

56th Annual



SATURDAY, APRIL 11
DOWNING STUDENT UNION

Western Kentucky University • Bowling Green, Kentucky

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Showcase Schedule

Student and Session Chairs Registration

8:00 AM – 1:00 PM

- Location: First Floor Lobby
- Ongoing throughout the day
- Please register at least 30 minutes before your session begins.

Morning Session I

9:00 AM – 10:00 AM

- **Graduate Student Oral Presentations:**
 - Rooms 2123, 2124, 3003, 3005, 3006, 3007, 3020, 3023, 3024, 3025
- **Posters:** First and Second Floor Atriums
 - Presenters are asked to remove their posters at the end of the session.

Morning Session II

10:15 PM – 11:15 PM

- **Undergraduate Oral Presentations:**
 - Rooms 3003, 3005, 3006, 3007, 3020, 3023, 3024, 3025
- **Posters:** First and Second Floor Atriums
 - Presenters are asked to remove their posters at the end of the session.

Lunch Break with Big Red at Photo Booth

11:15 AM – 12:15 PM

- Complimentary lunch tickets will be provided to presenters, co-presenters, and Session Chairs who requested lunch within the Showcase portal prior to event day.
- Please pick up your lunch ticket with your nametag at the registration table.

Afternoon Session

12:30 PM – 1:30 PM

- **Undergraduate Oral Presentations:**
 - Rooms 3003, 3005, 3006, 3007, 3020, 3023, 3024, 3025
- **Posters:** First and Second Floor Atriums
 - Presenters are asked to remove their posters at the end of the session and to bring the board to the Registration table.

Showcase Overview

The 56th Annual WKU Student Scholar Showcase proudly presents 254 research projects and creative works, including 157 posters and exhibits and 97 oral presentations. The interdisciplinary nature of the showcase shines through in the diverse range of topics covered. Student participants represent the following schools, departments, programs, and institutes at WKU from all colleges, reflecting the wide spectrum of academic and creative excellence.

1. Agriculture and Food Science
2. Architectural Science
3. Art and Design
4. Biology
5. Business Data Analytics
6. Chemistry and Biochemistry
7. Communication Sciences and Disorders
8. Computer Science
9. Earth, Environmental, and Atmospheric Sciences
10. Economics
11. Engineering and Applied Sciences
12. English
13. Environment, Health, and Safety
14. Family and Consumer Sciences
15. Folk Studies and Anthropology
16. Gatton Academy of Math and Science
17. Health Sciences
18. History
19. Information Systems
20. Interdisciplinary Studies
21. Kinesiology, Recreation and Sport
22. Leadership and Professional Studies
23. Mathematics
24. Modern Languages
25. Physical Therapy
26. Physics and Astronomy
27. Political Science
28. Psychological Sciences
29. Psychology
30. Public Health
31. Social Work
32. Special Instructional Programs
33. Teacher Education
34. Theatre and Dance

Acknowledgements

On behalf of the entire campus community, the WKU Student Scholar Showcase extends heartfelt appreciation and congratulations to the hundreds of students participating in this Showcase. Your talent, creativity, and dedication exemplify academic excellence and inspire those around you. We celebrate your achievements and commend your commitment to making the most of your educational journey at Western Kentucky University.

We also recognize the invaluable contributions of WKU faculty and staff who mentor students in their research and creative projects. These mentors, listed alongside each student in the session details, provide essential guidance and support. Many also serve as Session Chairs, ensuring a seamless Showcase experience.

Funding for the 56th Annual WKU Student Scholar Showcase was generously provided by the Office of the Provost and Vice President for Academic Affairs and the Office of Research and Creative Activity. Many of the projects presented at the Student Scholar Showcase were funded by internal research and creative activity initiatives like the Faculty-Undergraduate Student Engagement (FUSE) grant and graduate-level research and travel grants.

We extend our gratitude to Mary Bidwell, Alicia Carter, Scott French, Katie Corbin, and the WKU Office of Communications and Marketing team for their vital assistance with Showcase artwork, promotions, photography, and media outreach. Special thanks to Diana Keeling for expert web development support.

The Downing Student Union team, led by Meygan Oliver, played a crucial role in Showcase logistics, with WKU Dining and WKU Catering ensuring lunch and refreshments. Thanks as well to James Turner, Logistics Coordinator for WKU Postal Services, for transporting 53 easels and large boards to the event site.

The WKU Student Scholar Showcase Council organizes this annual event, with representation from Academic Colleges, Communications and Marketing, Downing Student Union, Gatton Academy, and the Office of Research and Creative Activity. The 2025-2026 Council members include Dr. Jenni Redifer, Dr. Jeffrey Budziak, Dr. Ritchie Taylor, Dr. Cathleen Webb, Dr. Lily Zhuhadar, Dr. Samuel Earls, Mr. Andrew Adler, Mary Bidwell, Meygan Oliver, and Mrs. Kathleen Landers.

Finally, we sincerely appreciate the students, faculty, staff, community members, friends, and family who contributed to today's success. Your support makes this event possible.

Session Chairs Special Thanks

We extend our sincere gratitude to the WKU faculty and staff who served as Session Chairs at this year's Showcase. Their time and dedication were instrumental in ensuring a successful event. Many have generously volunteered for years, even decades, and we deeply appreciate their continued support. We welcome and are grateful for the new faces as well!

Mustafa Atici, Department of Computer Science
Dr. Ferhan Atici, Department of Mathematics
Dr. Simran Banga, Department of Biology
Dr. Jerald Brotzge, Director of Kentucky Mesonet and Kentucky Climate Center
Dr. David N. Brown, Dean, Ogden College of Science and Engineering
Dr. Tanya Burgess, Department of Social Work
Catherine Cornwell, Department of Chemistry and Biochemistry
Dr. Lindy Davidson, Director of Mahurin Honors College
Dr. Zach S. Farley, Department of Public Health
Dr. Nahid Gani, Department of Earth, Environmental, and Atmospheric Sciences
Brooke Gross, Health Science Librarian, WKU Libraries
Dr. Chris Groves, Director of Crawford Hydrology Laboratory
Dr. Darbi Haynes-Lawrence, Department of Applied Human Sciences
Dr. Sandra Hughes, Department of English
Prof. Trish Lindsey Jagers, Department of English
Dr. Pat Kambesis, Department of Earth, Environmental, and Atmospheric Sciences
Jae Kim, Department of Public Health
Dr. Rodney King, Department of Biology
Dr. Jeremy B. Maddox, Department of Chemistry
Dr. Sara McCaslin, WKU Libraries
Prof. Yvonne Petkus, Department of Art and Design
Dr. Sarah Scali, School of Kinesiology, Recreation & Sport
David A. Serafini, Instructor, Department of History
Dr. Navdeep Singh, Department of Agriculture and Food Science
Dr. Katie Steffen, Department of Applied Human Sciences
Dr. Whitley Stone, Department of Kinesiology, Recreation and Sport
Dr. Zachary Suriano, Department of Earth, Environmental, and Atmospheric Sciences
Sebastian Themelis, University Archivist, WKU Libraries
Dr. Robin Valenzuela, Department of Folk Studies & Anthropology
Dr. Huanjing Wang, School of Engineering and Applied Sciences
Dr. Adam West, Department of Applied Human Sciences
Dr. Tong Wu, Department of Analytics and Information Systems

Morning Session I – Graduate Student Oral Presentations | 9:00 – 10:00 AM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
2123	9:00	Victor	Aham	Automated Salt Delineation in the Gulf of Mexico: A Deep Learning Approach to 3d Seismic Segmentation	Royhan	Gani
2123	9:15	Ljubomir	Risteski	Utilizing Structural Lineament Mapping with Digital Elevation Models for Understanding Speleogeneic Patterns in the Mammoth Cave Plateau	Patricia	Kambesis
2123	9:30	Riley	Summers	Risk Assessment of Heavy Metals from Stormwater and Sedimentation in Class V Injection Wells in Urban Karst Groundwater Systems	Jason	Polk
2123	9:45	McKenzie	Bertsch	Environmental Distribution and Vector Transport of Microplastics and Heavy Metal Contamination in Karst Groundwater Systems	Jason	Polk
2124	9:00	Gracie	Hendrickson-Brown	Prevalence and Source Tracking of Perfluoroalkyl and Polyfluoroalkyl (pfas) Substances in Urban Karst Groundwater Systems	Jason	Polk
2124	9:15	Lorenzo	Moreno	Scalable Groundwater Flood Forecasting for Urban Karst Environments Using a Hybrid Modeling Approach	Jason	Polk
2124	9:30	Gregory	Sitz	Developing an Integrated Flood Modeling Approach for FEMA Floodplain Mapping in Karst Watersheds	Jason	Polk
2124	9:45	Charlie	Alavi	Improving Paleofire Reconstructions Using Geospatial Analysis to Calibrate Charcoal Records from Jackson Lake, Wyoming	Gilliane	Rasbold
3003	9:00	Kamal	Biswakarma	Evaluating Spatial and Temporal Patterns in Climate across a Small Urban Area: A Case Study of Bowling Green, Kentucky	Jerald	Brotzge
3003	9:15	Benjamin	Woodson	Trends and Influencing Factors in Weather-related Fatalities in Kentucky from 1900 to 2025	Jerald	Brotzge
3003	9:30	Harmony	Guercio	Disaster Science Operations Center: A State Hub for Disaster Research and Resilience	Joshua	Durkee
3003	9:45	Thomas	Payette	Kentucky Artificial Intelligence Research: A situational Awareness Tool for Meteorologists and Emergency Managers	Joshua	Durkee
3005	9:00	Nana	Pinkrah	Climatology of Severe-storm Environments in the Ohio River Basin Derived from Era5	Xingang	Fan
3005	9:15	Joycelyn	Adjekum	Synoptic Environments of Major Flood Events in the Ohio River Basin: A Case Study Analysis	Xingang	Fan
3005	9:30	Sujan	Adhikari	Ai-driven Seismic Hazard and Risk Assessment Using High-resolution Lidar in Western Kentucky	Nahid	Gani
3005	9:45	Samir	Pahari	High-resolution Machine Learning-based Flood Susceptibility Mapping in the North Fork Kentucky River Basin, Eastern Kentucky	Nahid	Gani

Morning Session I – Graduate Student Oral Presentations (Continued) | 9:00 – 10:00 AM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
3006	9:00	Sanskar	Adhikari	Analysis of Extreme Hydroclimatic Events: Rainfall and Streamflow in the Salt River Basin, Kentucky	Zachary	Suriano
3006	9:15	Makayla	Bizzell	Secondary Agricultural Mechanics Instructors Adaptations When Integrating Special Needs Students into the Laboratory Environment	Thomas	Kingery
3006	9:30	Jadyn	Sanchez	Establishing Current Holstein Udder Conformation: A Multi-Herd Survey of Linear Classification Traits	Phillip	Gunter
3006	9:45	Sandesh	Kumar	Responses of Soil Physical Conditions to Varying Fertilizer Inputs under Tomato (<i>Solanum lycopersicum</i> L.) Production	Navdeep	Singh
3007	9:00	Claire	Trudelle	Effect Of Partially Replacing Beef with Texturized Plant Proteins on Cooking Performance and Color Change in Beef Hybrid Patties	Luiz	Silva
3007	9:15	Sonia	Ali	The effects of Wnt/ β -catenin upregulation on regeneration and recovery post-spinal cord injury (SCI) in larval sea lamprey (<i>Petromyzon marinus</i>)	Hilary	Katz
3007	9:30	Ayanfe	Ashaolu	Characterization of an Antibody to Detect the Nuclear Pore Complex in <i>Drosophila melanogaster</i>	Joseph	Marquardt
3007	9:45	Sandesh	Koirala	Epigenetic Reprogramming in <i>Legionella pneumophila</i> Infections	Simran	Banga
3020	9:00	Rebecca	Awe	Molecular Dynamics Insights into SO ₂ -Water Interactions during Aerosol Formation	Matthew	Nee
3020	9:15	Trace	Myers	Feasibility Of Virtual Reality Gaming As an Intervention for Subjects with Persistent Low Back Pain	David	Bell
3020	9:30	Emily	Miller	Perceptions Of Pregnant and Postpartum Women on Pelvic Floor Physical Therapy in a Rural Healthcare Setting	Ashton	McPherson
3020	9:45	Lexie	Hawkins	The Development and Impact of a Student Run Mobility Clinic	Beth	Norris
3023	9:00	Michael	Seavers	Identifying The Optimal Number of Dataloader Workers for Cpu-gpu Concurrency in Asynchronous Deep Training Pipelines	Qi	Li
3023	9:15	Gabrielly	Chechi Giraldi	Effects Of Aging Period and Phosphate Inclusion on Emulsified Sausage Physical Properties	Luiz	Silva
3023	9:30	Annie	Arugha	Quantitative Analysis of Antimicrobial β -defensin Proteins in Bovine Milk Using Liquid Chromatography-mass Spectrometry	Eric	Conte
3023	9:45	Olusegun	Adebayo	Generalized Master Theorem in analysis of divide-and-conquer algorithms	Ferhan	Atici
3024	9:00	Berdimyrat	Annamuradov	The Crystallinity and Morphology Change in Pld Al/zr Multilayer Thin Films at Different Temperature	Ali Oguz	Er
3024	9:15	Begench	Gurbandurdyev	Enhanced Photodynamic Antibacterial Activity Using Plal-synthesized Gold Nanoparticles and Efflux Pump Inhibition	Ali Oguz	Er

Morning Session I – Graduate Student Oral Presentations (Continued) | 9:00 – 10:00 AM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
3024	9:30	Bradley	Aguilar Guerra	The Next Generation: An Analysis of Cultural Risk and Protective Factors in Alcohol and Cannabis Use Among Multigenerational Latinos	Jenni	Teeters
3024	9:45	Emmanuel	Siyanbola	Hybrid Deep Learning for Bitcoin Volatility and Value-at-risk Forecasting	Lukun	Zheng
3025	9:00	Evangeline	Osabutey	The Fiction of Cultural Purity: Queerness and Narrative Authority in Ghana	Kristi	Branham
3025	9:15	Ashley	Staggs	Reducing Chronic Absenteeism: Applying Improvement Science in An Elementary School Context	Wes	Cottongim
3025	9:30	George	Cruz	First Responder Wellness	Dana	Sullivan
3025	9:45	Keira	Cortes-Sheroan	Revisiting the 2016-2017 Math Mindfulness Seminar Series Participants: What has changed now that it is 2025?	Janet	Tassell

Session Chairs for Oral Presentation Rooms:

Room 2123 Catherine Cornwell and Sandra Hughes

Room 2124 Nahid Gani

Room 3003 Patricia Kambesis

Room 3005 Zachary Suriano and Chris Groves

Room 3006 Zachary Farley and Yvonne Petkus

Room 3007 Simran Banga

Room 3020 Mustafa Atici and Brooke Gross

Room 3023 Jeremy Maddox

Room 3024 David Brown and Rodney King

Room 3025 Tanya Burgess and Robin Valenzuela

Morning Session I – Poster Presentations | 9:00 – 10:00 AM

1st Floor (Boards 1–18)

Session Chairs: Ferhan Atici, Jerry Brotzge, Lindy Davidson

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
1	Kathryn	Hetzer	Assessment of sex differences in the peripheral inflammatory response to chronic sleep fragmentation	Noah	Ashley
2	Dylan	Henry	Sex-Based Differences in Neuroinflammatory Responses in Chronic Sleep Fragmentation in Mice	Noah	Ashley
3	Anik	Pansuria	Stress hormones and sleep architecture in mice: establishing a dose-response relationship.	Noah	Ashley
4	Sanam	Krishnani	Sex-based Differences in Neuroinflammatory Responses to Chronic Sleep Fragmentation in Mice	Noah	Ashley
5	Eaden	Chang	Exploring Diversity: Comparison Of Novel Bacteriophages Pogobogo and Asterisk	Rodney	King
6	Ava	Carver	Bacteriophage Diversity and Ubiquity: Comparing and Contrasting Mycobacteriophages Budgie and Opalite	Rodney	King
7	Rachel	Palumbo	Discovery And Isolation of Mycobacteriophage Smokels	Rodney	King
8	Aleen	Bakhos	Comparative Analysis of Mycobacteriophages Estrellaosis and Limatchia	Rodney	King
9	Kat	Tellez	Study & Characterization of Mycobacteriophage Bennyp	Rodney	King
10	Abigail	Darling	Characterization Of Ctc1 Overexpression in Stn1 Knockout Cells	Jason	Stewart
11	Andrew	Jackson	Defining The Roles of Stn1's Winged-helix Domains in Cst Mediated Telomere Maintenance and Genome Stability	Jason	Stewart
12	Inyeneabasi	Ekrikpo	Analysis Of the Role of Shelterin in Telomere Protection in Cst-deleted Cells	Jason	Stewart
13	Samantha	Dudley	Synthetic methodology studies on substituted indoles: Applications of C-H activation in bioactive molecules preparation	Lei	Li
14	Ifechukwu	Enem	Computational Evaluation of a Proposed Menadione-ascorbic Acid Polymerization Mechanism	Jeremy	Maddox
15	Ayomide	Akangbe	Synthesis of diesters via the esterification of L-ascorbic acid with dicarboxylic acids	Lawrence	Hill
16	Adam	Meadows	Towards Vitamin C Polymerization Via Acetal Linkages and Ene-diol Functionalization	Lawrence	Hill
17	Chibuzor	Anatune	Functionalizing The Artificial Molecular Muscles with The Property of Self-healing	Lei	Li
18	Chibuzor	Uwazie	Synthesis, Characterization and Kinetic Investigation of a High Valent Iron Oxo Phthalocyanine Complex	Rui	Zhang

Morning Session I – Poster Presentations | 9:00 – 10:00 AM

2nd Floor (Boards 19–52)

Session Chairs: Sara McCaslin, Whitley Stone, Sebastian Themelis, Adam West

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
19	Sorrell	Brown	Neuromast Structure in a Larval Jawless Vertebrate, Sea Lamprey	John	Andersland
20	Hannah	Coleman	Patterns Of Association Between Parasites and Bats from Madagascar	Carl	Dick
21	Kelsie	McCorkle	Ballistic Testing of Upper Jaws in Scale and Non-scale Feeding Lepidophages Using a Spring-loaded Rail Gun	Steve	Huskey
22	Cole	Meador	Spatial Transcriptomics Reveals Molecular Pathways Underlying Neural Regeneration in Larval Sea Lampreys	Hilary	Katz
23	Sophia	Thomas	The Connection of Yeast to Tumors: Exploring Boi1/boi2's Role in Cell Cycle Control and Cancer	Joseph	Marquardt
24	Emma	Thorn	Coordination of Cell Growth by Two Yeast Kinases to Control Cell Shape	Joseph	Marquardt
25	Lauren	Hale	Generating Phenotypes Resulting from The Targeted Knockdown Of V-ATPase In Drosophila Melanogaster	Joseph	Marquardt
26	Amanda	Deo	Investigating The Role of Lte1 and Kin4 in Yeast Cell Division and Morphology	Joseph	Marquardt
27	Lilian	Branch	Coordination Of Two Yeast Kinases Localization Patterns to Control Cell Shape	Joseph	Marquardt
28	Presley	Neagle	Cell Shape Is Mediated by a Joint Effort Between a Septin-associated Kinase and Endocytic Protein.	Joseph	Marquardt
29	Jiwoo	Kim	Communities Of Microinvertebrates in Bromeliads	Martin	Stone
30	Jade	Ismail	Estrogenic and Antiandrogenic Signaling Pathways in Transfeminine Gender-Affirming Hormone Therapy: Molecular Mechanisms, Physiological Outcomes, and Epidemiology	Aaron	Wichman
31	Paul	Calloway III	Neural Correlates of Plantar Flexion Response Preparation: A Mobile EEG Study	Patrick	Ledwidge
32	Jaime	Heckler	Direction-informed Cueing Effects on Plantar Flexion Response Conflict	Patrick	Ledwidge
33	Ama	Boateng	Paternal Intrusiveness: The Roles of Parent Efficacy, Temperament, and Support	Diane	Lickenbrock
34	Lily	Haynes	Analyzing Differences in Parenting Between Mothers and Fathers: Associations Between Parental Beliefs and Behaviors in Early Infancy	Diane	Lickenbrock
35	Keegan	Miller	Hush, Little Baby Don't Say a Word, Mama's Going to Sooth All Your Hurt: Examining the Association Between Infant Soothing and Reactivity with Mothers and Fathers	Diane	Lickenbrock

Morning Session I – Poster Presentations (Continued) | 9:00 – 10:00 AM

2nd Floor (Boards 19–52)

Session Chairs: Sara McCaslin, Whitley Stone, Sebastian Themelis, Adam West

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
36	Jordan	Wilson	Reduced Facial Cue Strength Introduces Nuance into Observers' Emotion Judgements	Andrew	Mienaltowski
37	Johnathan	Wright	Identity Fusion Predicts Stronger Negative Relationships Between Liking of the Two Main Political Parties	Aaron	Wichman
38	Kaitlynn	Wofford	Reliability of the ActivForce2 in Assessment of Rate of Force Development in Collegiate Level Baseball Players	Penny	Head
39	James	Bush	Student Observation of Exercise Prescription Practices by Clinical Instructors During Clinical Rotation	Anthony	Mancini
40	Jae	McReynolds	Prevalence of Burnout Among Physical therapists with various levels of experience	Kurt	Neelly
41	Aaron	Self	Assessing The Quality of Mobile Apps Used in Outpatient Orthopedic Physical Therapy Practice	Beth	Norris
42	Dylan	Freeman	Effects of the Universal Wellness Six-week Bingocize; Intervention on Functional Performance and Fall Risk in Older Adults	Silvio	Polly
43	Noah	Goodman	The Immediate Effects of Computerized Dynamic Posturography with Perturbation Training on Limits of Stability in Older Adults	Sonia	Young
44	Mackenzie	Senig	Using Limestone Dissolution Kinetics to Evaluate the Evolution of the Cathedral Domes Complex, Mammoth Cave, Kentucky	Chris	Groves
45	Chris	Gachagua	Assessing the Impact of Persulfate Oxidants on Fluorescent Dye Detection	Lee Anne	Bledsoe
46	Matthew	Menig	An Updated Kentucky Snowfall Impact Scale (kysis)	Gregory	Goodrich
47	Thorin	Byrd	From Plantations to Petrochemicals	Patricia	Kambesis
48	Addison	Keyton	Feature Inventories as Windows into Speleogenesis: A Comparative Study of Two Caves in Hart County, Kentucky	Patricia	Kambesis
49	Jenna	Clark	Myths And Misconceptions? What People Really Think About the Insanity Defense'	Christopher	Peters
50	Jazlina	Amezcuca	Physiological Effects of Discrimination/Family Stress on Mental Health	Qingfang	Song
51	Matthew	Hunter	Intrinsic vs. Performance Goals: Effects on Anxiety, Attention, and Task Performance	Steven	Wininger
52	Riley	Williams	Understanding the links between performance anxiety and psychological safety with one's coach in Olympic Weightlifting	Steven	Wininger

Morning Session II – Undergraduate Oral Presentations | 10:15 – 11:15 AM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
3003	10:15	Natalie	Strader	Building a California Critical Minerals Sample Library for NSF-funded Prospectivity Mapping	Nahid	Gani
3003	10:30	Mykah	Carden	Polygenetic Karstification in the Mammoth Cave Region	Patricia	Kambesis
3003	10:45	Allison	Blair	Geobiology Perspectives: Using Fossils to Reveal Earth's Changing Environments	Nahid	Gani
3003	11:00	Owen	Blaylock	Fault Reconnaissance, Liquefaction, and Seismic Risk in Western Kentucky: Seismic Hazard Mitigation	Nahid	Gani
3005	10:15	Pyper	Tobbe	A Comparison of Atlas 14 To Precipitation Frequency Statistics Derived from the Kentucky Mesonet	Zachary	Suriano
3005	10:30	Ryan	Hiler	Rain-on-snow Ablation: Synoptic Conditions and Trends in the Ohio River Basin	Zachary	Suriano
3005	10:45	Evan	Kidd	SPI-based Re-regionalization of Kentucky Drought Regions	Zachary	Suriano
3005	11:00	Preston	Wells	Climatology and Variability of Snowpack Depleting Ablation Events across the CONUS	Zachary	Suriano
3006	10:15	Samantha	Zaboronak	Is The Bacterium Helicobacter Pylori in Untreated Kentucky Karst Drinking Water Sources?	Chris	Groves
3006	10:30	Hannah	Minter	Affective Reactivity to Uncertainty: The Role of Intolerance of Uncertainty in Anxiety Responses	Aaron	Wichman
3006	10:45	London	Watkins	Is Generation Z Desensitized to Violence or Is Desensitization a Normative in Every Generation	Reagan	Brown
3007	10:15	Riley	Moseley	Enhancing Driver and Pedestrian Safety at Roundabouts: A Driving Simulator-based Study	Kirolos	Haleem
3007	10:30	Cassidy	Schrock	Safety Effectiveness Evaluation of Retroreflective Backplates in Kentucky Using Multiple Techniques	Kirolos	Haleem
3007	10:45	Jacob	Rowland	Factors Affecting Hydroplaning and Wet Pavement-related Crashes Involving Commercial Motor Vehicles in Kentucky	Kirolos	Haleem
3007	11:00	Ryan	Yang	Utilizing Machine Learning Techniques to Predict Diabetes Based on Health Indicator Data	Huanjing	Wang
3020	10:15	Jacob	Kennedy	Creation of a Machine Learning Supported Cell on an Academic Budget	Gregory	Arbuckle
3020	10:30	Madison	Gardner	Building a Real-time Digital Twin for Smart Manufacturing Using Multi-modal Sensor Fusion	Gregory	Arbuckle
3020	10:45	Elena	Ley	Assessing Student Learning and Engagement in an Introductory Physics Lab for Life Science Students	Scott	Bonham
3020	11:00	Christopher	Gross	Enhancement Of Methylene Blue-mediated Photodynamic Therapy Via Copper Nanoparticles Synthesized by Pulsed Laser Ablation in Liquid	Ali	Er
3023	10:15	Caelen	Gibbs	The Intersection of Dance and Religion: How Dance in Culture Creates a Global Image in Japan	Meghen	McKinley

Morning Session II – Undergraduate Oral Presentations (Continued) | 10:15 – 11:15 AM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
3023	10:30	Judah	Thornton	Evaluating Pain Through the Face: Human and Machine Coding of Genuine and Posed Pain Expressions	Andrew	Mienaltowski
3023	10:45	Noah	Wodrig	Quantifying CO2 Sequestration by Trees in Cloud Forest Growth Plots	Martin	Stone
3023	11:00	Shelby	Cooley	Gender Identity in Dance	Meghen	McKinley
3024	10:15	Lily	Newton	A Teleost Model of Melanin's Role in Otoprotection	Michael	Smith
3024	10:30	Brandon	Brion	Effect of Photodynamic Treatment on Survival of Legionella Pneumophila	Simran	Banga
3024	10:45	Ava	Matthews	Isolating the role of V-ATPase in metastasis of the air sac primordium in Drosophila	Joseph	Marquardt
3025	10:15	Gabby	Randall	Ethics Of Ai in Education — For Teachers & Students	Jeremy	Logsdon
3025	10:30	Jennifer	Stevenson	Student Choice Creative Lecture	Jeremy	Logsdon
3025	10:45	Jasey	Goff	From Struggling to Stay Above the Waves, To Creating the New Generation of Swimmers	Jeremy	Logsdon
3025	11:00	Wilson	Patterson	Impact Of Bilingual Book Access and Read-aloud Videos on English Learners' Home Literacy and Parental Engagement	Leslee	Tarbett

Session Chairs for Oral Presentation Rooms:

- Room 3003 Patricia Kambesis
- Room 3005 Zachary Suriano and Chris Groves
- Room 3006 Zachary Farley and Yvonne Petkus
- Room 3007 Simran Banga
- Room 3020 Mustafa Atici and Brooke Gross
- Room 3023 Jeremy Maddox
- Room 3024 David Brown and Rodney King
- Room 3025 Tanya Burgess and Robin Valenzuela

Morning Session II – Poster Presentations | 10:15 – 11:15 AM

1st Floor (Boards 1–18)

Session Chairs: Ferhan Atici, Jerry Brotzge, Lindy Davidson

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
1	Nishita	Chaduvula	Determining Most Applicable Variable for Moisture Climatology Situations	Jerald	Brotzge
2	Helen	Rose	Evolving Impacts of Tropical Systems on Kentucky's Climate: A Regional Comparison of Precipitation, Flooding, And Drought Impacts	Jerald	Brotzge
3	Noah	Jennings	Hydrogeologic Tracing to Improve Karst Watershed and Floodplain Planning for Jennings Creek, Kentucky	Jason	Polk
4	Olivia	Orner	Development And Implementation of The Jennings Creek/lost River Watershed Based Plan	Jason	Polk
5	Micah	Thigpen	Climate Vulnerability and Equity Assessment for Lexington-Fayette County, Kentucky	Jason	Polk
6	Quade	Miles	Climate Pollution Monitoring Via an Air Quality Network for the Bowling Green Metropolitan Statistical Area	Jason	Polk
7	Niklas	Schintgen	Preliminary Charcoal Analysis of Late Holocene Fire Activity at Jackson Lake, Grand Teton National Park	Giliane	Rasbold
8	Maya	Beckmann	A High-Resolution 800-Year Fire History of Jackson Lake, Grand Teton National Park	Giliane	Rasbold
9	Kelsey	King	Occurrence Of Freshwater Sponges in Lake Chacororé and the Cuiabá River (Mato Grosso, Brazil)	Giliane	Rasbold
10	Marietta	McGaha	A ~5,000-year Paleoecological Record of Wetland Change in Lake Chacororé, Brazilian Pantanal	Giliane	Rasbold
11	Jenna	Ducker	A Predictive Analysis of Bank Marketing Campaigns	Lily	Popova Zhuhadar
12	Christopher	Medley	Predicting Credit Default Risk Using Classification Models	Lily	Popova Zhuhadar
13	Salvador	Leon Golib	Risk Stratification in Auto Insurance: A Predictive Modeling Framework	Lily	Popova Zhuhadar
14	Ethan	Edwards	Loan Approval Classification	Lily	Popova Zhuhadar
15	Gregory	Friddell	Fake/real Job Listings	Lily	Popova Zhuhadar
16	Lance	Mason	Predicting Whether a Product Shipment Is Delivered on Time	Lily	Popova Zhuhadar
17	Samuel	Knott	House Price Prediction	Lily	Popova Zhuhadar
18	Keelin	Elmer	Predict Conversion in Digital Marketing	Lily	Popova Zhuhadar

Morning Session II – Poster Presentations | 10:15 – 11:15 AM

2nd Floor (Boards 19–52) Posters will be available for viewing during the full session time.

Session Chairs: Sara McCaslin, Whitley Stone, Sebastian Themelis, Adam West

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
19	Brian	Matthews	Microstructural Analysis of the Heat-affected Zone in Laser Cut Alloys	Benjamin	Dinan
20	Erika	Goss	Design And Development of a Three-wheeled Electrically Assisted Human Powered Vehicle for the Asme E-hpv Challenge	Benjamin	Dinan
21	Humaira	Faizi	Airline Delay Prediction Using Scheduling Data	Lily	Popova Zhuhadar
22	Delaney	Jennings	New Leaf	Shahnaz	Aly
23	Ellie	Ralston	Seed And Soil	Shahnaz	Aly
24	A.J.	McKeehan	Reimagining The Church as a Community Centered Space	Shahnaz	Aly
25	Laila	Mageed	Azure Vista	Shahnaz	Aly
26	Tanner	Caffey	South B.G. Community Center	Shahnaz	Aly
27	Jaden	Spencer	RIGHT MIND STUDIO: Atlanta Creative Hub	Shahnaz	Aly
28	Christopher	Meredith	Predicting Loan Defaults	Lily	Popova Zhuhadar
29	Kobe	Ledford	Loan Default Data	Lily	Popova Zhuhadar
30	Ethan	Osbourne	What Makes a Song Popular?	Lily	Popova Zhuhadar
31	Jeremiah	Rodriguez	Predicting Parole Violations	Lily	Popova Zhuhadar
32	Hunter	Raymer	Student Academic Stress in Real World	Lily	Popova Zhuhadar
33	Andrew	Solley	Predicting Car Prices for Carvana	Lily	Popova Zhuhadar
34	Kevin	Albert	Hydration Status Prediction Using Automl: Classifying Daily Hydration Patterns from Lifestyle and Environmental Factors	Lily	Popova Zhuhadar
35	Lily	Meade	Pathways to suicide attempts and nonsuicidal self-injury in young adults	Amy	Brausch
36	William	Marcum	Linear Perspective As a Source of Information About Environmental Slant.	Farley	Norman
37	Sophie	Jerome	Attitudes Toward Use of Support Networks in Survivors of Childhood and Adulthood Sexual Assault	Matthew	Woodward

Morning Session II – Poster Presentations (Continued) | 10:15 – 11:15 AM

2nd Floor (Boards 19–52)

Session Chairs: Sara McCaslin, Whitley Stone, Sebastian Themelis, Adam West

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
38	Hanna	Forrest	Utilization Of Stress Management Techniques in A Digital Health Intervention	Matthew	Woodward
39	Hannah	Pounders	Alcohol-related Differences Among College Students with And Without a History of Sexual Assault.	Matthew	Woodward
40	Dalton	Dickerson	Examining The Interpersonal Context of Betrayal-Related Trauma	Matthew	Woodward
41	Areej	Ali	Risk And Protective Moderators of Social Media Use and Psychological Well-being	Qin	Zhao
42	Berdimyrat	Annamuradov	Direct Laser Shockwave Imprinting of Shape Memory Alloys with Tunable Surface	Ali Oguz	Er
43	Hosamulhaq	Brula	Laser-Produced Gold Nanoparticles for Enhanced Photodynamic Therapy Against Pathogenic Bacteria	Ali Oguz	Er
44	Prthu	Naik	Developing a Temperature Control System for WKU's Wood Burning Kiln	Ivan	Novikov
45	Samuel	Gordon	Rolling With Viscosity: Studying Fluid-filled Cylinder Oscillations on a Tautochrone Ramp	Ivan	Novikov
46	Robert	Purvis	Worm: Simulating DNA Oligomers with Induced Central Bends Measured Under Dry Afm Conditions	Kevin	Williams
47	Ismail	Gilani	Heterodinuclear Metal-organic Coordination Polymers as Catalysts for Photoreduction of Carbon Dioxide in Visible Light	Bangbo	Yan
48	Leah	Chen	Bioinspired Co2 Capture: Mimicking Carbonic Anhydrase with A Zn(ii) Histidine Metal Organic Framework	Bangbo	Yan
49	Alexander	Bentley	Guanine-triggered Ring Opening in A Platinum(ii) Tridentate Complex	Kevin	Williams
50	Malleswar	Jayaraman Suresh	Mathematical Modeling of Diabetic Foot Ulcers with Individual Patient Data	Richard	Schugart
51	Kenedi	Ashburn	Novel Control Design and Lyapunov-Based Exponential Stability Analysis for a SCOLE-Inspired Beam-Mass-Beam Configuration with Interface Rotational Inertia	Ozkan	Ozer
52	Zoe	Brown	Stability-preserving Finite Difference Approximation for Interconnected Wave Equations with Discontinuous Transmission Control	Ahmet Ozkan	Ozer

Afternoon Session – Undergraduate Oral Presentations | 12:30 – 1:30 PM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
3003	12:30	Jalyn	Radford	Developing a Severe Weather Risk Distribution Methodology Using Atmospheric Reanalysis Data and Gaussian KDE/Logistic Regression	Xingang	Fan
3003	12:45	Alexander	Honeycutt	Examining The Synoptic and Mesoscale Environment of the March 2, 2012 Eastern Kentucky Tornadoes	Xingang	Fan
3003	1:00	Kevin	Riley	Climatology of Solar Radiation Across Kentucky using Observations from the Kentucky Mesonet	Jerald	Brotzge
3003	1:15	Alyssa	Schuler	Development of the Climatological Library of the Commonwealth of Kentucky (CLOCK)	Jerald	Brotzge
3005	12:30	Jonah	Hall	Mid-south Ice Damming	Zachary	Suriano
3005	12:45	Alexis	Fugatt	Snowfall Phenology in the Central United States: A Climate Change Signal	Zachary	Suriano
3005	1:00	Zachary	Fuquay	Rain-on-snow Ablation in the Ohio River Valley: Synoptic Conditions	Zachary	Suriano
3006	12:30	Wyatt	Mick	Still Here	Shaina	Feldman
3006	12:45	Quincy	Calico	The Salamander: Children's Books through a Filmmaking Lens	Shaina	Feldman
3006	1:00	Haley	Barth	Thresholds of Representation	Yvonne	Petkus
3006	1:15					
3007	12:30	Lydia	Crisp	South Korean Perceptions on Reunification with North Korea	Timothy	Rich
3007	12:45	Rowan	Bailey	The Impact of Local Government Outreach on Perceptions of Performance and Policy Support	Joel	Turner
3007	1:00	Elizabeth	Mikeworth	Boundaries of Belonging: Exploring Public Perceptions of Immigrants in South Korea	Timothy	Rich
3007	1:15					
3020	12:30	Lincoln	Potts	Development of the BaF2 Large Angle Detector Array Design for use in NOPTREX experiment for Precision Angular Correlation Measurements	Ivan	Novikov
3020	12:45	Brennan	Edwards	Development And Characterization of Baf2 Gamma Detector for Baffld Array	Ivan	Novikov
3020	1:00	Prthu	Naik	Tracking Radiation in a Cloud Chamber Using a Stereo Camera DAQ	Ivan	Novikov
3023	12:30	Maysn	Hughes	Geoheritage of Western Kentucky University's Campus: From Ancient Seas to Modern Hilltops	Royhan	Gani
3023	12:45	Cing	Dim	Energy Delay Product Analysis of CPU-GPU Synchronization in Deep Learning Pipelines	Qi	Li

Afternoon Session – Undergraduate Oral Presentations (Continued) | 12:30 – 1:30 PM

Room	Start Time	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
3023	1:00	Amber	Wu	Trigonometric Matrices on Time Scales	Ferhan	Atici
3023	1:15	Sean	Williams	Exploring The Inconsistencies in the Rankings of Five Card Draw Poker	Dominic	Lanphier
3024	12:30	Alejandro	Ramirez	Comparing Cannabis Product Use Among Kentucky College Students	Jenni	Teeters
3024	12:45	Abbigail	Key	Hidden Influences: Evaluating the Influence of Regulatory Capture on Kentucky's Environmental Policies	Jacqueline	Basham
3024	1:00	Christina	Colovos	Human Exceptionalism in the Bible and Richard Powers' the Overstory	Wes	Berry
3025	12:30	Madison	Butler	Drawn Boundaries: Dehumanization And Containment in the U.S.	Robin	Valenzuela
3025	12:45	Avery	Smith	Behind The Letters: An Ethnographic Study of WKU Greek Life Advisors	Kate	Hudepohl
3025	1:00	Matthew	Taylor	The Black Patch War: America's Only Populist Revolt	Katherine	Lennard
3025	1:15	Elena	Adkins	"It Is Plain that the Pulpit Must Have Something to Say": Human Rights in the Social Gospel Movement	Patricia	Minter

Session Chairs for Oral Presentation Rooms:

- Room 3003 Patricia Kambesis
- Room 3005 Zachary Suriano and Chris Groves
- Room 3006 Zachary Farley and Yvonne Petkus
- Room 3007 Simran Banga
- Room 3020 Mustafa Atici and Brooke Gross
- Room 3023 Jeremy Maddox
- Room 3024 David Brown and Rodney King
- Room 3025 Tanya Burgess and Robin Valenzuela

Afternoon – Poster Presentations | 12:30 – 1:30 PM

1st Floor (Boards 1–18)

Session Chairs: Darbi Haynes-Lawrence, Trish Lindsey Jagers, Jae Kim, Sarah Scali

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
1	Lori	Fitzgerald	A Multi-Zone Analysis of Residential Radon Dynamics in a Single-Family Home in Kentucky	Osama	Mansour
2	Alicia	Konichek	How Do Agricultural Education Mechanics Teachers at The Secondary Level Identify and Handle Mental Health Issues That Are Caused by Their Profession?	Thomas	Kingery
3	Md Jiad Ur	Rahaman	Soil Hydraulic Behavior as Influenced by Long-term Tillage and Nutrient Management.	Navdeep	Singh
4	Keaton	Garrison	Bird Diversity in Cloudbridge, Costa Rica	Martin	Stone
5	Julia	Schuurman	Effects of Performance Activity and Firocoxib Administration on Temporomandibular Joint (TMJ) Sensitivity in Collegiate Western IHSA Horses	Paige	Smith
6	Remi	Hensley	Stress Impact in Horses after Hay Exposure in Pasture	Debra	Shoulders
7	Audrey	Cowan	Competition-associated Changes in Temporomandibular Joint Sensitivity in Western Performance Horses	Debra	Shoulders
8	Emma	Macy	Answering the Call: Connections Between Volunteerism and Mental Health	Ritchie	Taylor
9	Tiara	Barbour	The Outcome of Library Staff Training on Human Trafficking	Daniel	Boamah
10	McKenna	Ravenscraft	Estrangement in Later Life: A Pilot Study of Older Women Estranged from their Adult Children	Gayle	Mallinger
11	Shea	Ryan-Kessler	Assessing the Symptomology of Autistic Students in Higher Education	Peyton	Collins
12	Matthew	Keynon	When Physics Hits the Road: Teaching Momentum Through Traffic Collision Analysis	Martha	Day
13	Abigail	Blakeman	Expressive Arts and Their Effects on Childhood Cultural Adaptation	Tiffany	Bostic-Brown
14	Emma	Hicks	Blind Loyalty to the Sunk-cost Decision of An Angry Leader	Young-Jae	Yoon
15	Rina	Ricketts	Stability Over Flexibility? Beliefs about Morality and Psychological Well-Being	Qin	Zhao
16	Maya	Rackliffe	Changing Beliefs About Anxiety: Effects on Anxiety but Not Memory	Qin	Zhao
17	Evy	Lantz	Reframing Self-doubt: Examining Mindset and Self-compassion Interventions in Evaluative Academic Contexts	Qin	Zhao
18	Samantha	Gerdes	The Impact of Content Creation on the Language Learner: A Study of Self-perception, Language Skills, and Content Strategy	Ke	Peng

Afternoon Session – Poster Presentations | 12:30 – 1:30 PM

2nd Floor (Boards 19–53)

Session Chairs: David Serafini, Navdeep Singh, Katie Steffen, Huanjing Wang, Tong Wu

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
19	Melanie	Stewart	Investigating Function Translation to Make Upper Division Math Courses More Relevant for Prospective Teachers	Nicholas	Fortune
20	Natalie	Clark	Computational Evaluations of Functions	Dominic	Lanphier
21	Kennedi	Walker	Covid Literature in School Psychology	Sarah	Bonis
22	Kaymin	Wilkins	The Relationship Between Peer Exclusion in Childhood and The Fear of Abandonment in Adults with Borderline Personality Disorder	Sarah	Bonis
23	Halley	Akers	Gender Perceptions on Sexual Crime and Sentencing	Amber	Giacona
24	Peyton	Dover	Examining The Effectiveness of Multiple Independent Lineup Technique (MILT) In Adults	Amber	Giacona
25	Nathan	Stolz	Mt. Juliet Community Hub: Bridging Expansion & Belonging	Shahnaz	Aly
26	Hunter	Clemons	Optimizing Learning in A Rural Community Through Steam-inspired Architecture	Shahnaz	Aly
27	Evan	Wheeler	Kentucky Steam Heritage Roundhouse & Museum: Where Tradition Inspires Modernity	Shahnaz	Aly
28	Charlie	Kirkus	Hospitality As Cultural Expression: Architecture Rooted Through Place, Music, And Community	Shahnaz	Aly
29	Kenia	Browder	Cornerstone Commons	Shahnaz	Aly
30	Skylar	Simon	Haven House Concert Hall	Shahnaz	Aly
31	Elaine	Pham	Restorative Nature & Design: An Architectural Reworking of Behavioral Health Spaces	Shahnaz	Aly
32	Landon	Reynolds	Owensboro First Baptist	Shahnaz	Aly
33	Pramesh	Rai	The Lillian Hearld Community Center: A Safe and Inclusive Space	Shahnaz	Aly
34	Emma	Keerpestein	A Community Hub: Designing A Clubhouse in Bowling Green, Ky	Shahnaz	Aly
35	Denver	Daniels	Forever Forward Foundation	Shahnaz	Aly
36	Chase	Duggins	The Bluegrass Commons Community Center	Shahnaz	Aly
37	Michael	Huber	Huber's Distillery	Shahnaz	Aly
38	Zachary	Young	Association Between Sleep Duration/quality And Physical Performance in College Students	Jean	Chen

Afternoon Session – Poster Presentations (Continued) | 12:30 – 1:30 PM

2nd Floor (Boards 19–53)

Session Chairs: David Serafini, Navdeep Singh, Katie Steffen, Huanjing Wang, Tong Wu

Board #	Student First Name	Student Last Name	Abstract Title	Mentor First Name	Mentor Last Name
39	Michael	Hernandez	Longitudinal Effects of Repeated Bingocize® Participation on Functional Performance: A 12-month Pilot Study	Mark	Schafer
40	Gray	Clark	Equal Tests, Different Results: Is There a Difference Between the Air Force's Standard and Alternative Protocol to Fitness Testing?	Whitley	Stone
41	Graycee	West	Mothers' Descriptions of Early Social Communication Skills in Autistic Preteen Girls Without Intellectual Disability	Jenny	Burton
42	Sarah	Thompson	VR Climate Science Modeling: Extreme Heat on WKU's Campus	Michael	Galloway
43	Ndaye	Bakari	Optimizing Data Consistency in Low-bandwidth Environments	Huanjing	Wang
44	Brendan	Billingsley	Clockedin - A Refined Approach to Restaurant-based Scheduling	Guangming	Xing
45	Brendan	Billingsley	Detecting Malware Through Binary Representation Of .exe Files Using 1d Cnn	Qi	Li
46	Henry	Lee	Evaluating Renewable Energy Growth Dynamics and their Implications for Climate Change Mitigation	Jacob	Byl
47	Drew	Condella	Ai in the English Classroom: Toward A Language of Trust	Gillian	Knoll
48	Atiana	Spivey	Increasing Medical Rights Awareness Among Immigrant Communities	Jessi	Thomsen
49	Jay	Macy	Health Risks and Regulations of Drinking Water	Jacqueline	Basham
50	Eliza	Spinks	Empower, Educate, Engage: Recruiting the Next Generation of Family and Consumer Sciences Leaders at Western Kentucky University	Angela	Gott
51	Lexi	Clements	Maternal Stress and Sleep Quality Across Pregnancy and Postpartum	Rachel	Tinius
52	Kayden	Mulrooney	A Tradition of Secrecy: LGBTQ2+ Rights in The American Military from World War II to the Present	Patricia	Minter
53	Carlie	Hunt	Franklin Botanical Conservatory and Event Garden: Where Architecture Frames Nature	Shahnaz	Aly