

WKU[®]

51ST ANNUAL STUDENT
**RESEARCH
CONFERENCE**

Session Winners

Friday, April 9TH
2 pm CDT

Saturday, April 10TH
9 am CDT

Western Kentucky University • Bowling Green, KY

The 51st Annual WKU Student Research Conference proudly showcases 202 research projects and creative works. A total of 235 students are presenters and co-presenters at the conference, including 160 undergraduate, 41 master's, and 1 doctoral student. An index of presenters is provided at the end of this program.

Explanation of Listings

The program includes details for each presentation in the following order: presenter, co-presenters (as applicable), co-authors (as applicable), the session title, and the mentor for a project. Each WKU student was permitted to serve as the primary presenter on one presentation at the conference. Up to three co-presenters and up to six co-authors could also be listed. The sample below illustrates the format.

Sample

Presenter Last Name, First Name; Co-Presenter Last Name, First Name; Co-Author Last Name, First Name; "Title of a Great Presentation" (Mentor First Name Last Name)

Session 1 Graduate Oral Presentations, Arts and Humanities (tie)

Willoughby, Ginny "Hanoks: Subsidization, tourism, and space" (Tim Frandy)
Survance, Anthony "Professorial Identities: Managing Identity Crises During a Global Pandemic" (Jennifer Mize-Smith)

Session 2 Graduate Oral Presentations, Natural Sciences

Cecil, Matthew; Polk, Jason; "Examining Hydrogeological Dynamics of Baselevel and Reverse Flow of the Green River and Major Springs of Mammoth Cave, Kentucky" (Jason Polk)

Session 3 Undergraduate Oral Presentations, Arts and Humanities

Hatfield, Brooke "History Has Its Eyes on Hamilton's Dissent" (Anthony Harkins)

Session 4 Undergraduate Oral Presentations, Interdisciplinary

Schmidt, Cole; Al Aufi, Ayub Abdallah Mohammed "Safety Investigation of Distracted Driving Behavior in Kentucky Using a Driving Simulator" (Kirolos Haleem)

Session 5 Undergraduate Oral Presentations, Natural Sciences

Ryumae, Mina "Implementing and Comparing Various Dots and Boxes Monte Carlo Tree Search Techniques" (Uta Ziegler)

Session 6 Undergraduate Oral Presentations, Natural Sciences

Krause, Hannah; Wulff, Andrew; Groves, Chris; "Characterization of Minerals in Great Onyx Cave, Kentucky" (Andrew Wulff)

Session 7 Undergraduate Oral Presentations, Social Sciences and Education

Thomas, Jayden "The My Parents are Rich Scholarship: Exploring the Effects of Expected Family Contribution and University Aid" (Scott Lasley)

Session 8 Graduate Posters, Interdisciplinary

Buoncrisiani, Nicholas "The Validity of Perceptual Recovery Status as a Marker of Intra-Session Recovery During Intermittent Sprint Work" (Danilo Toluoso)

Session 9 Undergraduate Posters, Arts and Humanities

Johnston, Laurel "Choose Your Sorry Carefully: How Corporate Apology Elements Affect Consumer Responses" (Joanna Phillips-Melancon)

Session 10 Undergraduate Posters, Natural Sciences

Boling, Tyler "Davies County High School: Reinventing Educational Buildings" (Shahnaz Aly)

Session 11 Undergraduate Posters, Natural Sciences

Wriedt, Zachary "Acute Sleep Fragmentation Increases Inflammation in White, But Not Brown, Adipose Tissue" (Noah Ashley)

Session 12 Undergraduate Posters, Natural Sciences

Menon, Ashwin; Er, Ali; Kylychbekov, Salizhan; "Laser Shock Peening to Improve Fatigue Resistance of Nickel Titanium Alloy" (Ali Er)

Session 13 Undergraduate Posters, Social Sciences & Education (tie)

Bragg, Rachel; Redifer, Jenni; "Cognitive Resources and the Modality Effect: Input Modality Pairings Influence Dual-task Costs" (Jenni Redifer)

Farmer, Sofia; Bieze Wilson, Ashley; "Preservice Teachers' Beliefs as Predictors of Response Style Toward Tgnc Victimization" (Lisa Duffin-Rexroat)

Session 14 Graduate Oral Presentations, Interdisciplinary

Weiler, Austin; Mallinger, Gayle; "Psychosocial Risk and Body Dysmorphic Disorder: A Systematic Review" (Gayle Mallinger)

Session 15 Graduate Oral Presentations, Natural Sciences

Ragi, Pallavi; Mahmoudi, Faranak; Conte, Eric; "Occurrence of Estrogens and Other Steroids in Anaerobically Digested Cattle Waste" (Eric Conte)

Session 16 Undergraduate Oral Presentations, Interdisciplinary

Einhorn, Madelynn "How Often Do South Koreans Think About Inter-Korean Issues? Evidence from an Experimental Survey" (Timothy Rich)

Session 17 Undergraduate Oral Presentations, Interdisciplinary

Hamm, Lillian "Answers in The East: An Examination of China's Renewable Energy and its Application to Central Appalachia" (Patricia Kambesis)

Session 18 Undergraduate Oral Presentations, Natural Sciences

Kubala, Josie; Wulff, Andrew; Suggs, Mike; McDavid, Courtney; "Characterizing Mesonet Clay Samples" (Andrew Wulff)

Session 19 Undergraduate Oral Presentations, Natural Sciences

Danford, Ellen "Informing Sustainable Policy with Carbon Sequestration Analysis" (Leslie North)

Session 20 Undergraduate Performance, Interdisciplinary

Jones, Ashton "I Hear You: The Everyday Struggle Living with Misophonia" (Brad Pfranger)

Session 21 Graduate Posters, Interdisciplinary

Yusuf, Augustine; Hill, Lawrence; Wasson, Fiona; Palmer, Jeff; "Design of a Novel Class of Degradable Antioxidant Polymers" (Lawrence Hill)

Session 22 Undergraduate Posters, Interdisciplinary

Pepke, Brenna "The Effectiveness of Translation/Interpretation through the Visual Process" (Yvonne Petkus)

Session 23 Undergraduate Posters, Interdisciplinary

Hartman, Sarah "Effects of COVID-19 on Kentucky Air Pollutant Levels" (Jacqueline Basham)

Session 24 Undergraduate Posters, Natural Sciences

Harris, Kaleb "Offering Opportunity: Community Impact of Sports Architecture" (Shahnaz Aly)

Session 25 Undergraduate Posters, Natural Sciences

Copeland, Allyson; Amacendes, Lizbeth; Hatfield, Makenna; "Age Differences in the Effects of Plausibility and Perspective-Taking While Reading Counterfactuals" (Matthew Shake)

Session 26 Undergraduate Posters, Social Sciences & Education

Greis, Rachel "The Development and Validation of the General Attitudes Toward Police Scale (gaps)" (Melissa Baker)

Session 27 Graduate Oral Presentations, Natural Sciences

Willis, Victoria; Gunter, Dr. Phillip; "Effect of Supplemental Garlic on the Incidence of Heinz Body Anemia in Horses" (Phillip Gunter)

Session 28 Graduate Oral Presentations, Interdisciplinary (tie)

Searcy, Kaylee "Distinguishing Autism Spectrum Disorder from other Developmental Delays at 24 Months" (Lisa Duffin)

Northern, Samuel "Effects of a Curriculum-based PLC on Teachers' Attitudes and Self-efficacy Toward Inquiry-based Science Instruction" (Gary Houchens)

Session 29 Undergraduate Oral Presentations, Health and Human Services

Craig, Kaitlynn "The Effect of School Return During Covid-19 Pandemic on Children's Physical and Mental Health" (Miranda Peterson)

Session 30 Undergraduate Oral Presentations, Natural Sciences

Negron, Marcus; Heck, Aaron; Kitchen, Gabrielle; Wheeler, Nicholas; Galindo, Cristi L.; "Sex-based Differences in Cardiac Gene Expression and Function in BDNF Val66met Mice" (Cristi Galindo)

Session 31 Undergraduate Oral Presentations, Natural Sciences

Bowen, John "An Overview of the May 20, 2019 High-risk Day in the 2019 May Tornado Outbreak" (Josh Durkee)

Session 32 Undergraduate Oral Presentations, Natural Sciences

Obielodan, Olufunmilola "Monte Carlo Tree Search: How Much Can Be Learned from One Simulation?" (Uta Ziegler)

Session 33 Undergraduate Performance, Interdisciplinary

Taylor, Molly; Rowe, Megan; "The Effect of Age on Neurological and Peripheral Inflammatory Responses to Sleep Fragmentation in Mice" (Noah Ashley)

Session 34 Graduate Posters, Interdisciplinary

Thomas, Casey; Bendson, Malyra; Dinning, Kelsey; Ochs, Sarah; "Academic Screeners and Language Background: Predicting Future Performance" (Sarah Ochs)

Session 35 Undergraduate Posters, Interdisciplinary

Head, Ryan; Hinkson, Clark; Tallent, Mackenzie; Cassady, Spencer; McGowan, Ian; "Mitigating Washing Machine Vibration" (Morteza Nurcheshmeh)

Session 36 Undergraduate Posters, Natural Sciences

Meredith, Austin; Hughes, Trevor; Rice, Jeremy; Groves, Kolby; Spargo, Will; "Modeling Stresses on Wind Turbine Blades" (Manohar Chidurala)

Session 37 Undergraduate Posters, Natural Sciences

Hourigan, Amy; Groves, Chris; Kambesis, Patricia; Gripshover, Margaret; Bledsoe, Lee Anne; Singer, Autumn; "Hidden Landscapes: Potentially Vulnerable Communities in the Karst Groundwater Region" (Chris Groves)

Session 38 Undergraduate Posters, Natural Sciences (tie)

Rigney, Kendra "The Role of Protective Factors for Nonsuicidal Self-injury in Sexual Minority Individuals" (Amy Brausch)

Okocha, Assumpta "Using Logic Models to Evaluate Educational Practices to Reduce Exclusionary Punishment and Increase Positive Behaviors for Minority Students" (Thomas Gross)