Session Winners

Friday, April 9\textsuperscript{th}  
2 pm CDT

Saturday, April 10\textsuperscript{th}  
9 am CDT
The 51\textsuperscript{st} 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, Ayuob 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

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

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  "Daviess 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)