APRIL 13, 2018

celebrating 30 years of excellence

UNDERGRADUATE RESEARCH CONFERENCE
BUTLER UNIVERSITY

APRIL 13, 2018

CELEBRATING 30 YEARS OF EXCELLENCE
MAJ Matthew Riley currently serves as a Department Chief at the U.S. Army Medical Research Institute of Infectious Diseases, the Department of Defense’s (DoD) lead laboratory for medical biological defense research. A native of Fort Wayne, he attended Butler University and earned his bachelor’s in Biology in 2001, followed by his master’s degree in Genetics from the Pennsylvania State University in 2007. He was commissioned as a 1st Lieutenant in the United States Army Medical Service Corps as a Microbiologist in 2008, and subsequently earned his PhD in Comparative and Experimental Medicine at the University of Tennessee. MAJ Riley has been on active duty with the U.S. Army for more than 10 years.

MAJ Riley’s previous assignments include serving as a Research Geneticist, Chief of Genomics, and Chief of the Overseas Diagnostics Laboratory at the Walter Reed Army Institute of Research. He currently serves in many roles, including as a reviewer for the Congressionally Directed Medical Research Program. His professional expertise focuses on medical and epidemiological applications for next-generation DNA sequencing and foundational medical research to protect the warfighter from biological threats and other threats to public health.

MAJ Riley has authored/co-authored 20 peer-reviewed publications and is a member of the American Society for Microbiology, the Society for Armed Forces Medical Laboratory Scientists, and the Phi Zeta Honor Society. His awards and decorations include the Meritorious Service Medal, the Army Commendation Medal, National Defense Service Medal, Global War on Terrorism Service Medal, and Army Service Ribbon.

Share your experience using #ButlerURC
Our innovative MA and PhD programs, experienced faculty, and small class sizes allow students to get the most out of their English degrees.

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<td>- Linguistics and TESOL</td>
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Add-On Licenses and Certificates

- License in English as a New Language (online)
- Certificate in Teaching English to Speakers of Other Languages (TESOL)
- Certificate in Teaching Writing

We also offer teaching and research assistantships to master’s and doctoral candidates on a competitive basis. If you are a new applicant and wish to be considered for an assistantship, be sure to check the appropriate box on the Graduate School application.

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Contact us

Dr. Megumi Hamada
Director of Graduate Programs
mhamada@bsu.edu  765-285-8415
bsu.edu/english/graduate
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CALL FOR STUDENT PAPERS

For publication in the

BUTLER JOURNAL OF
UNDERGRADUATE RESEARCH
VOLUME 5 (2019)

Volumes 1 (2015), 2 (2016), and 3 (2017) now available online!
Volume 4 (2018) to be online this April.
digitalcommons.butler.edu/bjur/

We are now soliciting student submissions for Volume 5 of BJUR that will be published April 2019. Undergraduate students presenting at the URC who have completed significant research and scholarship, such as a Senior Project, Honor’s Thesis, or other major work, are encouraged to submit their papers for potential publication in BJUR. Submission of papers is open to undergraduates from all colleges and universities and all papers will be reviewed by Butler faculty for possible inclusion. BJUR is international in scope, multidisciplinary, and publishes the best empirical or scholarly research from undergraduate students. Details regarding submission guidelines and deadlines are available online. First consideration for Volume 5 will be given to papers received by June 1, 2018 although papers may continue to be submitted through December 31. A faculty mentor’s letter of recommendation is required.

Butler University has long been distinguished by its commitment to high quality undergraduate education which includes significant support for undergraduate research. This is reflected by the establishment of the first Undergraduate Research Conference in 1988 (held annually ever since). The publication of BJUR represents another major milestone on Butler’s commitment to student success in scholarship and research.

Kenneth Colburn, Ph.D.
Inaugural Editor, BJUR
Department of Sociology and Criminology
bjur@butler.edu

Tara Lineweaver, Ph.D.
Co-Editor, BJUR
Department of Psychology
bjur@butler.edu
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Butler University’s first Undergraduate Research Conference (URC) was held on April 21, 1989. Before 115 students could arrive on our campus to participate in this event, someone had to conceive of the idea and recruit talented volunteers to make the idea a reality. That person was Professor Emeritus James Berry. Dr. Berry, a professor of biological sciences, learned of an undergraduate research conference being held in the South and sent two students to participate. After reimbursing the student presenters, Dr. Berry wanted to bring the conference experience closer to home for Butler University students so that more individuals could participate. Indeed, as the first URC program notes:

The purpose of this state-wide Undergraduate Research Conference is to encourage undergraduate students to become involved in research. We believe that the best way to teach science is by actually doing science. Only through the actual process of asking questions and solving problems can one become experienced in the methods of science.

As with any other successfully completed project, one of the pleasures comes in sharing the results with others of similar interests. At present, there are few avenues available for undergraduates to communicate with students outside their own institutions. Therefore, this conference is devoted to presentations by undergraduates of their own research.

With the assistance of many—including Becky Dolan, Tom Dolan, Candy Dorsey, Susan Greenfield, Sue Hinkle, Barbara Howes, Bob Karn, Susan MacLaren, Linda Nitka, Chris Price, James Shellhaas, and Margaret Smith—the first URC featured students from Ball State University, Butler University, DePauw University, Earlham College, Indiana State University, Indiana University Bloomington, Indiana University Northwest, Indiana University-Purdue University Indianapolis, Marian University, Purdue University Calumet, Purdue University West Lafayette, Rose-Hulman Institute of Technology, Taylor University, Valparaiso University, University of Evansville, and University of Notre Dame presenting in the disciplines of Biology, Chemistry, Physics, Engineering, and Social Science. At 9:30 AM, participants gathered for a Group Photo (below).

Today, in honor of Dr. James Berry’s vision, it is our privilege to announce that, from this day forward, the URC Top Paper Award will be named the James Berry Top Paper Award. For without Dr. Berry’s desire to assist students in their quest to learn science by actually doing science, the URC would not exist.
URC LEADERSHIP

CONFERENCE DIRECTORS

James Berry (1989-1996)
Robert Padgett (2001-2005)
Robert Holm (2006-2010)
Mariangela Maguire (2011-2013)
Dacia Charlesworth (2016-present)

CONFERENCE COORDINATORS

Sue Hinkle (1995)
Robert Holm (2001-2005)
Cathy Holland (2011-2015)
Melissa Friedman (2016-present)
# Conference Organizers

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<tr>
<td>Dacia Charlesworth</td>
<td>Conference Director</td>
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<tr>
<td>Chris Ardeel</td>
<td>Information Systems Analyst</td>
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<tr>
<td>Whitney Bryant</td>
<td>Information Systems Analyst</td>
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<td>Joe Burgess</td>
<td>Information Systems Specialist</td>
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<td>Melissa Friedman</td>
<td>Conference Coordinator</td>
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<td>Ann Ehinger</td>
<td>Marketing &amp; Communications</td>
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<tr>
<td>Phil Eichacker</td>
<td>Marketing &amp; Communications</td>
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<td>Zachary Skidmore</td>
<td>Information Systems Analyst</td>
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<td>Andrea Scarlett</td>
<td>Special Events Coordinator</td>
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<tr>
<td>Brandon Signorino</td>
<td>University Library Coordinator</td>
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<tr>
<td>Amanda Starkel</td>
<td>Digital Humanities Coordinator</td>
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<td>Brian Wilson</td>
<td>Information Systems Specialist</td>
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# Academic Area Coordinators

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<tr>
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<tr>
<td>Susan Adams</td>
<td>Education</td>
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<tr>
<td>Tonya Bergeson-Dana</td>
<td>Communication Sciences &amp; Disorders</td>
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<td>Hillary Buttrick</td>
<td>Business &amp; Economics</td>
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<td>J. Rocky Colavito</td>
<td>English Literature &amp; Creative Writing</td>
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<td>Elizabeth Davis</td>
<td>Chemistry</td>
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<td>Vivian Deno</td>
<td>History</td>
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<td>Amanda Hall</td>
<td>Psychology</td>
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<td>Xianming Han</td>
<td>Physics &amp; Astronomy</td>
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<td>Allison Harthcock</td>
<td>Communication &amp; Media Studies</td>
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<td>Nicholas Johnson</td>
<td>Music</td>
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<td>Chad Knoderer</td>
<td>Pharmacy, Health Sciences, &amp; Exercise Science</td>
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<td>Jennifer Kowalski</td>
<td>Biology</td>
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<td>Lynne Kvapil</td>
<td>Classical Studies</td>
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<td>Stacy McGaha</td>
<td>Pharmacy, Health Sciences, &amp; Exercise Science</td>
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<td>Antonio Menendez-Alarcon</td>
<td>Sociology</td>
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<td>Alex Quintanilla</td>
<td>Modern Languages, Literatures, &amp; Cultures</td>
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<td>Gautam Rao</td>
<td>Art History</td>
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<td>Amber Russell</td>
<td>Mathematics &amp; Computer Science</td>
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<td>Sholeh Shahrokhi</td>
<td>Anthropology</td>
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<td>Amanda Starkel</td>
<td>Digital Humanities</td>
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<td>Eloise Sureau-Hale</td>
<td>International Studies</td>
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<td>Robin Turner</td>
<td>Political Science</td>
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The URC Conference Organizers would also like to thank staff members from University Events, Campus Impressions, Facilities, Marketing & Communications, Information Technology, University Library, Catering, and Butler University Police Department for their valuable contributions.
ART EXHIBITIONS

9:00 AM – 3:00 PM  Irwin Library, 1st Floor

Disconnections

Ryan Collins Xavier University
Faculty Sponsor: Suzanne Chouteau Xavier University

Saudade: Longing for Culture

Gabrielle Sapata Xavier University
Faculty Sponsor: Suzanne Chouteau Xavier University

The Internship

Clare Dunn Xavier University
Faculty Sponsor: Suzanne Chouteau Xavier University
ORAL PRESENTATIONS

9:00 AM – 10:15 AM  DIRECTOR’S SESSION: COMPETITIVE PAPERS  Pharmacy & Health Sciences Bldg., 150

COMPETITIVE PAPERS 1

Moderator: Rusty Jones

9:00 AM — “A Story with Disease at its Heart”: Thingification and Speciesism in The People in the Trees

Alexis Schmidt Butler University
Faculty Sponsor: Ania Spyra Butler University

9:15 AM — Change the Narrative: Empathy in Post-Apocalyptic Fiction

Tynan Drake Ball State University
Faculty Sponsor: Adam Beach Ball State University

9:30 AM — A Cross-Cultural Qualitative Analysis of the United States and the Russian Federation: Perspectives on Formal and Informal Institutions on Corruption

Elizabeth Novak Kings College
Faculty Sponsor: JC Blewitt Kings College

9:45 AM — Pieces of Glass: The Anxiety of Influence in Nico Muhly’s Doublespeak

Natalie Farrell Butler University
Faculty Sponsor: Clare Carrasco Butler University

9:00 AM – 10:15 AM  DIRECTOR’S SESSION: COMPETITIVE PAPERS  Pharmacy & Health Sciences Bldg., 156

COMPETITIVE PAPERS 2

Moderator: Bill McKinney

9:00 AM — The Undermining of Representative Democracy through Racial Gerrymandering

Lydia Ochs Butler University
Faculty Sponsor: Gregory Shufeldt Butler University

9:15 AM — A Comparison of Job Retraining Programs in the United States Germany and Japan

Kayla Bledsoe Marian University
Faculty Sponsor: Pierre Atlas Marian University

9:30 AM — The Impact of Local News Media through the Lens of Voter Fraud and Gerrymandering

Nate Lemen Butler University
Faculty Sponsor: Greg Shufeldt Butler University

9:45 AM — Interrogating “Grassroots” and “NGO”: A Case Study on Pratham

Alexandra Lubbe Webster University
Faculty Sponsor: Lindsey Kingston Webster University
TOP FOUR COMPETITIVE PAPERS

Moderator: Dacia Charlesworth

10:30 AM — **JAMES BERRY TOP PAPER AWARD**: Electra Heart’s Provocative Performance: Challenging Hegemonic Masculinity through Juxtaposition

*Emily Stark* *Butler University*
Faculty Sponsor: *Dacia Charlesworth* *Butler University*

10:45 AM — The Portrayal of Women in US Feminine Hygiene Advertisements from World War II through the 1950s

*Brittani Logsdon* *Murray State University*
Faculty Sponsor: *James Humphreys* *Murray State University*

11:00 AM — Effects of Terrorism on the US Stock Market: Evidence from High Frequency Data

*Kyla Scanlon* *Western Kentucky University*
Faculty Sponsor: *Alexander Lebedinsky* *Western Kentucky University*

11:15 AM — Parental Divorce: How Does it Impact the Communication and Learning Style of the Adult Children of Divorce

*Cassidy Coates* *Hanover College*
Faculty Sponsor: *Valerie Young* *Hanover College*

**COMPETITIVE PAPERS 3**

Moderator: Bill McKinney

10:30 AM — Empowered Women through 2015-2017 Super Bowl Commercials

*Melissa Sinclair* *Indiana University-Purdue University Columbus*
Faculty Sponsor: *Anna Carmon* *Indiana University-Purdue University Columbus*

10:45 AM — Applying Australian Public Diplomacy: Recommendations for South Korea

*Sanghyun Han* *Marian University*
Faculty Sponsor: *Pierre Atlas* *Marian University*

11:00 AM — Breaking The Bard: The Value of Identity Power & Gender in Understanding Shakespeare

*Kiersten White* *Butler University*
Faculty Sponsor: *William Walsh* *Butler University*
COMPETITIVE PAPERS 4

Moderator: Dacia Charlesworth

1:30 PM — Taylor-Made Gender: Billions’ Challenge to Hegemonic Masculinity

Colleen Wilkes Butler University
Faculty Sponsor: Dacia Charlesworth Butler University

1:45 PM — Impacts of National Economic Concerns on the Paris Climate Agreement

Aislinn Baltas Butler University
Faculty Sponsor: Gregory Shufeldt Butler University

2:00 PM — A Novel Cyclical Time Interpretation of Goon Squad

Viki Tomanov Butler University
Faculty Sponsor: Andrew Levy Butler University

2:15 PM — An Excavation of Benjamin’s “Ausgraben und Erinnern”

Liam Tait Kalamazoo College
Faculty Sponsor: Reid Gómez Kalamazoo College

COMPETITIVE PAPERS 5

Moderator: Bill McKinney

1:30 PM — Sign Language: A Technology of the Human Body

Sophia Hrycak Butler University
Faculty Sponsor: Kristin Swenson Butler University

1:45 PM — Autism and Theory of Mind: The Argument for a Hybrid Theory

Kendall Smith Hanover College
Faculty Sponsor: Jared Bates Hanover College

2:00 PM — Pepe Rojo’s "Ruido Gris" and Class Divisions

Marc Lopez Bridgewater College
Faculty Sponsor: Grace Martin Bridgewater College

2:15 PM — When Tragedy Strikes—Are We Prepared?

Evan Catron Ball State University
Faculty Sponsor: Geri Strecker Ball State University
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<td>DIRECTOR’S SESSION: COMPETITIVE PAPERS</td>
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<td>COMPETITIVE PAPERS 6</td>
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<tr>
<td>Moderator: Rusty Jones</td>
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<td>3:00 PM — Cuba Where Dreams Go To Die</td>
<td>Virginia Nordeng Bridgewater College</td>
<td>Grace Martin Bridgewater College</td>
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<tr>
<td>3:15 PM — Little Women are Doin’ It for Themselves: The Scholarly Significance of Little Women as a Children’s and Feminist Novel</td>
<td>Natalie Bloom Butler University</td>
<td>Natalie Carter Butler University</td>
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<tr>
<td>9:00 AM – 10:15 AM</td>
<td>ANTHROPOLOGY 1</td>
<td>Jordan Hall 242</td>
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<td>Moderator: Susan Hyatt</td>
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<td>9:00 AM — In the Union There is Strength</td>
<td>Luke Long Indiana University-Purdue University Indianapolis</td>
<td>Emily Osborn Indiana University-Purdue University Indianapolis</td>
<td>Susan Hyatt Indiana University-Purdue University Indianapolis</td>
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<tr>
<td>9:15 AM — The Workers: Biggest Machines Out There</td>
<td>Paige Frost Indiana University-Purdue University Indianapolis</td>
<td>Tatiana Booth Indiana University-Purdue University Indianapolis</td>
<td>Susan Hyatt Indiana University-Purdue University Indianapolis</td>
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<td>9:30 AM — Inevitable</td>
<td>Jake Watson Indiana University-Purdue University Indianapolis</td>
<td>Corinne Baker Indiana University-Purdue University Indianapolis</td>
<td>Susan Hyatt Indiana University-Purdue University Indianapolis</td>
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<td>9:45 AM — Manufacturing: An Uncertain Future</td>
<td>Cameron Nealy Indiana University-Purdue University Indianapolis</td>
<td>Katey McCulley Indiana University-Purdue University Indianapolis</td>
<td>Susan Hyatt Indiana University-Purdue University Indianapolis</td>
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ANTHROPOLOGY OF GENDER IN POPULAR CULTURE

Moderator: Elise Edwards

10:30 AM — Beyond Godzilla: Reflections of National Identity in Japanese Horror Films
   Caitlin Ladd Butler University
   Faculty Sponsor: Elise Edwards Butler University

10:45 AM — Cross-Cultural Reproductive and Sexual Suppression of Women: Understanding the Systematic Denial of Access to Adequate Healthcare and Medical Knowledge of the Female Body
   Eliza Duncan Butler University
   Faculty Sponsor: Jeanna Jorgensen Butler University

11:00 AM — The Story of the Sister: Studying Gendered Abuse in the Grimms’ Tales
   Reid Schuetz Butler University
   Faculty Sponsor: Jeana Jorgensen Butler University

11:15 AM — Genderless Men’s Fashion in Japan
   AJ Moore Butler University
   Faculty Sponsor: Elise Edwards Butler University

ANTHROPOLOGY OF BELONGING: AN INTERSECTIONAL APPROACH

Moderator: Sholeh Shahrokhi

1:30 PM — Ripple in Still Water: A Grateful Dead Ethnography
   Corbin Fritz Butler University
   Faculty Sponsor: Sholeh Shahrokhi Butler University

1:45 PM — National Dances of The Nutcracker: A Study of Cultural Racial and National Depictions in a Classical Ballet
   Meredith Hunter-Mason Butler University
   Faculty Sponsor: Larry Attaway Butler University

2:00 PM — Memory and Melancholy
   Allison Parker Butler University
   Faculty Sponsor: Sholeh Shahrokhi Butler University

2:15 PM — Beyond No Fracking: An Anthropological Study of Individuals Pursuing Sustainable Lifestyles in Eastern Kentucky
   Meg Carter Eastern Kentucky University
   Faculty Sponsor: Neil Kasiak Eastern Kentucky University
9:00 AM – 10:15 AM  ART HISTORY 1  Lilly Hall 133

Moderator: Gautam Rao

9:00 AM — Repurposed Identity: The Continually Changing Self-Perception of Magdalena Abakanowicz

  Trisha Brockmeyer  Xavier University
  Faculty Sponsor: Suzanne Chouteau Xavier University

9:15 AM — Artemisia Gentileschi and the Rhetoric of Shadows: A Woman’s Voice in the Baroque World

  Paige Dempsey  Butler University
  Faculty Sponsor: Carol Reeves Butler University

9:30 AM — Images of Hope

  Taylor Leigh Robinson  Queens University of Charlotte
  Dianne Hagstrom  Queens University of Charlotte
  Faculty Sponsor: Siu Challons-Lipton Queens University of Charlotte

9:45 AM — Gendered

  Mariam Saeedi  Butler University
  Faculty Sponsor: Gautam Rao Butler University

10:30 AM – 11:45 AM  ART HISTORY 2  Lilly Hall 133

Moderator: Gautam Rao

10:30 AM — (title undetermined)

  Camille Bates  Butler University
  Faculty Sponsor: Gautam Rao Butler University

10:45 AM — 110000 Miles

  Kelsey Davis  Butler University
  Faculty Sponsor: Gautam Rao Butler University

11:00 AM — Corner of Life

  Autumn Phelps  Butler University
  Faculty Sponsor: Gautam Rao Butler University

11:15 AM — The Art of Color Schemes

  Taylor Bowen  Butler University
  Faculty Sponsor: Gautam Rao Butler University
1:30 PM – 2:45 PM

ART HISTORY 3
Lilly Hall 133

Moderator: Gautam Rao

1:30 PM — Between the Mindful & Mindless

Anna Gerlach  Butler University
Faculty Sponsor: Gautam Rao  Butler University

1:45 PM — Control

Madelyn Johnston  Butler University
Faculty Sponsor: Gautam Rao  Butler University

2:00 PM — Intangible

Caitlyn Zegiestowsky  Butler University
Faculty Sponsor: Gautam Rao  Butler University

2:15 PM — Untitled

Brighid Smith  Butler University
Faculty Sponsor: Gautam Rao  Butler University

2:30 PM — Askesis: Images of Contemporary Asceticism

Frank Geiser  Xavier University
Faculty Sponsor: Suzanne Chouteau  Xavier University

9:00 AM – 10:15 AM

BIOLOGY 1
Gallahue Hall 101

MOLeCULAR & BIOCHEMICAL MICROBIOLOGY

Moderator: Chris Stobart

9:00 AM — Analysis of the Thermal Stability of a Diverse Panel of Recombinant Respiratory Syncytial Virus (RSV) Strains

Darby DeFord  Butler University
Emily Hasik  Butler University
Jenna Nosek  Butler University
Faculty Sponsor: Christopher Stobart  Butler University

9:15 AM — Binding Site of Divalent Transition Metal Cations on Esterase Rv0045c from Mycobacterium tuberculosis

Isobel Bowles  Butler University
Faculty Sponsor: Geoffrey Hoops  Butler University

9:30 AM — Identification of a Novel Regulatory Region within the Interdomain Loop of Mouse Hepatitis Virus (MHV) Protease nsp5

Sean Callahan  Butler University
Mansi Pandya  Butler University
Benjamin Nick  Butler University
Megan Franke  Butler University
Emily Hasik  Butler University
Faculty Sponsor: Christopher Stobart  Butler University

9:45 AM — Multiplex PCR-Based Assay for Species Identification of Environmental Strains of Pseudomonas

Jasmine Valentine  Midway University
Faculty Sponsor: Cynthia Ryder  Midway University
9:00 AM — Comparing the Abundance of Vertebrate Species in Honeysuckle-present and Honeysuckle-absent Habitats in SW Ohio in Order to Better Understand the Ecological Impact of Honeysuckle Removal

Arcadia Davies *Miami University of Ohio*
Megan Brown *Miami University of Ohio*
Kevin Little *Miami University of Ohio*
Faculty Sponsors: Hays Cummins *Miami University of Ohio*
Donna McCollum *Miami University of Ohio*

9:15 AM — Factors Influencing Mammalian Activity in an Urban Campus Environment

Jacob Reeves *Butler University*
Faculty Sponsors: Julia Angstmann *Butler University*
Travis Ryan *Butler University*
Carmen Salsbury *Butler University*

9:30 AM — Habitat Prevalence of Migrating Northern Saw-whet Owls in Delaware and Henry Counties Indiana: Preliminary Results

Kaitlin Gavenda *Ball State University*
Clayton Delancey *Ball State University*
Faculty Sponsor: Kamal Islam *Ball State University*

9:45 AM — Optimization of Camera Trapping Methods for Surveying Mesopredators in the Appalachian Foothills

Courtney Hayes *Eastern Kentucky University*
Faculty Sponsors: Luke Dodd *Eastern Kentucky University*
Kelly Watson *Eastern Kentucky University*
PLANT EVOLUTIONARY BIOLOGY & COMMUNITY ECOLOGY

Moderator: Andrew Stoehr

9:00 AM — Phylogenetic Analysis of Ophioglossaceae Utilizing Low-Copy Nuclear Genes
Katie Nichols Denison University
Elizabeth Plakseychuk Denison University
Faculty Sponsor: Warren Hauk Denison University

9:15 AM — Community Change in an Eastern Indiana Forest Following Removal of an Invasive Shrub
Lonicera maackii (Family: Caprifoliaceae)
Emma Johnson Earlham College
Brady Bubb Earlham College
Tung Phung Earlham College
Faculty Sponsor: Brent Smith Earlham College

9:30 AM — Impact of Soil Quality and Population Density on Growth and Survivorship of Prunus serotina
(Black Cherry) Trees
Rachel Riggs Earlham College
Castilleja Olmsted Earlham College
Faculty Sponsor: Brent Smith Earlham College

9:45 AM — Invasibility of Differing Successional Stages of East-Central Indiana Forests by East Asian Shrubs
Molly Rannebarger Earlham College
Caroline Wolfe-Merritt Earlham College
Anna Carlson Earlham College
Faculty Sponsor: Brent Smith Earlham College

ANTIMICROBIAL & PESTICIDE RESPONSES

Moderator: Chris Stobart

10:30 AM — Effects of Clothianidin on Acontia Retraction Rates of Sea Anemones (Exaiptasia pallida)
Kaitelyn Vachon University of Saint Francis
Faculty Sponsor: Andrea Geyer University of Saint Francis

10:45 AM — Identification of Dermatophilus congolensis from Colony Morphology Variants Resulting from Antimicrobial Pressures
Maggie Melton Midway University
Faculty Sponsor: Cynthia Ryder Midway University

11:00 AM — The Effects of Clothianidin on Sea Anemone Defense Mechanisms
Sami Kugler University of Saint Francis
Whitney Schlie University of Saint Francis
Starr Compton University of Saint Francis
Faculty Sponsor: Andrea Geyer University of Saint Francis

11:15 AM — Evaluation of a Panel of Recombinant Respiratory Syncytial Virus (RSV) Strains to Antimicrobial Peptide Inactivation
Caitlin Haas Butler University
Katelyn Castiglia Butler University
Karina Latso Butler University
Nathan Junod Butler University
Faculty Sponsor: Christopher Stobart Butler University
**10:30 AM – 11:45 AM**  
**BIOLOGY 5**  
**Gallahue Hall 102**

**POPULATION ECOLOGY:**  
**CASTE DETERMINATION FEEDING & NEST BUILDING**

Moderator: **Carmen Salsbury**

10:30 AM — Role of Nature and Nurture for Caste Determination in *Pogonomyrmex barbatus*

**Swati Pant**  
*Earlham College*

**Tung Phung**  
*Earlham College*

Faculty Sponsor: **Chris Smith**  
*Earlham College*

10:45 AM — Optimal Feeding Diet and Rate of the Ant Species *Lasius neoniger*

**Harald Mumma**  
*Earlham College*

**Sebastian Slavinskas**  
*Earlham College*

Faculty Sponsor: **Chris Smith**  
*Earlham College*

11:00 AM — Identity and Characteristics of Feathers Used in Tree Swallow Nest Lining Across Habitat Types

**Lilly Hartman**  
*Earlham College*

**Caroline Wolfe-Merritt**  
*Earlham College*

**Brenna Hellman**  
*Earlham College*

**Evelyn Barragan**  
*Earlham College*

Faculty Sponsors: **Wendy Tori**  
*Earlham College*

**Adriana Rodriguez-Ferraro**  
*Universidad Simón Bolívar*

**10:30 AM – 11:45 AM**  
**BIOLOGY 6**  
**Gallahue Hall 105**

**CELL SIGNALING**

Moderator: **Lindsay Lewellyn**

10:30 AM — Investigation of the FSHR-1 Receptor as a Potential Substrate of the Anaphase Promoting Complex at the *C. elegans* Neuromuscular Junction

**David Emch**  
*Butler University*

**Kyle Cherry**  
*Butler University*

**Amy Godfrey**  
*Butler University*

Faculty Sponsor: **Jennifer Kowalski**  
*Butler University*

10:45 AM — Overexpression of the Adaptor Protein Dreadlocks (Dock) during *Drosophila oogenesis*

**Kara Stark**  
*Butler University*

Faculty Sponsor: **Lindsay Lewellyn**  
*Butler University*

11:00 AM — Total Antioxidant Level of Individual Foods vs. Combinations of Food and the Effect on Apoptotic Induction in HeLa Cells

**Natalie Van Ochten**  
*Butler University*

Faculty Sponsor: **Philip Villani**  
*Butler University*
MICROBIAL ECOLOGY PHENOTYPIC PLASTICITY & CLIMATE CHANGE

Moderator: Sean Berthrong

1:30 PM — The Influence of Single versus Multisex Access on the Local Microflora of Commonly Used Surfaces at Butler University

Salman Qureshi Butler University
Faculty Sponsor: Sean Berthrong Butler University

1:45 PM — Comparing Functional Traits Across Three Genera Across Two Different Types of Soils

Chania Whitaker Earlham College
Faculty Sponsor: Chris Smith Earlham College

2:00 PM — Seasonal Wing Pattern Variation in a Central Indiana Population of the Cabbage White Butterfly (Pieris rapae)

Shelby Swihart Butler University
Anne Krietenstein Butler University
Faculty Sponsor: Andrew Stoehr Butler University

2:15 PM — World is in Danger: Immense Threat of Climate Change

Mohammad Ahsan Habib University
Faculty Sponsor: Shahram Azhar Habib University

10:30 AM – 11:45 AM BUSINESS & ECONOMICS 1 Jordan Hall 172

Moderator: Ronia Hawash

10:30 AM — Japanese Business Culture: A Study on Foreigner Integration and Social Inclusion

Sarah Franklin Eastern Kentucky University
Faculty Sponsor: Yoshie Nakai Eastern Kentucky University

10:45 AM — The Relationship Between Education and Income Inequality in Sub-Saharan Africa

Oluwatosin Okeniyi Anderson University
Faculty Sponsor: Hyeon Joon Shin Anderson University

11:00 AM — Sustainability Practices in Emerging Markets vs. Developed Markets

Samantha Chalmers Butler University
Faculty Sponsor: Marleen McCormick Butler University

11:15 AM — Modelling and Comparing the Forecastability of CPI and PCE Measures of Inflation

John Moeller Indiana University-Purdue University Fort Wayne
Faculty Sponsor: Heather Tierney Indiana University-Purdue University Fort Wayne
1:30 PM – 2:45 PM

BUSINESS & ECONOMICS 2

Jordan Hall 172

Moderator: Bryan Foltice

1:30 PM — Costly Curves: How Human-Like Spending Can Increase Spending

Krista Baker Anderson University
Faculty Sponsor: Michael Bruce Anderson University

1:45 PM — Advertising Appeals and Willingness to Pay for a Music Streaming Service

Katharine Baird Butler University
Faculty Sponsor: Margaret Padgett Butler University

2:00 PM — The Impact of College Internships on the Development of Tacit Managerial Knowledge and Career Confidence

Kaitlyn Sawin Butler University
Faculty Sponsor: Margaret Padgett Butler University

9:00 AM – 10:15 AM

CHEMISTRY 1

Gallahue Hall 108

SYNTHETIC & MECHANISMS I

Moderator: Carl DeAmicis

9:00 AM — “How to Stain your Research Advisor's Lab” - A Memoire by Juliet

Ben Dawson Butler University
Faculty Sponsor: Anne Wilson Butler University

9:15 AM — Proton-Initiated Cobalt-Catalyzed Hydrogenation of Alkenes

Cody Davison Indiana University-Purdue University Fort Wayne
Jerod Kieser Indiana University-Purdue University Fort Wayne
Jason Shearer University of Nevada-Reno
Cameron Griffiths Indiana University-Purdue University Fort Wayne
Faculty Sponsor: Donald Linn Indiana University-Purdue University Fort Wayne

9:30 AM — A Study of Sulfur and Selenium Containing Antioxidants Using ITC and Absorption Spectroscopy

Ezra Brunner Rose-Hulman Institute of Technology
Faculty Sponsor: Daniel Morris Rose-Hulman Institute of Technology

9:45 AM — Stereochemical Control via a 13-dithiane Group: Auxiliary Performance and Removal

Maegen Kincanon University of Evansville
Faculty Sponsor: Michael Slade University of Evansville
SYNTHETIC & MECHANISMS II

Moderator: Adam Azman

10:30 AM — Ferric Gum Photography: The Role of Ferric Ions in Crosslinking Through the Process of Carboxylate Complexation

Jón Buldt Indiana University-Purdue University Fort Wayne
Faculty Sponsor: Michael Columbia Indiana University-Purdue University Fort Wayne

10:45 AM — It’s Do or Dye; Synthesis of Triarylmethane Dyes

Noah Cross Butler University
Faculty Sponsor: Anne Wilson Butler University

11:00 AM — Inhibition of Metal-Mediated Oxidative DNA Damage: Probing a Potential Metal Coordination Mechanism through Isothermal Titration Calorimetry and Raman Spectroscopy

Stephen Koos Rose-Hulman Institute of Technology
Faculty Sponsor: Daniel Morris Rose-Hulman Institute of Technology

APPLIED CHEMICAL RESEARCH

Moderator: Laura Herder

1:30 PM — Biomass as Feedstock for Biofuel

Rachel Shubella Rose-Hulman Institute of Technology
Faculty Sponsor: Daniel Morris Rose-Hulman Institute of Technology

1:45 PM — Daily Student Engagement with Text Messages in General Chemistry

Abigail Johnson Indiana Wesleyan University
Faculty Sponsors: Christopher Devers Indiana Wesleyan University
Stephen Leonard Indiana Wesleyan University
Erin Devers Indiana Wesleyan University
Steven Tripp Indiana Wesleyan University
Jolie Leonard Indiana Wesleyan University

2:00 PM — Using GC-EGA to Analyze Nicotine N-oxide in Order to Explain Low Nicotine Concentrations in E-cigarette Liquids

Cory Wuerch Butler University
Faculty Sponsor: Anne Wilson Butler University
9:00 AM – 10:15 AM  CLASSICAL STUDIES 1  Jordan Hall 216

**ETHOS, PATHOS, & LOGOS**

Moderator: Lynne Kvapil

9:00 AM — Christian Service in the Context of the Ancient World

**Oise Omoijuanfo**  
_Xavier University_  
Faculty Sponsor: **Thomas Strunk**  
_Xavier University_

9:15 AM — Pindar and PEDs: How Cultures of Shame differ from the Ancient Olympic Athlete to the Modern Professional Athlete

**Patrick McGuire**  
_Xavier University_  
Faculty Sponsor: **Thomas Strunk**  
_Xavier University_

9:30 AM — Piecing Together Roman Life and Art: The Impact of Societal Changes on Developments in Roman Mosaics

**Emily Lewis**  
_Xavier University_  
Faculty Sponsors: **Shannon Hogue**  
_Xavier University_  
**Thomas Strunk**  
_Xavier University_  
**Kelly Blank**  
_Xavier University_  
**Suzanne Chouteau**  
_Xavier University_

9:45 AM — Liberal Arts Education: From Roman Roots to Contemporary Education

**Courtney Garside**  
_Xavier University_  
Faculty Sponsor: **Thomas Strunk**  
_Xavier University_

10:30 AM – 11:45 AM  CLASSICAL STUDIES 2  Jordan Hall 216

**CLASSIX: CONFLICTING NARRATIVES AND NARRATIVES IN CONFLICT**

Moderator: Lynne Kvapil

10:30 AM — An Epic Woman’s Place in Politics: Understanding the _Aeneid_’s Political Context through its Female Characters

**Allie Hartman**  
_Ball State University_  
Faculty Sponsors: **Christine Shea**  
_Ball State University_  
**Richard King**  
_Ball State University_

10:45 AM — Ovid’s Rhea Silvia: A Voice for Women

**Jennifer Schmitz**  
_Xavier University_  
Faculty Sponsor: **Jay Arns**  
_Xavier University_

11:00 AM — Persecution of Christ and Dionysus Worshipers by Roman Authorities: Who and Why?

**Shawn Gaskill**  
_Ball State University_  
Faculty Sponsor: **Christine Shea**  
_Ball State University_

11:15 AM — Cassandra and Antigone in Attic Tragedy

**Brian Long**  
_Xavier University_  
Faculty Sponsor: **Thomas Strunk**  
_Xavier University_
CONFlict, Communication, & Political Implications

Moderator: Allison Harthcock

9:00 AM — Louder Does Not Mean Better

Katie Smith Butler University
Alex Sparks Butler University
Faculty Sponsor: Allison Harthcock Butler University

9:15 AM — Cultural Unrest: The First Amendment in Action on College Campuses

Abigail Phinney Grace College
Faculty Sponsor: Paulette Sauders Grace College

9:30 AM — Environmental Organizations’ Litigation Communication in the Polarized US Political Landscape

Rachel Anderle Butler University
Faculty Sponsor: Abbey Levenshus Butler University

9:45 AM — The Film in Conflict: War Cinema and the Changing Nature of Authenticity

Nicholas Oakes Indiana University-Purdue University Indianapolis
Faculty Sponsors: Sherra Schick Indiana University-Purdue University Indianapolis
Dennis Bingham Indiana University-Purdue University Indianapolis

10:00 AM — A Comprehensive Evaluation of an Organization’s Communication Practices

Kayla Quattrocki Purdue University Northwest
Shawn Sullivan Purdue University Northwest
Cassie Obinger Purdue University Northwest
Jamie Rex Purdue University Northwest
Faculty Sponsor: Deanna Francoeur-Schmidt Purdue University Northwest
COMMUNICATION & IDENTITY

Moderator: **Allison Harthcock**

10:30 AM — The Portrayal of Feminist Ideals in the Media

**Lauren Merk** *Butler University*
Faculty Sponsor: **Irene Van Driel** *Butler University*

10:45 AM — Battle of the Sexes: Examining the Wage Gap Between Genders

**Julia Walton** *Huntington University*
Faculty Sponsor: **Mike Rowley** *Huntington University*

11:00 AM — Beyond the Letters: Collecting the Stories of People in the LGBTQ+ Community

**Basil Strock** *Butler University*
Faculty Sponsors: **Scott Bridge** *Butler University*  
**Dacia Charlesworth** *Butler University*

11:15 AM — Archaeology Media

**Anna Ahrens** *University of Evansville*
Faculty Sponsor: **Jennie Ebeling** *University of Evansville*

11:30 AM — The Utility of Graphics Containing Statistics in NCAA Championship Broadcasts

**Brent Hesse** *Ball State University*
Faculty Sponsor: **Adam Kuban** *Ball State University*

MUSIC, ROMANCE, & SOCIAL MEDIA

Moderator: **Allison Harthcock**

1:30 PM — Impact of Music On Information Retention

**Jordan Hersey** *Huntington University*
Faculty Sponsor: **Michael Rowley** *Huntington University*

1:45 PM — In Romantic Relationships: Who Knows Whom Best?

**Autumn DeMott** *Huntington University*
Faculty Sponsor: **Mike Rowley** *Huntington University*

2:00 PM — Self-Promotion and Social Media: The Relationship Between Narcissism and Selfies

**Chelsea Tyler** *Huntington University*
Faculty Sponsor: **Mike Rowley** *Huntington University*

2:15 PM — The Association Between Facebook Use, Uncertainty Reduction, and Facebook Jealousy in a Romantic Relationship

**Amy Mattson** *Hanover College*
Faculty Sponsor: **Valerie Young** *Hanover College*
COMMUNICATION SCIENCES & DISORDERS
Jordan Hall 238

Moderator: Tonya Bergeson-Dana

9:00 AM — Perception of Emotion in Music in Adults with Cochlear Implants
Delainey Spragg Butler University
Faculty Sponsors: Tonya Bergeson-Dana Butler University
Charles Yates Indiana University-Purdue University Indianapolis

9:15 AM — The Effect of Music Syntax Therapy on Speech Production in People with Aphasia
Brandi Kordes Butler University
Faculty Sponsor: Tonya Bergeson-Dana Butler University

9:30 AM — The Show Goes On! Should it? Concussion, Dancers, and Making an Informed Decision
Shelby Miller Butler University
Lauren Koester Butler University
Faculty Sponsor: Ann Bilodeau Butler University

9:45 AM — The Influence of Gesture on Recollection and Description of Auditory and Visual Stimuli
Mary Kate Richards Butler University
Faculty Sponsor: Tonya Bergeson-Dana Butler University

DIGITAL HUMANITITES
Jordan Hall 276

Digital Media Projects: Freedom & Movement
Moderator: Amanda Starkel

9:00 AM — Freedom and Movement in the Age of Social Media: A Study of #BlackLivesMatter
Khayleia Foy Butler University
Makiah Harper Butler University
Faculty Sponsor: Robin Turner Butler University

9:15 AM — Freedom and Movement through the Evolution of Slavery
Gwendolyn Spencer Butler University
Jade Jochem Butler University
Emma Schneir Butler University
Peter Reilly Butler University
Faculty Sponsor: Lee Garver Butler University

9:30 AM — Indigenous Peoples’ Freedoms
Allie Pence Butler University
Faculty Sponsor: Robin Turner Butler University

9:45 AM — The Haitian Revolution
Jessica Stein Butler University
Kelsey Davis Butler University
Andrew Hesterhagen Butler University
Christian Gonzalez Butler University
Josh Mullenix Butler University
Faculty Sponsor: Robin Turner Butler University
10:30 AM – 11:45 AM  DIGITAL HUMANITIES  Jordan Hall 276

**MEDIA TECHNOLOGY & GLOBAL STUDIES**

Moderator: **Amanda Starkel**

10:30 AM — A Map to Somewhere: Murakami’s Colorful Inspiration and Colorless Character  
*Audrey Davenport Butler University*  
Faculty Sponsor: **Farhad Anwarzai Butler University**

10:45 AM — Of Barakah and Balance  
*Leah Hashagen Butler University*  
Faculty Sponsor: **Farhad Anwarzai Butler University**

11:00 AM — Utilizing Technology to Explore Chinese Medicine and Healthcare  
*Abby Schabel Butler University*  
*Brittany Head Butler University*  
*Rachel Sickley Butler University*  
*Ellie Vanderpohl Butler University*  
Faculty Sponsor: **Jim Keating Butler University**

11:15 AM — Wait! What Is Digital Storytelling and Why Bother with IT?  
*Dylan Goodman Butler University*  
*Andrew Jones Butler University*  
*Ellen Ward Butler University*  
Faculty Sponsor: **Megan Grady-Rutledge Butler University**

9:00 AM – 10:15 AM  EDUCATION 1  Jordan Hall 174

Moderator: **Susan Adams**

9:00 AM — Close Reading, Historical Thinking, and Text-Based Writing Using Secondary Sources  
*Rachel Snyder Eastern Illinois University*  
Faculty Sponsor: **John Bickford Eastern Illinois University**

9:15 AM — Around the World in 180 Days: A Case for Translated Works in the Classroom  
*Brooke Foote Grace College*  
Faculty Sponsor: **Paulette Saunders Grace College**

9:30 AM — Governmental Funding of K-12 Arts Programs  
*Elizabeth Abbick Butler University*  
Faculty Sponsor: **Derek Reid Butler University**

9:45 AM — Legend Lost: Exploring Mathematical Concepts Through Gaming  
*Zach Wild Indiana Wesleyan University*  
*Dylan Stai Indiana Wesleyan University*  
*Ethan Richards Indiana Wesleyan University*  
Faculty Sponsors: **Joe Hoffert Indiana Wesleyan University**  
**Chris Devers Indiana Wesleyan University**

10:00 AM — Medical Visualization Applied to Anthropologic Education  
*Arielle Payne Indiana University-Purdue University Indianapolis*  
Faculty Sponsor: **Jeremy Wilson Indiana University-Purdue University Indianapolis**
10:30 AM – 11:45 AM  EDUCA TION 2  Jordan Hall 174

Moderator: Susan Adams

10:30 AM — Evaluating the Quality of Peer-generated Artefacts when Using Web20 Computer-supported Collaborative Communities in Large Enrollment Freshman Chemistry Courses

Yanying Chen Purdue University West Lafayette
Faculty Sponsors: George Bodner Purdue University West Lafayette
Christopher Randles Purdue University West Lafayette

10:45 AM — Understanding the ‘Quality’ of Peer-to-peer Computer-supported Collaborative Communities in Undergraduate Science Students Studying Freshman Chemistry

Holly Riggle Purdue University West Lafayette
Faculty Sponsors: George Bodner Purdue University West Lafayette
Chris Randles Purdue University West Lafayette

11:00 AM — Young New Hoosier: Refugee Students in Indy Classrooms

Grace Albertson Marian University
Faculty Sponsor: Pierre Atlas Marian University

11:15 AM — What is Fair? Case Study and Analysis of Second Language Acquisition and Assessment

Hannah Turk Illinois College
Faculty Sponsors: Steven Gardner Illinois College
Diana Grullon-Garcia Illinois College
Amy Schwiderski Illinois College

9:00 AM – 10:15 AM  ENGLISH LITERATURE & CREATIVE WRITING 1  Jordan Hall 303

Moderator: Susan Neville

9:00 AM — American Literary Naturalism in H. P. Lovecraft

Brett DeWitt Butler University
Faculty Sponsor: Brynnar Swenson Butler University

9:15 AM — Narrators of Change: A Contemporary Study of Patrisse Kahn-Cullors, Malala Yousafazai, and Emma Watson

Evan Davis Butler University
Faculty Sponsor: Brynnar Swenson Butler University

9:30 AM — On Fungi Future and Feminism: An Ecofeminist Analysis of M. R. Carey’s “The Girl with All the Gifts”

Leah Heim Ball State University
Faculty Sponsor: Adam Beach Ball State University

9:45 AM — Through Their Eyes: Exploring Severe Mental Illness through Short Stories

Emily Adkins Eastern Kentucky University
Faculty Sponsor: Carter Sickels Eastern Kentucky University
Horrors of Many Stripes

Moderator: J. Rocky Colavito

9:00 AM — Characterizing Evil through Physical Transformation in Milton’s and Lewis’ Fiction

  Olivia Richardson Houghton College
  Faculty Sponsor: Laurie Dashnau Houghton College

9:15 AM — Inherited Consequences: The Effects of the War on Bosnian Young People Born after the War

  Brooke Regier Purdue University Northwest
  Faculty Sponsor: Heather Fielding Purdue University Northwest

9:30 AM — Killing the Youth Battle Royale and the Politics of Generational Warfare

  Heather Atkins Butler University
  Faculty Sponsor: Elise Edwards Butler University

9:45 AM — Speaking about the Unspeakable: Sexual Violence in Young Adult Literature

  Lydia Gard Grace College
  Faculty Sponsor: Paulette Sauders Grace College

Ecocritical Interrogations

Moderator: J. Rocky Colavito

10:30 AM — The Digital Literature Review

  Leah Heim Ball State University
  Bailey Shrewsbury Ball State University
  Katie Garrett Ball State University
  Audrey Bowers Ball State University
  Faculty Sponsor: Adam Beach Ball State University

10:45 AM — The Dystopian Novel and Human Nature

  Sarah Madden Houghton College
  Faculty Sponsor: Laurie Dashnau Houghton College

11:00 AM — The Evolution of Membership: Community and Ecology in Wendell Berry and Barbara Kingsolver

  Sarah Vande Brake Houghton College
  Faculty Sponsor: Laurie Dashnau Houghton College
POTPOURRI: BRITISH LITERATURE & CRITICAL THEORY

Moderator: J. Rocky Colavito

1:30 PM — Narrative Technique in the Works of the Pearl Poet

Karl Agger Butler University
Faculty Sponsor: William Watts Butler University

1:45 PM — Praxis of the Theory of Poetry as Philosophy

Max Bruns Xavier University
Faculty Sponsor: Thomas Strunk Xavier University

2:00 PM — The Taylor MacDonald Hamlet Manuscript: A Project of Descriptive and Interpretive Bibliographic Scholarship

Kendra Smalley Taylor University
Kaylen Dwyer Taylor University
Faculty Sponsors: Joe Ricke Taylor University
Ashley Chu Taylor University

AMERICAN LITERATURE

Moderator: J. Rocky Colavito

3:00 PM — Anxiously Awaiting: Exploring the Stigma Surrounding Mental Illness in Rural America through a Fiction Novella

Alex Bartlow Butler University
Faculty Sponsor: James Keating Butler University

3:15 PM — Whirling Atoms: Continuity and Distortion in Edith Wharton’s Fiction

Rachel Zimmerman Houghton College
Faculty Sponsor: Laurie Dashnau Houghton College

3:30 PM — “A Wooden Part of Her Soul”: Disability in Flannery O’Connor’s Short Stories

Stuart Mullet Grace College
Faculty Sponsor: Paulette Sauders Grace College

3:45 PM — “While the imagination strains / after deer”: William Carlos Williams’ Interrogations of the American Transcendental Imagination and the Proto-Suburban Scene

Tyler Wagner Butler University
Faculty Sponsor: Brynnar Swenson Butler University
MEANING & IDENTITY IN THE PURSUIT OF HISTORY

Moderator: Zachary Scarlett

9:00 AM — Digital Learning: Late 20th Century China

Michael Higgins Butler University
Cole Bridges Butler University
Ethan Urbanski Butler University
Josh Ford Butler University
Faculty Sponsor: Jim Keating Butler University

9:15 AM — Palestinians Betrayed? The Promises and Failures of the Oslo Accords

Robert Filis Franklin College
Faculty Sponsor: Richard Gawthrop Franklin College

9:30 AM — Finding Meaning in the Lack Thereof: An Analysis of Nietzsche’s and Sartre’s Responses to the Problem of Existential Nihilism

Daniel Hassall Eastern Kentucky University
Faculty Sponsor: David Coleman Eastern Kentucky University

9:45 AM — Establishing America’s Capital: The Early Struggles of Washington D.C.

Kyle Sauley Franklin College
Faculty Sponsor: Richard Gawthrop Franklin College

IDENTITY POLITICS & POWER IN HISTORY

Moderator: Vivian Deno

9:00 AM — Blazing Skies to German Ties: An Analysis of Ethnic Enclaves in Milwaukee, 1860-1900

Morgan Linzmeier Butler University
Faculty Sponsor: Vivian Deno Butler University


Nicole Mortland Taylor University
Faculty Sponsor: Steve Messer Taylor University

9:30 AM — From Fetish to Fashion: Using Style as a Commodity in 19th Century Britain

Rebecca Schmiegel Butler University
Faculty Sponsor: Vivian Deno Butler University

9:45 AM — Women at the Helm: Rewriting Maritime History through Female Pirate Identity and Agency

Wendy Vencel Butler University
Faculty Sponsor: Vivian Deno Butler University
BRITAIN: FROM THE IMPERIAL TO THE DOMESTIC REALM

Moderator: John Ramsbottom

10:30 AM — British Rule in India Following the Rebellion of 1857
Erin Wallace Murray State University
Faculty Sponsor: Kathy Callahan Murray State University

10:45 AM — George Keith, John Talbot, and the Imperial Origins of American Anglicanism
Jack Lee Murray State University
Faculty Sponsor: James Humphreys Murray State University

11:00 AM — The Boston Press on the Road to Revolution
Rachel Pfeiffer Taylor University
Faculty Sponsor: Steve Messer Taylor University

Shrinath Suresh Xavier University
Faculty Sponsor: Amy Whipple Xavier University

WAR AND ITS AFTERMATH: THINKING THROUGH THE SOCIO-POLITICAL IMPACTS OF WAR

Moderator: Antwain Hunter

1:30 PM — “We don’t shoot people” – Internal and External Conflicts Faced by Virginia Anabaptists during the Civil War
Megan Ulrich Butler University
Faculty Sponsor: Antwain Hunter Butler University

1:45 PM — A Call for Stability: The Scrutiny of Social Roles amid Absolute War on the Western Border of Missouri during the Civil War
Grant Harris Butler University
Faculty Sponsor: Vivian Deno Butler University

2:00 PM — Saving Corporal Gresham: An Examination of World War I Hoosier Memorial Culture
Nathaniel Hall Butler University
Faculty Sponsor: Vivian Deno Butler University

2:15 PM — ‘230 in Chicago Pullman Strike Ignore Plea to Return’ An Examination of African American Workers during World War II
Sam Nyren Butler University
Faculty Sponsor: Vivian Deno Butler University
WRESTLING THE ARCHIVE PURSUING HISTORY

Moderator: Vivian Deno

3:00 PM — Political and Social Context of Greek Hero Cults

Colleen Cramer Taylor University
Faculty Sponsor: Kevin Johnson Taylor University

3:15 PM — A Cakewalk Through History: The Evolution of Cake and its Identity in America

Rachel Overby Butler University
Faculty Sponsor: Jason Lantzer Butler University

3:30 PM — “Not Free Merely but Gaelic as Well”: Irish-Gaelic Language and its Influence on Nationalism in the West Coast Gaeltacht of Connemara, 1880-1930

Eileen Hogan Butler University
Faculty Sponsor: Vivian Deno Butler University

3:45 PM — ‘The Only Decision They Could Afford to Make’: The International Red Cross’ Reflection on Neutrality During the World Wars

Maria Rapisarda Butler University
Faculty Sponsor: John Ramsbottom Butler University

9:00 AM – 10:15 AM INTERNATIONAL STUDIES

Moderator: Eloise Sureau-Hale

9:00 AM — Divided Identities in Spain – Catalonia Case Study

Mary Kate Richards Butler University
Faculty Sponsor: Elisa Lucchi-Riester Butler University

9:15 AM — The Decision to Use Torture and the Lasting Impact

Alexis Foster Illinois College
Faculty Sponsors: Devin Bryson Illinois College
Steven Gardner Illinois College

9:30 AM — The Kurdish Question

Megan Hines Marquette University
Faculty Sponsor: Barrett McCormick Marquette University
A MATHEMATICAL ANALYSIS OF REAL WORLD SITUATIONS:
FROM SALARIES TO LIQUOR CABINETS

Moderator: Amber Russell

10:30 AM — Investigation of Generalized Linear Mixed Models with Application to Salary Prediction
Abigale Wynn Butler University
Faculty Sponsor: Rasitha Jayasekare Butler University

10:45 AM — A Mathematical Study of the Chemical Fingerprints of Bourbon and Other Liquors
Abby Stadtmiller Thomas More College
Faculty Sponsor: Jyoti Saraswat Thomas More College

11:00 AM — Investigating Human Cremated Remains using Principal Component Analysis
Christina Farwick Thomas More College
Faculty Sponsors: Jyoti Saraswat Thomas More College
William Wetzel Thomas More College

MATHEMATICS & COMPUTER SCIENCE: FROM MATRICES TO MOBILE APPS

Moderator: Amber Russell

1:30 PM — A Comparison of Trace and Spectra of Dephased Hadamard Matrices
Bailey Bond Butler University
Faculty Sponsor: John Herr Butler University

1:45 PM — The Necessary and Sufficient Conditions to Form a Hadamard Submatrix from a Fourier Matrix
Alex Glickfield Butler University
Faculty Sponsor: John Herr Butler University

2:00 PM — Perfect Difference Sets
Rachel Burke Butler University
Faculty Sponsors: Ankur Gupta Butler University
Jonathan Webster Butler University

2:15 PM — http2fs: Designing HTTP/2 on Plan 9 from Bell Labs
Adam Kessler Butler University
Faculty Sponsor: Ankur Gupta Butler University

2:30 PM — GuideDawg 2.0: An Improved Mobile Application for the Visually Impaired
Adam Kessler Butler University
Faculty Sponsor: Panos Linos Butler University
Moderator: Terri Carney

9:00 AM — La Jerarquía en la Niebla

Hannah Alte Franklin College
Faculty Sponsor: Sarah Colburn-Alsop Franklin College

9:15 AM — La Realidad contra la Fantasia

Aubrey Stomberg Indiana University East
Faculty Sponsor: Dianne Moneypenny Indiana University East

9:30 AM — Ruben Dario el Padre de Modernismo

Serenity Dzubay Butler University
Faculty Sponsor: Terri Carney Butler University

9:45 AM — The Life and Death of Julia de Burgos Characterized by Social Injustice
(La Vida y la Muerte de Julia de Burgos caracterizadas por la Injusticia Social)

Clay Schnell Butler University
Faculty Sponsor: Terri Carney Butler University

10:30 AM — La Nina de Sus Ojos y la Mestizaje

Samuel Burck Franklin College
Faculty Sponsor: Agueda Mayan Franklin College

10:45 AM — Mixing Colors: Race in Latin American Literature

Aliyah McCorkle University of Indianapolis
Faculty Sponsor: Eduard Arriaga University of Indianapolis

11:00 AM — Gabriela Mistral’s Poetic Influence on Education

Thomas Roers Butler University
Faculty Sponsor: Terri Carney Butler University

11:15 AM — The Dawn Was Consumed: The Ambiguous Morality of War as Examined Through
Pablo Neruda’s “Oda al Atomo”

Megan Ulrich Butler University
Faculty Sponsor: Terri Carney Butler University
Moderator: **Linda Willem**

1:30 PM — La Sociedad Cambiante: Las Obras Dramáticas de Paloma Pedrero que Reflejan en la Época del Franquismo

**Jacob Covert** *Wabash College*
Faculty Sponsor: **Ivette Wilson** *Wabash College*

1:45 PM — Mágica sin Explicación: Modo Literario y “El ahogado más Hermoso del Mundo”

**Taylor Heideman** *Franklin College*
Faculty Sponsor: **Agueda Mayan** *Franklin College*

2:00 PM — The Siege of Baler in *Ministerio del Tiempo* and *Los Ultimos de Filipinas*

**Mary Clare Wall** *Butler University*
Faculty Sponsor: **Linda Willem** *Butler University*

2:15 PM — Time Heals All Wounds: The Evolution of Medicine as Depicted in the Spanish TV series *Ministerio del Tiempo*

**Mallory Carter** *Butler University*
Faculty Sponsor: **Linda Willem** *Butler University*

3:00 PM — Topoemas: Contradictory Constellations New Semantic Seeds

**Colin Rinne** *Wabash College*
Faculty Sponsor: **Ivette Wilson** *Wabash College*

3:15 PM — Feminism in Latin American Science Fiction

**Belinda Correa** *Bridgewater College*
Faculty Sponsor: **Grace Martin** *Bridgewater College*

3:30 PM — Willkommen in Deutschland: German Punk as Vergangenheitsbewältigung

**Marissa Schoedel** *Butler University*
Faculty Sponsor: **Clare Carrasco** *Butler University*

3:45 PM — Remembering the Forgotten Women: The *El Ministerio del Tiempo* episode “Separadas por el tiempo”

**Emily Kenworthy** *Butler University*
Faculty Sponsor: **Linda Willem** *Butler University*
9:00 AM – 10:15 AM  MUSIC 1  Lilly Hall 112

ISSUES IN 20TH & 21ST CENTURY MUSIC

Moderator: Clare Carrasco

9:00 AM — The Correlation of Classical Jazz and Pop Music to a Reduction of Dental Anxiety Experienced by Adult Patients

Heather Wright Butler University
Faculty Sponsor: Andrew Farina Butler University

9:15 AM — Evil in Music: Schnittke’s Fourth Violin Concerto

Loren Baumberger Anderson University
Faculty Sponsor: Christopher Holmes Anderson University

10:30 AM – 11:45 AM  MUSIC 2  Lilly Hall 112

FORM & GESTURE IN MUSIC

Moderator: Andrew Farina

10:30 AM — A Saxy Sonata: The Form of the ‘Allegro’ of Lawson Lunde’s Sonata for Alto Saxophone

Reagan Ringvelski Butler University
Faculty Sponsor: Andrew Farina Butler University

10:45 AM — Applebaum’s Representation of Aphasias: Sound Gesture and Musical Organization as Neural Mechanisms

Valerie Lines Butler University
Faculty Sponsor: Andrew Farina Butler University

11:00 AM — Motivic Development through Metric and Graphic Notation in Stockhausen’s Klavierstücke

Jackson Holler Butler University
Faculty Sponsor: Nicholas Johnson Butler University

11:15 AM — The Acceptance of Equal Temperament in European Music Theory

Natalie Cole Butler University
Faculty Sponsor: Nicholas Johnson Butler University
PHARMACY, HEALTH SCIENCES, & EXERCISE SCIENCE 1
Pharm. & Health Sci. Bldg. 106B

MUSIC, CONTRACEPTION, WEIGHT, & WORKSITES

Moderator: Rebecca Welch

9:00 AM — An Academic Assessment of Student Researchers Participating in Music First
Rebecca Hilton Butler University
Faculty Sponsors: Dane Shiltz Ferris State University
Jane Gervasio Butler University

9:30 AM — Music as Sensory Stimulation
Mikala Poe Hanover College
Faculty Sponsor: Bryant Stamford Hanover College

9:45 AM — Antipsychotic Adverse Reactions in Underweight Patients
Megan Harshman Butler University
Amber Ooley Butler University
Faculty Sponsors: Laura Ruekert Butler University
Shaina Musco Butler University

10:00 AM — Impact of Pharmacist Intervention(s) on Health-Related Outcomes at Worksite Clinics
Nicole Fluegel Butler University
Faculty Sponsor: Alison Walton Butler University

PHARMACY, HEALTH SCIENCES, & EXERCISE SCIENCE 2
Pharm. & Health Sci. Bldg. 212

SPORTS, CNS, & ICU

Moderator: Molly Cripe

9:00 AM — Can You Outsmart the ImPACT Test? A Study of Sandbagging on Baseline Concussion Assessments
Courtney Raab Butler University
Faculty Sponsor: Amy Peak Butler University

9:15 AM — Differential Effects of Foam Rolling Durations on Flexibility and Athletic Performance
Griffin Green Hanover College
Faculty Sponsor: Molly Winke Hanover College

9:30 AM — Evaluation of Stress Ulcer Prophylaxis Practices and Inappropriate Continuation Post-ICU Discharge in Medical ICU Patients
Elena Morales Butler University
Isabella Ruiz Butler University
Faculty Sponsor: Jennifer McCann Butler University

9:45 AM — Correlation Between Initiation or Dose Increase of Central Nervous System Medications and Inpatient Falls
Marilyn Schoenle Butler University
Faculty Sponsors: Lindsay Saum Butler University
Brian Skinner Manchester University
Moderator: Rebecca Welch

10:30 AM — Diagnostic Continuous Glucose Monitoring in Chronic Diabetes Mellitus Patients in a Primary Care Clinic
   Emily Gadzichowski Butler University
   Hira Khan Butler University
   Nida Khan Butler University
   Faculty Sponsor: Jessica Wilhoite Butler University

10:45 AM — Evaluation of Patient Satisfaction following Participation in a Group Diabetes Self-Management Education Program
   Jordan Rauh Butler University
   Elizabeth Davenport Butler University
   Faculty Sponsor: Jessica Wilhoite Butler University

11:00 AM — Are We Making Smart Pumps Smarter?
   Brittany Schaefer Butler University
   Faculty Sponsor: Joseph Jordan Butler University

11:15 AM — Drug Screening Policies and Procedures at Colleges and Schools of Pharmacy
   Emily Hoffman Butler University
   Faculty Sponsor: Trish Devine Butler University

11:30 AM — Adherence of Hormonal Contraception in Female College Students
   Jennifer Clementi Butler University
   Faculty Sponsor: Stephanie Enz Butler University

Moderator: Molly Cripe

10:30 AM — Evaluation of Prasugrel Use When Contraindications are Present on an Inpatient Cardiovascular Surgery Stepdown Unit
   Grace Conroy Butler University
   Faculty Sponsor: Lauren Czosnowski Butler University

10:45 AM — Evaluation of the Treatment of Stenotrophomonas maltophilia in Pediatric Patients Requiring Chronic Respiratory Support
   Sarah Firmani Butler University
   Faculty Sponsor: Emma Tillman Riley Children’s Hospital

11:00 AM — Retrospective Chart Review of Spirometry Utilization in Patients with COPD at Community Health Network
   Dana Eness Butler University
   Haley Smith Butler University
   Faculty Sponsor: Jessica Wilhoite Butler University

11:15 AM — Evaluation of Efficacy and Patient Satisfaction for Smoking Cessation Group Visits
   Lindsey Koch Butler University
   Andrew Gudac Butler University
   Faculty Sponsor: Jessica Wilhoite Butler University
MALNUTRITION, POVERTY, FINANCIAL WELLNESS, & LEARNING WITHOUT BORDERS

Moderator: Anna Gerlach

1:45 PM — Health and Poverty in Marion County
Julie Vaughan Butler University
Faculty Sponsor: Barry King Butler University

2:00 PM — Implications of Student Debt and Financial Wellness: Can Universities Help?
Anne Leighty Butler University
Faculty Sponsor: Angela Ockerman Butler University

2:15 PM — Malnutrition: Sub-Saharan Africa versus the United States of America
Jonas Smith Marian University
Faculty Sponsor: Pierre Atlas Marian University

2:30 PM — Learning Without Borders: A Qualitative Exploration of a Service-learning Collaboration Between Healthcare and Computer Science Students in the Dominican Republic
Courtney Cox Butler University
Sarah Lenahan Butler University
Faculty Sponsor: Trish Devine Butler University

TEMPERATURE, BACTERIA, & TRANSPLANTS

Moderator: Anna Gerlach

3:00 PM — Effects of Temperature on Fine Motor Skills
BayLee Mitchell Hanover College
Faculty Sponsor: Bryant Stamford Hanover College

3:15 PM — Extended versus Intermittent Infusions of Cefepime for the Treatment of Febrile neutropenia
Daniel Przybylski Butler University
Faculty Sponsor: David Reeves Butler University

3:30 PM — Impact of Rapid MecA Testing in Children with Staphylococcus aureus Bacteremia
Emily Drwiega Butler University
Faculty Sponsors: Kristen Nichols Butler University
Chad Knoderer Butler University

3:45 PM — Retrospective Review of Ursodiol Use in a Community Based Hematopoietic Cell Transplant Center
Grace Lewis Butler University
Faculty Sponsor: Chad Knoderer Butler University
Moderator: Xianming Han

9:00 AM — An Exactly Solvable Model for Quantum Resonances: The Friedrichs Model
   Alex Glickfield Butler University
   Faculty Sponsor: Gonzalo Ordonez Butler University

9:15 AM — Construction of an Interferometer for Radio Astronomy
   Benjamin Niederhelman Manchester University
   Faculty Sponsor: Christer Watson Manchester University

9:30 AM — Design and Optimization of a Phantom for Testing Gamma Camera Resolution
   Jacob Beckmann Rose-Hulman Institute of Technology
   Faculty Sponsor: Kosta Popovic Rose-Hulman Institute of Technology

9:45 AM — Maximization of Energy Collection Efficiency of a Solar-Powered Passive Thermosiphonic Hot Water Heater
   Philip Lax University of Evansville
   Ryan DeHoff University of Evansville
   Abdulhasib Aljandali University of Evansville
   Faculty Sponsor: Douglas Stamps University of Evansville

10:30 AM — Analysis of Wear Corrosion on a Mill Scale Filtration System
   Laura Johnson University of Indianapolis
   Faculty Sponsor: MD Rashedul Sarker University of Indianapolis

10:45 AM — Laser Ablation of the Dental Cement by Plasmonic Nanoparticles
   Simon Tsaoussis Rose-Hulman Institute of Technology
   Faculty Sponsor: Renat Letfullin Rose-Hulman Institute of Technology

11:00 AM — Plasmonic Nanoparticles for Sunscreens Design
   John Monarch Rose-Hulman Institute of Technology
   Faculty Sponsor: Renat Letfullin Rose-Hulman Institute of Technology

11:15 AM — Study of The Effects of Multiple Monolayers of Polyvinylidene Fluoride
   Kyle Stewart Marian University
   Faculty Sponsor: Jeffrey Carvell Marian University
INTERNATIONAL POLITICS

Moderator: **Greg Shufeldt**

9:00 AM — The Extent of Nuclear Weapon's Role in Changing Conflict Levels Between India and Pakistan

**Jackson Hughes** *Franklin College*
Faculty Sponsor: **Randall Smith** *Franklin College*

9:15 AM — A Universal Child Income: Implications for Policy Poverty and Child Development

**Ben Cochran** *Messiah College*
Faculty Sponsor: **John Harles** *Messiah College*

9:30 AM — French Colonialism in Cameroon: The Institution of the French Language and its Control Over the Language(s) Politics and Religions of Cameroon

**Rainie Grant** *Butler University*
Faculty Sponsor: **Sylvie Vanbaalen** *Butler University*

9:45 AM — “More Questions and Less Answers”: The American Hostage Dilemma

**Caleb Wakefield** *Butler University*
Faculty Sponsor: **Margaret Brabant** *Butler University*

THEORETICAL & EMPIRICAL PERSPECTIVES ON POLITICS

Moderator: **Margaret Brabant**

10:30 AM — The Cyclical Theory and Public Opinion: Preferential Treatment of Student Collegiate Athletes in Violation of Title IX Policy

**Julia Bartusek** *Butler University*
Faculty Sponsor: **Greg Shufeldt** *Butler University*

10:45 AM — Democracy vs. Liberty: The Telos of Government

**Ryan Yeazell** *Xavier University*
Faculty Sponsor: **Thomas Strunk** *Xavier University*

11:00 AM — PL480 Funding and LDCs Development

**Samantha Gutierrez** *Franklin College*
Faculty Sponsor: **Randall Smith** *Franklin College*

11:15 AM — The Cyber-Bully and the Bully Pulpit: How Changes in the Media Landscape Affect the President

**Kyle Sauley** *Franklin College*
Faculty Sponsor: **Randall Smith** *Franklin College*
MIGRATION & REFUGEE POLITICS IN THE UNITED STATES

Moderator: Robin Turner

1:30 PM — An Analysis of Human Trafficking in the Southeastern United States: Improving Enforcement and Training
   Katherine Wyant Eastern Kentucky University
   Faculty Sponsor: Ryan Baggett Eastern Kentucky University

1:45 PM — The Effects of Othering on Perceptions of Terrorism
   Avery Roe Butler University
   Faculty Sponsor: Greg Shufeldt Butler University

2:00 PM — Factors Effecting American Perceptions of Syrian Refugees
   Matthew Williams Butler University
   Faculty Sponsor: Gregory Shufeldt Butler University

2:15 PM — Public Attitudes and DACA
   Yazmin Rodriguez Butler University
   Faculty Sponsor: Gregory Shufeldt Butler University

9:00 AM – 10:15 AM  POLITICAL SCIENCE 3  Jordan Hall 170

HEALTH & WELLNESS

Moderator: R. Brian Giesler

9:00 AM — Episodic Salutary Experiences: Linking Tranquility and Physical Health
   Hannah Kruger Butler University
   Shelby Eaton Butler University
   Jazmine Bowens Butler University
   Faculty Sponsor: R. Brian Giesler Butler University

9:15 AM — The Challenges of Smoking Cessation
   Hannah Easdon Indiana Wesleyan University
   Madison Graber Indiana Wesleyan University
   Shaley Hartsburg Indiana Wesleyan University
   Faculty Sponsor: Katti Sneed Indiana Wesleyan University

9:30 AM — The Relationship between Trait Mindfulness Psychological Health and Cognition: Mediation by Decentering
   Kaleb Hobgood Wabash College
   Faculty Sponsor: Neil Schmitzer-Torbert Wabash College

9:45 AM — Unheard Voices: A Qualitative Study on Individuals Involved in Circles of Grant County
   Kathryn Regnier Indiana Wesleyan University
   Beth Riley Indiana Wesleyan University
   Miranda Barrett Indiana Wesleyan University
   Faculty Sponsor: Katti Sneed Indiana Wesleyan University
HUMAN & ANIMAL DEVELOPMENT

Moderator: Robert Padgett

9:00 AM — Portrayals of Female Agency in the Media: Effects on Girls’ Sense of Future Self
Sabrina Combs Hanover College
Megan Wilson Hanover College
Faculty Sponsor: Ellen Altermatt Hanover College

9:15 AM — Flashbulb Memory: Shifting the Threshold of Childhood Amnesia
Hillary May Butler University
Jaina Siemienkowicz Butler University
Faculty Sponsor: John Neil Bohannon Butler University

9:30 AM — Selective Allomothering of an African Elephant Adolescent
Julia Machado Butler University
Faculty Sponsor: Robert Dale Butler University

9:45 AM — Thriving Beyond Surviving: An Examination of the Role Support Groups Play in Enhancing Later Cognitive and Social Development of Pediatric Cancer Patients
Mary MacCarthy Butler University
Faculty Sponsor: Robert Padgett Butler University

10:00 AM — What a Difference a Course Makes: Early College Experience Fosters Flexible and Transcendent Self-Identities
Hannah Faccio Butler University
Faculty Sponsor: Robert Padgett Butler University

COGNITIVE AGING & CLINICAL NEUROPSYCHOLOGY

Moderator: Tara Lineweaver

9:00 AM — Analyzing Aphasia Diagnoses Through Patterns of Speech Errors and Neuropsychological Tests
Darien Miller Hanover College
Mallory Fogus Hanover College
Faculty Sponsor: John Krantz Hanover College

9:15 AM — Self-identity in Relation to Autobiographical Memory and Short-term Memory in Alzheimer’s Disease
Darian Beavers Hanover College
Faculty Sponsor: Stephen Dine Young Hanover College

9:30 AM — Is Your Memory “Good?” or “Bad?” The Effect of Item Framing on Accuracy of Memory Self-Reports
Thomas Hermsen Butler University
Emily Flandermeyer Butler University
Shelby Eaton Butler University
Faculty Sponsor: Tara Lineweaver Butler University

9:45 AM — Too Hard to Try Hard: Young and Older Adults’ Memory Strategy Selection
Madelynne Wright Butler University
Faculty Sponsor: Tara Lineweaver Butler University
### PSYCHOLOGY 4

**THINKING, MEDIATION, & CREATIVITY**

**Moderator:** Jennifer Berry

**10:30 AM — Conjugate Lateral Eye Movements: An Examination of Recall Creation and Fabrication**

*Mason Coy* Huntington University  
*Faculty Sponsor:* Michael Rowley Huntington University

**10:45 AM — Understanding the Effects of Meditation on False Memories Using the DRM Paradigm**

*Ben Evans* Butler University  
*Kaelyn Mason* Butler University  
*Olivia Buroker* Butler University  
*Faculty Sponsor:* Amanda Hall Butler University

**11:00 AM — The Impact of Mindfulness on Creativity**

*Laurel Mikalouski* Butler University  
*Sarah Rodenkirch* Butler University  
*Hannah Faccio* Butler University  
*Ruby Valutis* Butler University  
*Kate Wade* Butler University  
*Faculty Sponsor:* R. Brian Giesler Butler University

**11:15 AM — The Influence of Preconceived Notions on Creativity**

*Trent Barnett* Hanover College  
*Faculty Sponsor:* Katherine Knight Tuttle Hanover College

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### PSYCHOLOGY 5

**ACADEMIC SUCCESS**

**Moderator:** Brian Day

**10:30 AM — Instructor vs. Student Gender and Lecture Content Effects on Learning**

*Amanda Wallace* Butler University  
*Kylie McWhirter* Butler University  
*Faculty Sponsor:* John Neil Bohannon Butler University

**10:45 AM — The Relationship Between Maslow's Hierarchy of Needs and Persistence in College**

*Kathleen Morrical* Huntington University  
*Quintin Graves* Huntington University  
*Brant Shelby* Huntington University  
*Faculty Sponsor:* Rebekah Benjamin Huntington University

**11:00 AM — Does Stereotype Threat Help or Hinder College Students with ADHD?**

*Alexandra Gabor* Butler University  
*Matthew Klem* Butler University  
*Faculty Sponsor:* Tara Lineweaver Butler University

**11:15 AM — Do You “Study Smarter?” Teaching Students How to Learn More Effectively**

*Hanna Throgmorton* Butler University  
*Madison Eden* Butler University  
*Faculty Sponsors:* Mandy Hall Butler University  
*Tara Lineweaver* Butler University

**11:30 AM — The Effects of Laptop Use on Neighboring Students in the Classroom**

*Eileen Hogan* Butler University  
*Amanda Rosenfeld* Butler University  
*Faculty Sponsor:* Mandy Hall Butler University
10:30 AM – 11:45 AM

**PSYCHOLOGY 6**

Pharm. & Health Sci. Bldg. 204

**ANXIETY & DEPRESSION**

Moderator: **Joel Martin**

10:30 AM — The Relationship Between Social Media Anxiety and Depression

- Leah Marsh *Huntington University*
- Mason Mills *Huntington University*
- Molly Mitchell *Huntington University*
- Tori Rice *Huntington University*

Faculty Sponsor: **Rebekah Benjamin** *Huntington University*

10:45 AM — Depression and Social Anxiety: Their Relationship to College Satisfaction and the Mediating Role of Loneliness

- Tommaso Girelli *Hanover College*
- Leah Faber *Hanover College*

Faculty Sponsor: **T. William Altermatt** *Hanover College*

11:00 AM — The Effects of Pessimism Anxiety and the Use of Profanity on Gender

- Jessica Vassallo *Hanover College*
- Jessica Reed *Hanover College*

Faculty Sponsor: **John Krantz** *Hanover College*

11:15 AM — The Effects of CBT on Academic Performance for Anxious Students

- Dabney Skutt *Hanover College*
- Morgan Neighbors *Hanover College*

Faculty Sponsor: **Stephen Dine Young** *Hanover College*

1:30 PM – 2:45 PM

**PSYCHOLOGY 7**

Pharm. & Health Sci. Bldg. 103

**MOTIVATION, EMOTION, & SATISFACTION**

Moderator: **R. Brian Giesler**

1:30 PM — A Community Based Participatory Research Approach to Examining Worker Satisfaction at a Local Community Afterschool Program

- Payton Hoover *Hanover College*
- Madeline Elkin *Hanover College*

Faculty Sponsor: **Ellen Altermatt** *Hanover College*

1:45 PM — Too Tired to Care: A Quantitative Study on Shift Length for Direct Care Workers at Residential Treatment Centers and how it relates to Compassion Fatigue and Compassion Satisfaction

- Jessi Cox *Indiana Wesleyan University*
- Erica McKinley *Indiana Wesleyan University*
- Kira Raquet *Indiana Wesleyan University*

Faculty Sponsor: **Katti Sneed** *Indiana Wesleyan University*

2:00 PM — Are the Highly Religious Better at Resisting Temptation?

- Ashley Lane *Butler University*

Faculty Sponsor: **R. Brian Giesler** *Butler University*

2:15 PM — Does Positive Affect Promote Goal Achievement?

- Connor Hubble *Butler University*
- Alex Retter *Butler University*
- Savannah Spears *Butler University*

Faculty Sponsor: **R. Brian Giesler** *Butler University*
SEX, DRUGS, ROCK & ROLL, & VIDEO GAMES

Moderator: Joel Martin

1:30 PM — Attention Seeking Behavior and Drug Use
Liza Cohen Butler University
Faculty Sponsor: Joel Martin Butler University

1:45 PM — Play That Old Time Rock & Roll: The Benefits of Personalized Music for Nursing Home Residents with Dementia
Mikala Lain Butler University
Jenna Groh Butler University
Hannah Bolander Butler University
Sarah Vitelli Butler University
Kendall Ladd Butler University
Heather Johnson Butler University
Faculty Sponsors: Tara Lineweaver Butler University
Tim Brimmer Butler University

2:00 PM — Personality Predictors and Hypersexuality in College Women
Ana Marie Ball State University
Jordan Hall Ball State University
Faculty Sponsor: Tayla Lee Ball State University

2:15 PM — The Influence of Self-efficacy Towards Aggression in Violent Competitive Multiplayer Video-gaming
Eulalio Hernandez Hanover College
Faculty Sponsor: John Krantz Hanover College

PERCEPTIONS OF OTHERS

Moderator: Robert Padgett

1:30 PM — Religious Fundamentalism and Attitudes towards LGBTQ+ Individuals: Investigating Mediators
TaKima Johnson Hanover College
Faculty Sponsor: Ellen Altermatt Hanover College

1:45 PM — The Effects of Perspective Taking and Narrative Reading on Attitudes Towards Refugees
Dalilah Altal Hanover College
Faculty Sponsor: Bill Altermatt Hanover College

2:00 PM — “You Talk Funny”: How Accents Shape the Listener’s Perceptions of the Nonnative Speaker
Elizabeth Nellis Hanover College
Faculty Sponsor: Bill Altermatt Hanover College

2:15 PM — The Effect of Race of Source and Persuasion on Social Issue Perceptions
Valarie Coles Hanover College
Cora Smallwood Hanover College
Faculty Sponsor: Katherine Knight Tuttle Hanover College
3:00 PM – 4:15 PM

PSYCHOLOGY 10
Pharm. & Health Sci. Bldg. 103

RELATIONSHIPS

Moderator: **Jennifer Berry**

3:00 PM — Embodied Cognition: The Influence of a Stable or Unstable Environment

*Cheyenne Petty Goshen College*
*Mary Seeck Goshen College*

Faculty Sponsor: **Julie Reese Goshen College**

3:15 PM — Brain Activity and Cortisol Levels Reflect the Pain of Exclusion

*Chelsey Blair Indiana University Southeast*
*Abigail Dester Indiana University Southeast*
*Marcus Dudas Indiana University Southeast*

Faculty Sponsor: **Meghan Kahn Indiana University Southeast**

3:30 PM — The Correlation Between Parental Divorce and Interpersonal Trust

*Erica Chapman Indiana Wesleyan University*
*Mickey Huntington Indiana Wesleyan University*
*Erica Chapman Indiana Wesleyan University*
*Blake Dennis Indiana Wesleyan University*
*Jani Barrera-Ramirez Indiana Wesleyan University*

Faculty Sponsor: **Katti Sneed Indiana Wesleyan University**

3:00 PM – 4:15 PM

PSYCHOLOGY 11
Pharm. & Health Sci. Bldg. 106A

THE MAGIC OF MUSIC & MOVEMENT

Moderator: **Brian Day**

3:00 PM — Rock of Ages: Personalized Music Playlists for Nursing Home Residents with Dementia

*Sarah Vitelli Butler University*
*Hannah Bolander Butler University*

Faculty Sponsors: **Tara Lineweaver Butler University**
**Tim Brimmer Butler University**

3:15 PM — Who’s the Target? Music Program Designed for Seniors Positively Affects their Careproviders

*Hannah Bolander Butler University*
*Sarah Vitelli Butler University*
*Julian Orem Butler University*

Faculty Sponsors: **Tara Lineweaver Butler University**
**Tim Brimmer Butler University**

3:30 PM — Physical Activity as a Context for Memory

*Abigail Crowne Eastern Illinois University*

Faculty Sponsor: **Daniele Nardi Eastern Illinois University**

3:45 PM — The Effect of Music on Collegiate Athletes' Performance

*Kelsey Graber Huntington University*
*Sophia Frazier Huntington University*
*Tailor Schultheis Huntington University*
*Katya Manna Huntington University*

Faculty Sponsor: **Rebekah Benjamin Huntington University**

4:00 PM — The Effect of Classical Music on the Stroop Test

*Erin Strock Goshen College*
*Olivia Wenger Goshen College*
*Ryan Hartig Goshen College*

Faculty Sponsor: **Julie Reese Goshen College**
3:00 PM – 4:15 PM  
PSYCHOLOGY 12  
Pharm. & Health Sci. Bldg. 156

LANGUAGE, MEMORY, & SOCIAL MEDIA

Moderator: Amanda Hall

3:00 PM — Retrograde Memory: The Predictors of Horror are Remembered Better Than the Horror Itself

Brett DeWitt Butler University  
Faculty Sponsor: John Bohannon Butler University

3:15 PM — Flashbulb Memories of Presidential Elections: Obama vs. Trump

Jessica Dupree Butler University  
Faculty Sponsor: John Bohannon Butler University

3:30 PM — The Twitter Specter: Qualities of Memories for Tweets

Qahir Lakha Butler University  
Faculty Sponsor: John Neil Bohannon Butler University

3:45 PM — Get Connected: How Facebook Contributes to False Memories

Shelbi Tidd Butler University  
Keegan Sawin Butler University  
Faculty Sponsor: Tara Lineweaver Butler University

4:00 PM — When Second Beats First: Worse Memory Monitoring in Bilinguals’ Native Language

Jhovana Cervantes Butler University  
Thomas Hermsen Butler University  
Faculty Sponsor: Tara Lineweaver Butler University

3:00 PM – 4:15 PM  
PSYCHOLOGY 13  
Pharm. & Health Sci. Bldg. 204

PSYCHOLOGY & THE LAW

Moderator: Stacy Wetmore

3:00 PM — Effects of Prestige on Perceived Trustworthiness of Witnesses

Devon Campbell Hanover College  
Kelsey Kemp Hanover College  
Faculty Sponsor: Katherine Knight Tuttle Hanover College

3:15 PM — Are Jury Instructions Effective in Combating Jailhouse Informant Testimony?

Morgan Peterson Butler University  
Isabel Cardenas Butler University  
Faculty Sponsor: Stacy Wetmore Butler University

3:30 PM — Exploration of the Other Race Recognition Deficit Using the EZ Diffusion Model

Jaclyn Boyer Butler University  
Laurenn Maurice Butler University  
Lauren McQuarters Butler University  
Faculty Sponsor: Stacy Wetmore Butler University
9:00 AM – 10:15 AM  SOCIOLOGY 1  Jordan Hall 201

Moderator: Kate Novak

9:00 AM — Character Sexualization: Marvel and Detective Comics

Ian Melton Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:15 AM — Predicting the Sustainable Student

Emma Ryan Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:30 AM — The Effect Campus Size has on Depression

Rachel Gernert Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:45 AM — The Heroin Epidemic and its Correlates

Liza Cohen Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:00 AM – 10:15 AM  SOCIOLOGY 2  Jordan Hall 203

Moderator: Antonio Menendez-Alarcon

9:00 AM — Conceptions of Beauty within a Sorority

Rebecca Shelton Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:15 AM — Correlation Between Depression and Exercise Among College Students

Alexandra Stacy Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:30 AM — Early Exposure to Alcohol and Alcoholism

Joshua Walker Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

9:45 AM — Intimate Partner Violence

Lindsey Babovac Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University
Moderator: Jess Butler

10:30 AM — Differences in Levels of School Loyalty Between Black and White College Students

Jaquell Hamelin Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

10:45 AM — In Our Backyard: Reflections on Discrimination

Aine Montgomery Butler University
Roua Daas Butler University
Faculty Sponsor: Natalie Carter Butler University

11:00 AM — Motivations for Attending College Among Butler Students

Paige Tuten Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

11:15 AM — Social Media Empowerment and Isolation

Jordan Lucio Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

Moderator: Antonio Menendez-Alarcon

10:30 AM — Mental Health Among College Students

Riley Blake Indiana Wesleyan University
Madison Cook Indiana Wesleyan University
Caroline Norwood Indiana Wesleyan University
Mikalea White Indiana Wesleyan University
Faculty Sponsor: Katti Sneed Indiana Wesleyan University

10:45 AM — The Effect of a Parent’s Socialization of Political Beliefs on their Child

Alison Winslow Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

11:00 AM — The Effects of Social Media Use on Academic Performance

Kennedy Smith Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University

11:15 AM — The Influence of Fake News on College Students

Megan McCaw Butler University
Faculty Sponsor: Antonio Menendez-Alarcon Butler University
1:30 PM – 2:45 PM

SOCIOLOGY 5
Jordan Hall 201

Moderator: **Marvin Scott**

1:30 PM — Absent Fathers and Female College Hookup Culture

**Isabella Curtis** *Butler University*
Faculty Sponsor: **Antonio Menendéz-Alarcon** *Butler University*

1:45 PM — Ripple Effect: An Examination of Surfing as a Force for Positive Lasting Personal and Societal Change

**Samuel Hayworth** *Eastern Kentucky University*
Faculty Sponsor: **James Maples** *Eastern Kentucky University*

2:00 PM — Social Work Graduates Compassion-Fatigue Study

**Akeem Green** *Indiana Wesleyan University*
**Bethany Hastings** *Indiana Wesleyan University*
**Evan Forshey** *Indiana Wesleyan University*
**Brett Rider** *Indiana Wesleyan University*
Faculty Sponsor: **Katti Sneed** *Indiana Wesleyan University*

2:15 PM — The Relationship between Self-Esteem and Physical Activity in College Aged Students

**ArisAngel Cuello** *Butler University*
Faculty Sponsor: **Antonio Menéndez Alarcón** *Butler University*

1:30 PM – 2:45 PM

SOCIOLOGY 6
Jordan Hall 203

Moderator: **Ken Colburn**

1:30 PM — No Pain No Gain: High-Risk Behaviors of the Bodybuilding and Powerlifting Communities

**Dillen Klemchuk** *Butler University*
Faculty Sponsor: **Krista Cline** *Butler University*

1:45 PM — Participants Experiences within Organizations Aimed at Reducing Food Insecurity in Indianapolis

**Emma Ryan** *Butler University*
**Paige Tuten** *Butler University*
**Caroline Klenck** *Butler University*
Faculty Sponsors: **Jess Butler** *Butler University*
**Kathrine Novak** *Butler University*

2:00 PM — Perceptions of Social Distance Among Minority Students

**Joseph Filardo** *Butler University*
Faculty Sponsor: **Antonio Menendez-Alarcon** *Butler University*

2:15 PM — Relationship Between Binge Drinking and Romantic Relationships

**Maggie Howes** *Butler University*
Faculty Sponsor: **Antonio Menendez-Alarcon** *Butler University*

2:30 PM — The Academic Performance of College Athletes

**Grace Coffey** *Butler University*
Faculty Sponsor: **Antonio Menendez-Alarcon** *Butler University*
Please Note: Each Poster Session is divided in half. Presenters assigned an odd number will present during the first half and presenters assigned an even number will present during the second half. This change was made to allow presenters to view posters in their sessions and to reduce noise during the session.

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<tr>
<td>Event Numbers</td>
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All posters must be pinned up at least 10 minutes prior to the start of the session.

2:30 PM – 4:00 PM BIOCHEMISTRY & MOLECULAR BIOLOGY
Irwin Library, Lower Level

Floor Manager: Padma Swaminatham

1. 3D Structure of the Tyrosine Hydroxylase Locus in Undifferentiated and Differentiated SH-SY5Y cells
   Natalie Blatz Earlham College
   Mirza Dzanan Earlham College
   Kelsi Miller Earlham College
   Zoe Wallis
   Faculty Sponsor: Emi Smith Earlham College

2. Active-site Mutants of Benzoylformate Decarboxylase Provide a Variety of Implications for the Roles of the Active-site Residues, His70 and His281
   Shivansh Mahajan Indiana University-Purdue University Indianapolis
   Rachel Cadle Indiana University-Purdue University Indianapolis
   Julie Dinh
   Chloe Gonterman Butler University
   Verena Haug
   Faculty Sponsors: Michael McLeish Indiana University-Purdue University Indianapolis
                    Bruce Ray Indiana University-Purdue University Indianapolis

3. Analysis of p53 and UCHL1 by Immunohistochemistry in Ovarian and Fallopian Tube Carcinoma
   Caylin Billingsley Indiana University-Purdue University Indianapolis
   Max Jacobsen Indiana University-Purdue University Indianapolis
   Faculty Sponsor: George Sandusky Indiana University-Purdue University Indianapolis

4. Comparison of Image Analysis System for Quantification of HER2 and ER in Breast Cancers
   Saba Ahmed Indiana University-Purdue University Indianapolis
   Max Jacobsen Indiana University-Purdue University Indianapolis
   Faculty Sponsor: George Sandusky Indiana University-Purdue University Indianapolis
5. Determining Structure Alteration of Allosterically Inhibited Rv0045c by Transition Metals through Recrystallization
   Emily Lawson Butler University
   Faculty Sponsors: Geoffrey Hoops Butler University
   Mark Macbeth Butler University

6. Enzymatic regulation of G-quadruplex structures in C9orf72 ALS
   Peter Beerbower Ball State University
   Faculty Sponsor: Philip Smaldino Ball State University

7. Ester-Protected Ethambutol Derivatives
   Erin Kile Butler University
   Faculty Sponsor: R. Jeremy Johnson Butler University

8. Evaluation of Twist 1 and Aurora-A antibodies via immunohistochemistry in Pancreatic Adenocarcinoma
   Callista Maguire Indiana University-Purdue University Indianapolis
   Max Jacobsen Indiana University-Purdue University Indianapolis
   Faculty Sponsor: George Sandusky Indiana University-Purdue University Indianapolis

9. Glutamine Synthetase (GLUL) and Glutaminase GLS Immunohistochemistry in Breast Cancer in Tissue Microarrays with Quantitative Image Analysis
   Gabriela Ovalle Indiana University-Purdue University Indianapolis
   Max Jacobsen Indiana University-Purdue University Indianapolis
   Faculty Sponsor: George Sandusky Indiana University-Purdue University Indianapolis

10. Investigation of Factors that Trigger Essential Conformational Changes in FTT258
    Asif Hossain Butler University
    Faculty Sponsor: R. Jeremy Johnson Butler University

11. Investigation of the Dual Functions in Catalysis and Membrane Binding of a Flexible Loop in Acyl Protein Thioesterase 2 & Lysophospholipase-like 1
    Isabella Gieck Butler University
    Faculty Sponsor: R. Jeremy Johnson Butler University

12. Midwestern Plant Extracts Impact Biomarkers of Aging in Caenorhabditis elegans
    Irving Barrera-Lopez Earlham College
    Lobsang Palmo Earlham College
    Minhwa Choi Earlham College
    Raven McCree Earlham College
    Evelyn Sanchez Earlham College
    Faculty Sponsor: Courtney Scerback Earlham College

13. Structure and Function of a Key Flexible Loop in Controlling the Biological Function of Acyl Protein Thioesterase 1
    Isabelle Altieri Butler University
    Faculty Sponsor: R. Jeremy Johnson Butler University
14. The Effect of Zinc Cations on LipN of *Mycobacterium ulcerans*
   **Emily Pool** *Butler University*
   Faculty Sponsor: **Geoffrey Hoops** *Butler University*

15. The Effects of Bacteriophage Hybridization on Host Range
   **Khoa Nguyen** *Earlham College*
   **Noah Kelner** *Earlham College*
   **Claire Rickerman** *Earlham College*
   Faculty Sponsor: **Lindsey McGee** *Earlham College*

16. Towards the Preparation of a Cysteine-free Creatine Kinase Suitable for FRET Studies
   **Anthony Huls** *Indiana University-Purdue University Indianapolis*
   **Katharina Fransen** *University of Minnesota - Twin Cities*
   **Verena Haug**
   Faculty Sponsor: **Michael McLeish** *Indiana University-Purdue University Indianapolis*

17. Presentation Space Intentionally Unassigned

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**BIOLOGY**

Floor Manager: **Melody Adkins**

1. Gene-Specific Impact on Morphology of Class IV Dendritic Arborization Neurons in *Drosophila*
   **Zachary Schmidt** *Denison University*
   Faculty Sponsor: **Eric Liebl** *Denison University*

2. General Characterization of Telomerase Activity in *Selaginella moellendorffii*
   **Abdul Saltagi** *Butler University*
   Faculty Sponsor: **Nathanael Hauck** *Butler University*

3. Summer Growth of *Lampsilis siliquoidea* in Crooked Lake (Whitley County, IN)
   **Brooke Householder** *University of Saint Francis*
   **Rob Spice** *University of Saint Francis*
   **Ellen Robbins** *University of Saint Francis*
   Faculty Sponsor: **Warren Pryor** *University of Saint Francis*
4. “Is a Jack-of-all-Trades a Master of None?”
   Joel Pagan  
   Noah Kelner  
   Khoa Nguyen  
   Claire Rickerman  
   Faculty Sponsor: Lindsey McGee

5. The Effects of Turmeric on Drosophila melanogaster as a Cancer Model
   Clay Schnell  
   Sydney Shan  
   Jordan Trowbridge  
   Faculty Sponsor: Lindsay Lewellyn

6. The Effects of Salicylic Acid on the Production of Hydrogen Peroxide in Physcomitrella patens
   Matthew Hathaway  
   Faculty Sponsor: Phillip Villani

7. Scaling of Ring Canals in Large and Small D. melanogaster Eggs
   Azhar Dalal  
   Faculty Sponsor: Lindsay Lewellyn

8. Investigation of SYD-2 as a Neuronal Substrate of the Anaphase-promoting Complex Enzyme in C. elegans
   Taylor Prechtel  
   Faculty Sponsor: Jennifer Kowalski

9. Development of Skeletal Elements in Lake Sturgeon
   Ashley Parola  
   Tyler Parrish  
   Faculty Sponsor: Anabela Maia

    Chelsea Wendling  
    Whitney Hinton  
    Katie Laine  
    Kevin Root  
    Faculty Sponsor: Shannon Galbraith-Kent

11. Localization of the SUMO Conjugating Enzyme UBC-9 in C. elegans Neurons
    Elly Mawi  
    Faculty Sponsor: Jennifer Kowalski

12. Digital Immunohistochemical Analysis of Tumor Expression and Localization in Human Breast Carcinoma Tissue
    Andrew Houser  
    Faculty Sponsor: George Sandusky
13. Growth of Human Cancer Cell Lines in Two Different Conditions
   Shahed Sbeta Earlham College
   Sarah Bean Earlham College
   Jacob Harris Earlham College
   Faculty Sponsor: Emi Smith Earlham College

14. Dose Response Assessment of Cu and Zn Metal Toxicity in Metal Accumulating North American Dandelion
    (Taraxacum officinale) Clones
   Shannon Brueck Wittenberg University
   Lillian Amurgis Wittenberg University
   Faculty Sponsor: Matthew Collier Wittenberg University

15. Spicing up the Understory: Investigating the Effects of Resource Sinks on Maternal Fitness in Lindera benzoin
    Philip Hurst Denison University
    Faculty Sponsor: Andrew McCall Denison University

16. Prevalence of Histoplasma capsulatum at Bird Roosting Sites Compared to Non-bird Roosting Sites
    Alana Henderson Midway University
    Faculty Sponsor: Elizabeth Danks Midway University

17. Investigation of the FSHR-1 Receptor and its Downstream Pathway Components in Neuromuscular Signaling
    David Ryskamp Butler University
    Sarah Olofsson Butler University
    Allyson Munneke Butler University
    Alexandra Jennings Butler University
    Julie Kolnik Butler University
    Faculty Sponsor: Jennifer Kowalski Butler University

18. Effect of Temperature, Water Activity, and Incubation Time on Growth and Aflatoxin Production by
    Aspergillus flavus and A. parasiticus on Niger seeds
    Chih-Hsuan Chang Purdue University Northwest
    Faculty Sponsors: Dawit Gizachew Purdue University Northwest
    Wei-tsyi Evert Ting Purdue University Northwest

19. Investigating the Role of NFkB in Neuropathy
    Sukarn Chokkara Vanderbilt University
    Faculty Sponsor: Bruce Carter Vanderbilt University

20. Investigation of G Protein-coupled Receptor FSHR1 in Regulation of UNC-10 RIM Synaptic Localization in
    C. elegans
    Morgan Buckley Butler University
    Faculty Sponsor: Jennifer Kowalski Butler University

21. Isolation of Pseudomonas Aeruginosa in Ornamental Plants and their Associated Soil
    Carrie Isaacs Midway University
    Faculty Sponsor: Cynthia Ryder Midway University
22. Wing Pattern Variation in a Globally Distributed Butterfly, *Pieris rapae*
   Sarah Semmen *Butler University*
   Maddie Jones *Butler University*
   Faculty Sponsor: Andrew Stoehr *Butler University*

23. *Histoplasma capsulatum* prevalence in Bat Roosting Sites Compared to Non-bat Roosting Sites
   Tiffany Escartin *Midway University*
   Faculty Sponsor: Elizabeth Danks *Midway University*

24. Does Phenotypic Color Intensity Correlate with Expression of the Anthocyanidin Synthase Gene in
   *Saponaria officinalis*?
   Jordan Eckert *University of Indianapolis*
   Faculty Sponsor: Sandra Davis *University of Indianapolis*

25. Pulsed Electric Field Treatment of Microalgae for Efficient Biofuel Production
   Caleb Geissler *Purdue University West Lafayette*
   Mary Mulligan *Purdue University West Lafayette*
   Shaunak Ray *Purdue University West Lafayette*
   Zane Zmola *Purdue University West Lafayette*
   Faculty Sponsors: Allen Garner *Purdue University West Lafayette*
   John Morgan *Purdue University West Lafayette*

26. Analysis of Cellular Changes Associated with Morphological Changes in Color and Size of Petals of
   *Saponaria officinalis*
   Rebecca Riley *University of Indianapolis*
   Faculty Sponsor: Sandra Davis *University of Indianapolis*

27. Using a Health-Rating System to Determine the Effect of Anthelmintics Using L1 *C. elegans*
   Jarod Sutter *Bethel College*
   Faculty Sponsor: Brian Ellis *Bethel College*

28. The Development of CRISPR Mediated Genetic Engineering in *Candida viswanathii*
   Elena North *Ball State University*
   Faculty Sponsors: Douglas Bernstein *Ball State University*
   Irene Reizman *Rose-Hulman Institute of Technology*
8:30 AM – 10:00 AM  BUSINESS & ECONOMICS  Irwin Library, Lower Level

Floor Manager: Jason Lantzer

1. An Examination of Earnings and Stock Price Movement
   Justin Anderson Anderson University
   Nicholas Butcher Anderson University
   Faculty Sponsor: Brock Vaughters Anderson University

2. Presentation Space Intentionally Unassigned

3. Automation
   Joshua Vallance Anderson University
   Faculty Sponsor: Emmett Dulaney Anderson University

4. Perceptions of Busy and Leisurely Lifestyles and How They Shape Implications of Status, Human Capital, and Scarcity
   Eleanor McArdle Anderson University
   Faculty Sponsor: Michael Bruce Anderson University

   Evan Dulaney Anderson University
   Faculty Sponsor: Cheryl Shank Anderson University

2:30 PM – 4:00 PM  CHEMISTRY  Irwin Library, 1st Floor

Floor Manager: Kathy Schmid

1. A Comparison of Phytochemicals Present in Earlham Medicinal Plant Extracts
   Linh My To Toan Earlham College
   Faculty Sponsor: Courtney Scerbak Earlham College

2. Adhesives Polymers Synthesized from Elemental Sulfur and Garlic Extract Components
   Cristina Perez Ball State University
   Kristen Kamp Ball State University
   Faculty Sponsor: Courtney Jenkins Ball State University

3. An Examination of the Colorants and Flavorants in E-Cigarette Liquids
   Heidi Kastenholz Butler University
   Faculty Sponsor: Anne Wilson Butler University
4. Analytical Concentrations of Clothianidin for Toxico logical Testing with Exaiptasia pallida
   **Hailey Ross** *University of Saint Francis*
   Faculty Sponsor: **Andrea Geyer** *University of Saint Francis*

5. Chemical Purification of C60 Fullerene
   **Ryan Koenig** *Indiana University-Purdue University Fort Wayne*
   Faculty Sponsor: **Steven Stevenson** *Indiana University-Purdue University Fort Wayne*

6. Chiral Discrimination by Amino Acid based Deep Eutectic Solvents
   **Cameron Wright** *Butler University*
   Faculty Sponsor: **Todd Hopkins** *Butler University*

   **Khai Nguyen** *Earlham College*
   **Suyee Win** *Williams College*
   Faculty Sponsor: **Patrick Barber** *Earlham College*

8. Developing Site Specific DNA Binding Agents Using Novel Purine Analogs
   **Chace Avery** *University of Indianapolis*
   **Ashton Bosler** *University of Evansville*
   Faculty Sponsor: **Roslyn Lampkins** *University of Evansville*

9. Efforts Toward Developing an Intramolecular Decarboxylative Allylation and Trapping of a Fischer Carbene Fragment
   **Kristen Sportiello** *University of Evansville*
   Faculty Sponsor: **Michael Slade** *University of Evansville*

10. Glutamate Carboxypeptidase II Transmembrane Computation Modelling Project
    **Jocelyne Mendoza** *Eastern Illinois University*
    Faculty Sponsor: **Gopal Periyannan** *Eastern Illinois University*

11. Holmium Nitride Clusters Trapped in Large Fullerene Cages
    **Katelyn Tepper** *Indiana University-Purdue University Fort Wayne*
    Faculty Sponsor: **Steven Stevenson** *Indiana University-Purdue University Fort Wayne*

12. Introducing Atomic Absorption into a General Chemistry Ksp Lab
    **Kaitlyn Enderle** *Butler University*
    Faculty Sponsor: **Stacy O’Reilly** *Butler University*

13. Isolation of Large Cage Erbium Metallofullerenes
    **Cody Davison** *Indiana University-Purdue University Fort Wayne*
    Faculty Sponsor: **Steven Stevenson** *Indiana University-Purdue University Fort Wayne*

14. Listeria Detection by Super Paramagnetic Iron Oxide Nanoparticles
    **Christian Shafer** *Trine University*
    Faculty Sponsor: **Steven Dulaney** *Trine University*
15. Separation Strategies for Isolating Yttrium Nitride Metallofullerenes Having Uncommon Carbon Cages
   Bristol Lucketti Indiana University-Purdue University Fort Wayne
   Faculty Sponsor: Steven Stevenson Indiana University-Purdue University Fort Wayne

16. The Chemistry of Fermentation
   Bailey Masingo Butler University
   Lauren Allman Butler University
   Faculty Sponsors: Stacy O'Reilly Butler University
                   Michael Samide Butler University

17. Wet Chemistry to Purify Metallofullerenes Containing Lutetium Clusters Trapped Inside Higher Fullerene Cages
   Hannah Franklin Indiana University-Purdue University Fort Wayne
   Faculty Sponsor: Steven Stevenson Indiana University-Purdue University Fort Wayne

Floor Manager: Kathy Schmid

    Makayla Coyle Butler University
    Rachel Goffney Butler University
    Delainey Spragg Butler University
    Shelby Bryant Butler University
    Dana Connor Butler University
    Sarah Dixon Butler University
    Brenna Pawelkowski Butler University
    Faculty Sponsors: Tonya Bergeson-Dana Butler University
                     Donald Braid Butler University
                     Tim Brimmer Butler University
                     Tara Lineweaver Butler University
                     Allan Diefendorf Butler University

19. Effects of Structured Music and Play on Social Behavior and Executive Function
    Colleen Wilkes Butler University
    Maureen Brogan Butler University
    Abigail Baker Butler University
    Faculty Sponsor: Tonya Bergeson-Dana Butler University

20. Literary Analysis of Accent Modification Resources on Native Modern Standard Arabic Speakers as English Language Learners
    Alysh Oetzl Eastern Illinois University
    Faculty Sponsor: Jean Smitley Eastern Illinois University
2:30 PM – 4:00 PM  DIGITAL HUMANITIES  Irwin Library, 2nd Floor

Floor Manager: Heidi Benson

1. Finding Fairies: Building an App through Community Partnership
   Tucker Miller Ball State University
   Gunner Bills Ball State University
   Seth Campbell Ball State University
   Devon Current Ball State University
   Shane Franklin Ball State University
   Timothy Hartke Ball State University
   Nick Smith Ball State University
   Austin Tinkel Ball State University
   Erin Shales Ball State University
   Drew Tomasik Ball State University
   Faculty Sponsor: Paul Gestwicki Ball State University

2. Mapping the Oratory of Frederick Douglass
   LeAnn West Indiana University-Purdue University Indianapolis
   Faculty Sponsor: John R. Kaufman-McKivigan Indiana University-Purdue University Indianapolis

3. Collaboration Station Enhancement
   David Wisenberg Ball State University
   Cody York Ball State University
   Emma Mills-Rittmann Ball State University
   Faculty Sponsor: Paul Gestwicki Ball State University

8:30 AM – 10:00 AM  EDUCATION  Irwin Library, 3rd Floor

Floor Manager: Melody Adkins

2. Fighting for America's Kids: A Discussion on K-12 Teacher Tenure
   Nicholas Huang Butler University
   Faculty Sponsor: Jason Lantzer Butler University

3. How Multiple Facets of Non-Parental Care Impact Children’s Socioemotional Readiness
   Lydia Egan Ball State University
   Faculty Sponsor: Jill Walls Ball State University
Floor Manager: Heidi Benson

5. Learning to Walk on My Own: A Journey of Following Footsteps Through Europe
   Julia Robben Ball State University
   Faculty Sponsor: Elizabeth Dalton Ball State University

6. The Research and Design of a Youth Writing Camp at Taylor University: WORDshop 2018
   Hannah Perry Taylor University
   Hillary Foreman Taylor University
   Camy Hanna Taylor University
   Faculty Sponsor: Carie King Taylor University

7. The Post is Female
   Megan Schillereff Ball State University
   Faculty Sponsor: Adam Beach Ball State University

8. Zombies, Race, and Misinformation in “Men Against Fire”
   Nick Smith Ball State University
   Faculty Sponsor: Adam Beach Ball State University
1. A Generalization of Dirac’s Theorem for Claw-free Graphs  
   Ashley Dale  
   Butler University  
   Sarah Dale  
   Butler University  
   Faculty Sponsor: Zhi-Hong Chen  
   Butler University

2. Data Analysis: Estimation of Parameters Using Bayes Theorem  
   Jacob Wolf  
   Franklin College  
   Faculty Sponsor: Arbin Thapaliya  
   Franklin College

3. Presentation Space Intentionally Unassigned

4. Playing Colorful Tic-tac-toe  
   Troy Wiegand  
   Butler University  
   Faculty Sponsor: William Johnston  
   Butler University

5. Smart Home Integration and the Consumer’s Struggle to Modernize  
   Hannah Massey  
   Arkansas State University  
   Faculty Sponsor: Shubhalaxmi Kher  
   Arkansas State University

6. A Day - or 5 Years - in the Life of an Urban Emergency Medicine Physician  
   Neethi Sriranga  
   Wayne State University  
   Mujtaba Hameed  
   Wayne State University  
   Tyler Zweng  
   Bethany Xiong  
   Faculty Sponsors: James Paxton  
   Wayne State University  
   Sarah Meram

7. A Retrospective Analysis of In-Season Conditioning  
   Daria Volker  
   Hanover College  
   Faculty Sponsor: Bryant Stamford  
   Hanover College

8. Alterations in Antihypertensive Therapy as a Possible Risk Factor for Inpatient Falls  
   Kara Asselborn  
   Butler University  
   Faculty Sponsors: Lindsay Saum  
   Butler University  
   Brian Skinner  
   Manchester University
9. Presentation Space Intentionally Unassigned

10. An Overview of the Impact of Stress on College Students
    Victoria Dorsey University of Indianapolis
    Bailey Kruger University of Indianapolis
    Julia Brunnemer University of Indianapolis
    Magale Avitia University of Indianapolis.
    Faculty Sponsor: Amie Wojtyna University of Indianapolis

11. Assessment of Pharmacy Students’ Knowledge, Attitudes, and Beliefs Regarding HIV and PrEP
    Allissa Gronotte Butler University
    Jacob Pollard Butler University
    Faculty Sponsors: Jason Range Butler University
                     Priscilla Ryder Butler University

12. Benefit of Elective Research Project for Pharmacy Students
    Jennifer Clementi Butler University
    Faculty Sponsor: Chad Knoderer Butler University

13. Diabetic Outcomes for a Pharmacist-Run Program in an Employer-Based Wellness Clinic
    Emily Armstrong Butler University
    Emily Cuffe Butler University
    Faculty Sponsors: Jane Gervasio Butler University
                     Alison Walton Butler University

14. Does College Major Influence Nutritional Choices?
    Dakota Smith Hanover College
    Faculty Sponsor: Bryant Stamford Hanover College

15. Examining the Relationship Between Body Mass Index, Physical Activity and Drunkorexia
    Olivia Callahan Miami University of Ohio
    Faculty Sponsor: Rose Marie Ward Miami University of Ohio

16. Impact of Education and Legislation on Opioid Prescribing Patterns Following Cesarean Delivery
    Colleen Hutchinson Butler University
    Morgan Schaffer Butler University
    Faculty Sponsors: Tracy Costello Butler University
                     Lindsay DeWind Butler University
17. Medication Use Evaluation - Micafungin
   *Amber Ooley Butler University*
   *Alyse Briggs Butler University*
   *Courtney Cox Butler University*
   *Jennifer Niehoff Butler University*
   *Elisabeth Stark Butler University*
   Faculty Sponsors: *Shannon Smallwood*
   *Lindsay DeWinds*

18. Relationship Partner’s Descriptive Drinking Norms: If I Think They Drink, I Won’t Date Them
   *Jourdan Greenlee Miami University of Ohio*
   Faculty Sponsor: *Rose Marie Ward Miami University of Ohio*

19. Retrospective Chart Review of Spirometry Utilization in Patients with COPD at Community Health Network
   *Haley Smith Butler University*
   *Dana Eness Butler University*
   Faculty Sponsor: *Jessica Wilhoite Butler University*

20. Secondary Agents as Add-On Therapy to Metformin in Type 2 Diabetes Mellitus: A Quality Improvement Study
   *Emily Fox Butler University*
   *Taylor Mughmaw Butler University*
   Faculty Sponsor: *Alison Walton Butler University*

21. Sexual Assault and Chinese International Students on a College Campus
   *Emily Wilson Miami University of Ohio*
   Faculty Sponsor: *Rose Marie Ward Miami University of Ohio*

22. Trauma Transfers: A Retrospective Analysis of Multiple Transfers
   *Mary Langemeier University of Saint Francis*
   Faculty Sponsor: *Andrea Geyer University of Saint Francis*

23. Use of Oral Dietary Supplements in College Students: Prevalence and Predictors
   *Alyssa Shrader Ball State University*
   *Kailey Adkins Ball State University*
   *Jasmine Robinson Ball State University*
   *Jonathan Isbill Ball State University*
   Faculty Sponsor: *Jagdish Kubchandani Ball State University*
   Allen Murray Purdue University Northwest
   Faculty Sponsor: Aaron Warren Purdue University Northwest

19. Evaluation of Radiation and Design Criteria for a Lunar Habitat
   Hayley Bower Anderson University
   Robert Shaver Anderson University
   Faculty Sponsors: Daniel Gomez Purdue University West Lafayette
                    H. Jay Melosh Purdue University West Lafayette
                    Shirley Dyke Purdue University West Lafayette
                    John Millis Anderson University
                    Terry Pahls Anderson University

20. Mid-infrared Optical Constants of InAsSb Alloys and Bulk GaSb
    Pablo Paradis New Mexico State University
    Rigo Carrasco New Mexico State University
    Vinita Dahiya Ohio State University - Columbus
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                     Sanjay Krishna Ohio State University – Columbus
                     John Carlin Ohio State University – Columbus
                     Alireza Kazemi Ohio State University – Columbus

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    Kyle Jones Ball State University
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32. Public Attitudes Towards Affirmative Action
    Emem Udoh Butler University
    Faculty Sponsor: Greg Shufeldt Butler University
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4. A Comparison of Faculty and Student Expectations in a College Major: A Mixed-Methods Approach  
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   Emma Nickel Manchester University  
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5. An Examination of Self-Stigma and Distress Intolerance in College Students Diagnosed with a Mental Illness  
   Megan Cater Ball State University  
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   Tayla Lee Ball State University

6. Correlates of Authoritarianism and Nationalism  
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   Thomas Holtgraves Ball State University

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8. Effects of Students’ Writing Self-Efficacy on Interpreting Instructor Feedback  
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9. Exploring the Factor Structure of the Obsessive-Compulsive Scale  
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10. Examining College Student Drinking Motives by Academic Division  
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   Jake Whiteside Indiana University-Purdue University Indianapolis
   Megan Stringer Indiana University-Purdue University Indianapolis
   Faculty Sponsors: Charles Goodlett Indiana University-Purdue University Indianapolis
   Randall Roper Indiana University-Purdue University Indianapolis

14. Resilience in Adopted vs. Non-Adopted College Students
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   Faculty Sponsors: Guy Mittleman Ball State University
   Thomas Holtgraves Ball State University

15. Sensation Seeking and College Drinking
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   Faculty Sponsor: Jamie Bromley Franklin College

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   Kate Shonk University of Michigan - Ann Arbor
   Riley Marshall University of Michigan - Ann Arbor
   Faculty Sponsor: Emily Vargas University of Michigan - Ann Arbor

17. Sleeping on it: Does Interference during Encoding Reduce Sleep Consolidation of Memory?
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   Taylor Chambers University of Dayton
   Scott Wonderly University of Dayton
   Gabby Silone University of Dayton
   Faculty Sponsor: Susan Davis University of Dayton

18. Teacher Knowledge of ADHD and Classroom Management
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   Faculty Sponsor: Winnie Mucherah Ball State University

19. Ten Minutes to Deception: Faking ADHD After a Brief Ten-Minute Internet Search
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   Dominic Gatling Holy Cross College
   Faculty Sponsors: Hugh J. Van Auken Holy Cross College
   Doris M. Van Auken Holy Cross College

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   Sydney Bebar Butler University
   Hannah Kaufmann Butler University
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   Chase Nash Huntington University  
   Tabitha Kratz Huntington University  
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   Katherine Benson Butler University  
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   Liza Cohen Butler University  
   Eliza Martin Butler University  
   Qahir Lakha Butler University  
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   Alexis Andreson Holy Cross College  
   Abbey Zielinski Holy Cross College  
   Faculty Sponsor: Cosette Fox Holy Cross College

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   Julia Bugaj Ball State University  
   Faculty Sponsor: George Gaither Ball State University

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   Dina Al Ghabra Purdue University West Lafayette  
   Joey Shin Purdue University West Lafayette  
   Emily Reyes Purdue University West Lafayette  
   Ashleigh Kellerman Purdue University West Lafayette  
   Wei Siong Neo Purdue University West Lafayette  
   Faculty Sponsor: Bridgette Tonnsen Purdue University West Lafayette

27. The Role of Overheard Speech in the Ambient Verbal Environments of Children from Two American Communities  
   Mariah Stout Saint Mary-of-the-Woods College  
   Bailee Poore Saint Mary-of-the-Woods College  
   Faculty Sponsor: Douglas Sperry Saint Mary-of-the-Woods College
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Irwin Library, 3rd Floor

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   **Hannah Sobhie** *Marian University*  
   Faculty Sponsor: **Amber Nelson** *Marian University*

29. Stress and Academic Outcomes in College Students  
   **Wes Frye** *Marian University*  
   Faculty Sponsor: **Amber Nelson** *Marian University*

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SUSTAINABILITY,  
URBAN ECOLOGY &  
ENVIRONMENTAL STUDIES  
Irwin Library, 3rd Floor

Floor Manager: **Jason Lantzer**

29. A Piece of the Limberlost  
   **Deborah Mattson** *Ball State University*  
   Faculty Sponsor: **Susan Tomizawa** *Ball State University*

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   **Ryan Fawcett** *Bethel College*  
   **Cassy Searer** *Bethel College*  
   Faculty Sponsor: **Cassandra May** *Bethel College*
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