategies to improve road safety in urban areas. This will involve targeted measures to reduce the frequency of accidents in these regions and ensure the safety of children during their commute.

ABSTRACTS



GAMEABOVE COLLEGE OF ENGINEERING AND TECHNOLOGY

William Jones

Computer Aided Engineering [M.S.]

Economic Tools for Gravity Batteries

Faculty Mentor: Dr. Tony Shay

Session 1, Room 320 - Computer Aided Engineering - 1:15-2:30pm, Moderator, Tony Shay

This study is centered around gravity batteries. First, is a study of the most feasible, industrial scale technologies currently being proposed. Using mathematical models of these systems, I am developing a program that evaluates a given location and ranks these technologies in terms of dollars per kWh of stored energy, including both the cost of initial construction and ongoing maintenance. This work is built on a 2020 paper in Energy where a model of a Mountain Gravity Energy Storage system was used to identify key locations around the world where it would be particularly cost effective. The purpose of this tool is to help civil engineers identify the most cost effective gravity battery for their community, removing one barrier to these projects being adopted.

Zaid Herzallah

Computer Aided Engineering [M.S.]

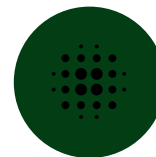
Dispensing System Environment

Faculty Mentor: Dr. Tony Shay

Session 1, Room 320 - Computer Aided Engineering - 1:15-2:30pm, Moderator, Tony Shay

This study investigates a total dispensing system employing a Kawasaki Robotic Arm, dispensing equipment, and a Coherix3D inspection head with dedicated software. Focused on adhesive bead applications, the research aims to comprehend the system's interplay and functionality. As modern production shifts toward adhesives for seals and waterproofing, understanding these components becomes crucial. The study's main objective is to gain extensive knowledge, including AS programming language proficiency for robotic arm operation and insights into component communication. The research is divided into four parts, covering communication between components, AS language mastery, dispensing equipment understanding, and Coherix3D inspection head integration. The study concludes with a practical application: programming the robotic arm for adhesive bead dispensing, adjusting parameters, and utilizing Coherix3D software for optimal inspection. This comprehensive exploration contributes valuable experience for university-level learning and practical applications in modern production.

ABSTRACTS



COLLEGE OF HEALTH AND HUMAN SERVICES

Christine Ribbens Grimm

Nursing – Adult Gerontology Primary Care Nurse Practitioner [MSN]

The Impact of Nurse Mentors on Student Learning

Faculty Mentor: Dr. Valerie Pauli

Session 3, Room 350 - Health and Education - 1:15-2:30pm, Moderator, Joan Cowdery

Background and objectives: The clinical encounters that student nurses experience during their training make an impressionable impact on their learning. Previous studies have examined the perceptions of staff nurses in serving as preceptors, but there is limited literature focused on the student experience. This study aims to highlight the student perspective on working with nurse mentors during various levels of their undergraduate nursing program.

Methods: This study applied a qualitative descriptive design. Purposive sampling was conducted among undergraduate nursing students attending a four year Midwest university. A total of 19 baccalaureate students were interviewed using conversational-style interviews. This included three different focus group sessions—one designated for each level of the program. Nvivo professional services provided verbatim transcription. The data management was supported by Google Docs. The data was analyzed using qualitative thematic analysis.

Results: Common themes emerged among the focus groups related to the impact of both positive and negative interactions with nurse mentors on student learning. There were no significant differences identified between the three levels of study in the program.

Conclusion: The results from this study add important insight into the student perspective on working with staff preceptors during their clinical experience. The findings underscore the critical impact these relationships have on student learning throughout their nursing education.

David Knott

Orthotics and Prosthetics [M.S.]

Compression and Tensile Strength Tests of Materials Commonly Used to 3D Print Devices in O&P

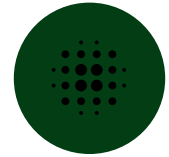
Faculty Mentor: Dr. Jacob Lindquist

Poster Session B, 1:30-3:00pm, Room 310 A/B

Introduction/Purpose: Additive manufacturing, or 3D printing, was developed in the 1980's by Charles Hull who is considered the "inventor of 3D printing." In the late 80's, Scott Crump developed a type of 3D printing called Fused Deposition Modeling (FDM), which is considered the cheapest type of 3D printing and is commonly used for fabricating large or simple items such as tools and mechanical parts. In 2011, 3D printing expanded into the Orthotics and Prosthetics (O&P) industry, and has continued to grow in popularity as a means to fabricate devices for patients. The time required to 3D print a device is less than that of traditional fabrication techniques. There is, however, some question about the durability of these 3D printed devices and if they can provide the stability and support that is required by patients. It is important that the FDM materials used to fabricate patient devices are tested for both tensile and compressive strength. The aim of this study is to test the tensile and compressive properties of the materials that are most commonly used to 3D print devices within the field of O&P.

Methods: An FDM 3D printer will be used to print small dog bone shaped plastic samples and small plastic blocks. The dog bone shaped samples will be used to test the tensile strength of the plastics where a machine will pull on both sides of the sample until catastrophic failure/deformation occurs. The blocks will be used to test the compressive strength of the plastics where a load machine will press onto the block until catastrophic failure/deformation occurs. The values of these tests will then be recorded.

ABSTRACTS



COLLEGE OF HEALTH AND HUMAN SERVICES

Elise Thomas

Clinical Research Administration [M.S.]

An Analysis of Mental Health in Popular Teen Girl Magazines Published in 2012-2022

Faculty Mentor: Dr. Marissa Brandt

Poster Session B, 1:30-3:00pm, Room 310 A/B

Introduction- Mental health concerns have recently gained prominence, especially among adolescent girls. According to a 2023 World Health Organization statistic, 50% of mental health disorders begin manifesting by age 14, and often remain untreated until adulthood. Mental health professionals can benefit from understanding the messaging around mental health and its treatment in popular teen literature.

Hypothesis- This study aimed to answer two questions: (1) How has mental health coverage in teen magazines targeted to girls changed from 2012-2022? (2) What interventions are being recommended to readers, and by whom? The recent increase in adolescent mental health issues could have been a catalyst for changes in teen magazine content surrounding mental health.

Methods- Historically, magazines have been influential for teen girls. The transition of magazines to online, free platforms in 2016 allowed for easier access, resulting in a surge of online readers. Teen Vogue and Seventeen Magazine's platforms were selected for content analysis due to their similarity and popularity among teen girls. The magazines' built-in archive search engines were used to identify relevant articles using the terms "anxiety, depression, and mental health." 162 articles from Teen Vogue and 160 articles from Seventeen published between 2012-2022 were selected for content analysis and comparison of their mental health content.

Results- From 2012-2022, a 250% overall increase in article presence regarding mental health was seen in both periodicals, with a spike occurring in 2017. A measurable increase in the number of articles categorized as "celebrity" in Seventeen Magazine and "mental health" in Teen Vogue was observed, as well as the expansion of intervention types in both periodicals.

Conclusion- This content analysis suggests that there has been a significant increase in mental health messaging in popular teen girl periodicals. Additionally, this messaging is increasingly focused on interventions and celebrity stories about mental health.

Ellie Barga

Orthotics and Prosthetics [M.S.]

The Influence of Ankle Supports on Ankle Range of Motion of Gymnasts with Previous Ankle Injuries

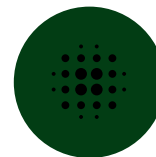
Faculty Mentor: Dr. Sun Hae Jang

Poster Session B, 1:30-3:00pm, Room 310 A/B

Ankle sprains are a common injury in sports. To help reduce ankle injuries from happening, players wear various types of ankle supports to help them feel more secure and confident in their athletic abilities. The real question is whether these ankle supports increase or decrease their ability to perform at their best. The purpose of this project is to investigate which type of ankle support allows the largest range of motion, while providing support for gymnasts with previous ankle injuries. For this study, participants will be wearing three different types of ankle supports and performing three different tasks with each support. I will then record the tasks and compare the amount of dynamic range of motion to the static range of motion without the braces. The goal of this study is to find out exactly what type of ankle support provides a good range of motion, while still giving the support needed for the participant.

ABSTRACTS

COLLEGE OF HEALTH AND HUMAN SERVICES



Hannah Mullan

Orthotics and Prosthetics [M.S.]

The Perceived Role of the Physical Therapist and Prosthetist in Treating Lower Limb Amputees

Faculty Mentor: Dr. Jacob Lindquist

Poster Session B, 1:30-3:00pm, Room 310 A/B

Both Physical Therapists and Certified Prosthetists play an important role in the rehabilitation treatment of patients with a lower limb amputation. Though Physical Therapists and Prosthetists often communicate with each other regarding the treatment of mutual patients, there is little existing research identifying the expectations Physical Therapists and Prosthetists have regarding one another's role in providing treatment for a patient with a lower limb amputation.

Hypothesis/Research Question: What is the consensus among Physical Therapists and Prosthetists regarding the role of the Physical Therapist and Prosthetist in treating patients with lower limb amputations?

To answer this question, a cross-sectional survey will be sent to current practicing Physical Therapists and certified Prosthetists. The survey will collect descriptive information about the perceived role Physical Therapists and Prosthetists have for themselves and for one another. The results of this study, which has not yet been conducted, should describe the current perceptions and understanding of Physical Therapists and Prosthetists regarding their own and one another's role in treating a patient with a lower limb amputation.

Jessica Townsend

Orthotics and Prosthetics [M.S.]

How Does a Yoga Program Influence Balance in Lower Limb Amputees

Faculty Mentor: Dr. Rebecca Spragg

Poster Session B, 1:30-3:00pm, Room 310 A/B

Lower limb amputees (LLA) often suffer with balance difficulties as a result of losing their leg(s). This can cause both mental and physical barriers in their daily life. Yoga has been developed with a goal of improving core strength for balance and mobility. It has been shown to benefit these areas with able-bodied individuals. The aim of this study is to investigate whether it can have the same benefits for LLA, and hypothesizes that a six-week yoga program will improve balance and mobility in lower limb amputees.

For this study, participants will take part in a six-week yoga program made up of one class per week lasting one hour. Each participant will complete a pre-test and post-test visit where balance will be assessed and a PROMIS survey, and ABC survey will also be administered. These same measures will be taken at a three-month and six-month post-test visit.

Jocelyn Tongue

Orthotics and Prosthetics [M.S.]

The Effects of Socket Alignment on Biomechanical Performance in Unilateral Transtibial Amputees in the Coronal Plane

Faculty Mentor: Dr. Jacob Lindquist

Poster Session B, 1:30-3:00pm, Room 310 A/B

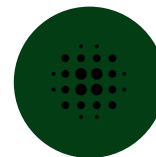
The relationship between the socket of a lower limb prosthesis and the prosthetic foot is referred to as the alignment of the prosthesis. A well aligned prosthesis will feel comfortable to the patient and is crucial to ensure efficient biomechanical performance in terms of gait, stability and overall functional capacity. This research seeks to address the gap in our understanding of how socket alignment influences the moments and forces within the prosthesis, and how/if alterations of the alignment in the coronal plane result in gait pattern differences in unilateral lower limb amputees.

I hypothesize that variations in lower limb prosthetic socket alignment in the coronal plane influence the moments and forces within the prosthesis during gait. Specifically, alterations including but not limited to angulation, rotation, and height of the socket will result in deviations of gait patterns due to the change in moments and forces within the prosthesis, therefore influencing biomechanical performance and stability of the patient with lower limb loss.

For this study, a certified Prosthetist will add an IPex unit to a patient's prosthesis then have the patient walk with varying amounts of coronal prosthetic alignment, followed by a brief interview of the patient. Data, consisting of forces and moments within the prosthesis, will be collected during gait via IPex software.

We hope to identify a correlation between the alteration of the socket alignment in the coronal plane and how those changes in moments and forces within the prosthesis affect the amputee's biomechanical performance during gait.

ABSTRACTS



COLLEGE OF HEALTH AND HUMAN SERVICES

Kayla Griffith
Orthotics and Prosthetics [M.S.]
Prevalence of Burnout in O&P Administrative Staff
Faculty Mentor: Dr. Rebecca Spragg
Poster Session B, 1:30-3:00pm, Room 310 A/B

Background: After the COVID-19 pandemic, burnout has been prevalent in the healthcare field. Several studies have been conducted to examine the extent of this stress on different members of the healthcare field, including physicians, nurses, and orthotists and prosthetists. Studies found that leading causes of burnout have been reported to be bureaucratic demands, lack of respect, and insufficient compensation. Non-clinical administration staff, including secretaries, office managers, and billing staff also experience these stressors, but are often not included in burnout studies. The purpose of this study is to determine the prevalence of burnout in orthotics and prosthetics administration staff.

Methods: An online survey was sent to O&P offices throughout the United States. Participants anonymously answered questions pertaining to their demographics, as well as answering the Copenhagen Burnout Inventory (CBI). The CBI is a validated burnout survey instrument that questions participants about their experience with personal, work-related, and client-related burnout.

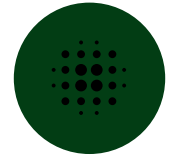
Kelsey Crist
Orthotics and Prosthetics [M.S.]
Design and Evaluation of a Rowing-Specific Upper Limb Prosthetic Terminal Device for Novice Rowers
Faculty Mentor: Dr. Nathan Kearns
Poster Session B, 1:30-3:00pm, Room 310 A/B

Para-rowing, inclusive of various disabilities including upper and lower limb amputation, was only recently added to the Olympics in 2008, and therefore research involving rowing for the amputee community is extremely limited. Although options exist for upper limb prosthetic terminal devices that may be compatible with the rowing stroke, there is nothing specifically designed and available for amateur athletes interested in trying rowing for the first time. Therefore, the development of a rowing-specific terminal device that is cost effective, biomechanically appropriate, and durable enough to withstand forces produced by an amateur rower, is necessary to continue to promote rowing accessibility for amputee athletes. This study will incorporate the use of a nylon 3D-printed upper limb prosthetic terminal device compatible with a rowing machine to simulate on-water stroke motion while safely on land. For the study, an able-bodied former collegiate rower will row with the device attached to a custom upper limb prosthetic simulator, replicating a transradial amputation, and without the device at various fixed stroke rates and intensity percentages, allowing for a quantitative and qualitative comparative analysis, and for the overall assessment of the terminal device model. The results of this study, although not yet conducted, will hopefully display the plausibility of the proposed terminal device design and encourage the development of future research and design for amputees interested in improving their mental and physical health through rowing.

Keri Johnson
Orthotics and Prosthetics [M.S.]
Survey of Material Choices for 3D printing in Orthotics and Prosthetics
Faculty Mentor: Dr. Nate Kearns
Poster Session B, 1:30-3:00pm, Room 310 A/B

Orthotics and Prosthetics (O&P) is a medical field that has a growing use for 3D printed devices because patients can receive custom devices that are delivered quicker due to less technician or practitioner time. Despite this benefit, no studies were found that collected data on common materials used to 3D print O&P devices. This leads to little standardization of materials in O&P 3D printing, potentially sacrificing patient safety. The purpose of this study is to find out if O&P clinics or companies have their own standardized 3D printing materials for specific devices. A survey will be sent to O&P clinics and companies to compile information on the most commonly printed devices and their materials.

ABSTRACTS



COLLEGE OF HEALTH AND HUMAN SERVICES

Parita Patel

Latifat Raifu

Master of Public Health - Health Education (MPH)

Empowering Health Through Effective Health Education: Creating Informative Materials for a Hospital System

Faculty Mentor: Dr. Joan Cowdery

Session 3, Room 350 - Health and Education - 1:15-2:30pm, Moderator, Joan Cowdery

Public Health Education involves conveying complex information quickly and effectively. The intent of health education is to promote knowledge and change attitudes, beliefs, and actions, through use of social influence and behavior change theoretical approaches. It also encourages policymakers to adopt practices that enable providers to adequately communicate, motivate, and support individuals to change and sustain health behaviors while taking charge of their health.

The purpose of this presentation is to demonstrate the science based, systematic process of developing health education materials such as posts, flyers, and wellness webinars for a large hospital system. The project aimed to create informative and visually appealing materials to effectively convey essential healthcare information to the hospital's patients and the broader community. The process involved extensive research, collaboration with healthcare experts, and the utilization of design and communication skills. The resulting health education materials serve as valuable resources in promoting health awareness, enhancing patient engagement, and reinforcing the hospital's commitment to delivering quality healthcare services.

Sydney Feekings

Orthotics and Prosthetics [M.S.]

Burnout Rates Among Graduate Students in an Orthotics and Prosthetics Masters Program

Faculty Mentor: Dr. Sun Hae Jang

Poster Session B, 1:30-3:00pm, Room 310 A/B

Burnout among young clinicians working in a healthcare profession is on a staggering rise. Research has been conducted on young professionals in the healthcare industry, but little research has included graduate students who are planning to enter the workforce in the next two years. The aim of this study was to investigate the prevalence of burnout in current graduate students enrolled in an accredited Orthotics and Prosthetics Masters program and to further understand variables contributing to burnout. It is believed that burnout is occurring in individuals prior to becoming a certified Orthotist or Prosthetist, therefore causing a higher burnout rate in young clinicians. An online survey including the Copenhagen Burnout Inventory was used to assess the participants' physical, school-related, and work-related burnout. The survey included additional questions regarding academic variables.

Tyler Griffith

Orthotics and Prosthetics [M.S.]

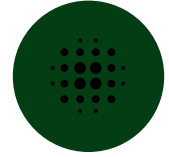
Effect of a Custom, Immersive VR App and Headset as a Study Aid in Learning Muscular Anatomy of the Legs

Faculty Mentor: Frank Fedel

Poster Session B, 1:30-3:00pm, Room 310 A/B

While frequently used for entertainment purposes, Virtual Reality (VR) can also be used as an educational tool. In many medical fields, students are required to learn the names, locations, insertions, and origins of many muscles in the human body. This information is then used in treating future patients. We created a VR program that would allow students to see and interact with a model of human legs with the muscles exposed and removable, as well as having the option to hide or show labels that include information about the individual muscles. The target population are Eastern Michigan University students in the College of Health and Human Services. The students will be given a pre-test and post-test on their knowledge of the information provided, and a comparison will be made between the control group (self-study) and the experimental group (self-study plus 2 weeks VR access). Comparisons and correlations will be performed on self-reported study time for both groups, study time using VR for experimental groups, and scores on both pre- and post-test.

ABSTRACTS



COLLEGE OF BUSINESS

Chotika Pitaktouyhan

Human Resource Management and Organizational Development [M.S.]

AI Competencies for HR professionals

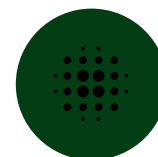
Faculty Mentor: Dr. Diana Wong

Session 3, Room 350 - Technology in Society - 9:00-10:15am, Moderator, Bilquis Ferdousi

In today's dynamic landscape, Artificial Intelligence (AI) is progressively assuming diverse roles in human functions, ranging from typing and managerial assistance to image and video generation, alongside customer service support. As the world undergoes continuous transformation, these technological advancements become integral to our daily lives. This paradigm shift presents a unique challenge for Human Resources (HR) professionals, who may not be well-acquainted with the applications of AI in the workforce.

We need to understand the professional development needs of HR professionals regarding their knowledge and use of AI, because HR needs to support their workforce with this important technology. The research aims to fill the knowledge gap by enhancing AI understanding for HR professionals.

The primary objective is to learn how AI is being used by HR professionals and identify gaps related to enhancing recruitment processes, foster continuous learning and development initiatives, and elevate employee engagement strategies. The research commences with conducting a training needs assessment with a survey methodology. Human Resource professionals will share their experiences related to AI integration within various HR functions. The results will be utilized to expand knowledge, derive practical implications, and inform future training. By bridging this gap, the research seeks to empower HR professionals to effectively compete with AI, ensuring a seamless integration of technology and innovation in the evolving workplace.



APPRECIATIONS

The Office of Graduate Studies and Research would like to thank the many individuals, organizations, and departments whose efforts have made this event a success!

CONFERENCE VOLUNTEERS

Set up, Clean up, Tech Support, and Registration:

Brian Moynihan, Daniel Like, Fatimah Almuid, Janet Leppala, Jenny Kindred, Lisa Liu, Maitri Jain, Phyllis Britton, Quincy Cox, Scott Teasdale, Sonia Chawla

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SPECIAL THANKS

Psychologists of Color:

Centia Thomas, Daniel Like, Fatimah Almuid, Lisa Liu, Maitri Jain, Malaikah Davis

Event Planning:

Meg Castro, Chef Garrett Akans

IT Department:

David Zylstra

Photography and Video:

Debra Burke and her incredible team