

**53rd Annual**



**SATURDAY, APRIL 1**  
**DOWNING STUDENT UNION**

Western Kentucky University - Bowling Green, Kentucky

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# Conference Schedule

## **Student and Session Chairs Registration (8:00 AM – 3:15 PM)**

- First Floor Lobby
- *Ongoing throughout the day*
- *Register at least 30 minutes before start of session*

## **Morning Sessions (8:30 AM - 10:00 AM)**

- Oral Papers and Performances: Rooms 2113, 2123, 2124, 3003, 3004, 3005, & 3006
- Posters in First Floor and Second Floor Atrium
  - Presenters should remove their posters at the end of the session

## **Morning Break (10:00 AM – 10:15 AM)**

## **Conference Keynote Lecture (10:15 AM – 11:15 AM)**

- Speaker: Dr. Rachel Tinius
- Title: Research as a Self-Discovery Process: Identifying and Fostering Your Inner Talents
- Room: DSU 3020

## **Flash Talks (11:15 AM – 12:00 PM)**

- Room: DSU 3020

## **Lunch Break (12:00 PM – 1:15 PM)**

- Presenters, co-presenters, and Session Chairs with name badges receive free lunch ticket at Fresh Food Company entrance

## **Midday Sessions (1:15 PM – 2:45 PM)**

- Oral Papers and Performances: Rooms 2113, 2123, 2124, 3003, 3004, 3005, & 3006
- Posters in First Floor and Second Floor Atrium
  - Presenters should remove their posters at the end of the session

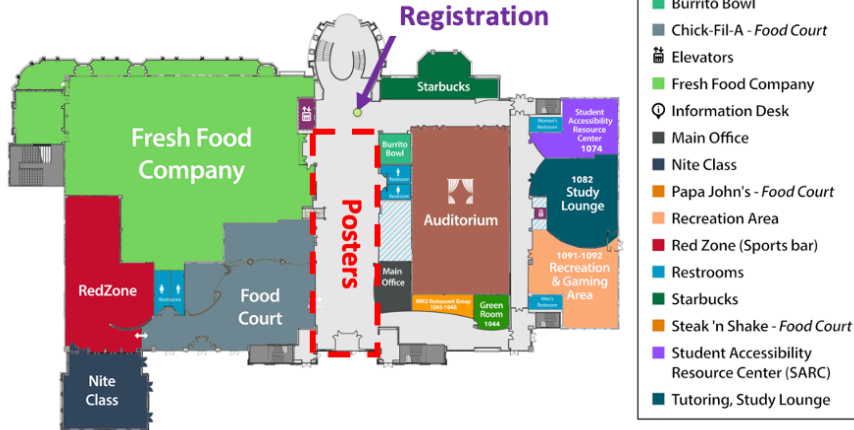
## **Afternoon Break (2:45 PM – 3:00 PM)**

## **Afternoon Sessions (3:00 PM – 4:30 PM)**

- Oral Papers and Performances: Rooms 2113, 2123, 2124, 3003, 3004, 3005, & 3006
- Posters in First Floor and Second Floor Atrium
  - Presenters should remove their posters at the end of the session

# DSU Floor Plans

## First Floor



- Auditorium
- Aramark
- Burrito Bowl
- Chick-Fil-A - Food Court
- Elevators
- Fresh Food Company
- Information Desk
- Main Office
- Nite Class
- Papa John's - Food Court
- Recreation Area
- Red Zone (Sports bar)
- Restrooms
- Starbucks
- Steak 'n Shake - Food Court
- Student Accessibility Resource Center (SARC)
- Tutoring, Study Lounge

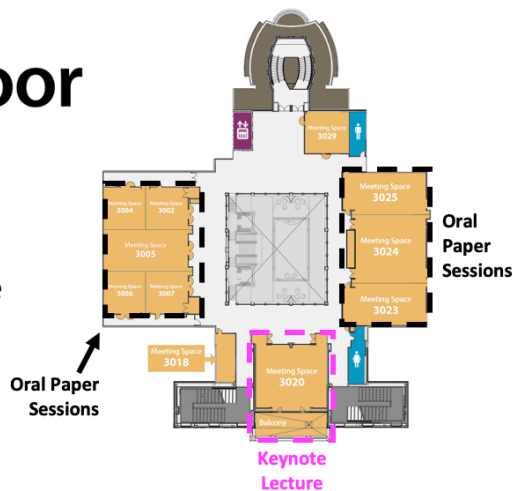
## Second Floor



- Advising & Career Development Center (ACDC)  
 • C.H.S., Ogden, & Career Walk-in - 2001  
 • C.E.B.S., & P.C.A.L. - 2141  
 • Exploratory, & GFCB - 2141
- Dean Of Students
- GreekAffairs
- ID Center
- Intercultural Student Engagement Center (ISEC)  
 • Classroom  
 • Pride Center  
 • Study Space
- Meeting Spaces
- Restrooms
- Spirit Masters
- Student Activities
- Student Government Association (SGA)
- Transfer Center

## Third Floor

- Elevators
- Restrooms
- Meeting Space



# Keynote Speaker and Lecture



## Rachel Tinius

### **Never Stop Learning: How the Desire to Learn has Shaped a Career in Pregnancy Clinical Research**

**10:15 – 11:15 AM**

**DSU 3020**

#### **Biography**

Dr. Tinius is an Associate Professor at Western Kentucky University in Bowling Green, Kentucky. She originally came to WKU as an undergraduate student in 2006 to play soccer and receive her undergraduate degree in Exercise Science. She continued her collegiate athletic and academic careers at WKU playing soccer as well as running track and cross country while completing her Master's degree in Kinesiology. She then moved back to her hometown of St. Louis, MO and obtained a Master's Degree in Science and Clinical Investigation and a PhD in Movement Science at Washington University School of Medicine. While at Washington University, she began her work investigating the role of obesity, physical activity, and maternal metabolic health on maternal and infant outcomes. Upon completion of her PhD, she returned to WKU as an Assistant Professor in Exercise Science. Since arriving at WKU, she has secured continuous external funding through the KY INBRE network and the NIH to study physical activity during pregnancy and postpartum. She has become most interested in developing physical activity interventions as a means of improving outcomes, particularly in rural areas. Her personal life and research interests have intersected for much of the past 5 years as she has a 6-year-old (Lainey), 4-year-old (Riley), and a 2-year-old (Tess).

#### **Presentation Description**

Dr. Tinius will talk about her career path in research which began as an undergraduate student at WKU. She will talk about her experiences as a student (undergraduate & graduate) and how these experiences not only informed her research projects and interests but also her career trajectory. She will share data from her projects along the way as well as insights she learned from each step. She will also share how students have become an integral part of all of her work as a faculty member. While sharing her exciting work about physical activity interventions for pregnant and postpartum women, and how this work has most recently led her down the path of innovation and becoming an entrepreneur, she will also share broad tips and information related to mentorship, networking, and taking goals and turning them into reality.

# Conference History

The WKU Student Scholar Showcase (formerly the Student Research Conference) is an event highlighting the scholarly activities of graduate and undergraduate students of diverse disciplines from across the main and regional campuses. An annual tradition since 1970, the conference has provided opportunities for thousands of students to present papers, performances, posters, exhibits, and displays on their research and creative endeavors.

Scholarly activity is original and creative work that is shared with colleagues and the public. Research is a form of scholarly activity that involves the discovery of new knowledge. Other forms of scholarship include the development of new technologies, methods, materials or uses; the integration of knowledge that leads to new understanding; and artistry that creates new insights and interpretations. As demonstrated by the Student Scholar Showcase/Student Research Conference, students significantly enrich their academic experiences at WKU by engaging in scholarly activity.

WKU has a long history of promoting student research and creative activity. Between 1970 and 2002, the WKU Chapter of Sigma Xi organized and funded the WKU Student Research Conference. Sigma Xi is a national research honor society of scientists and engineers that recognizes scientific achievement. The society is a diverse organization of members and chapters dedicated to companionship in science and engineering and advancement of knowledge through research, teaching, and service. For the next three years, the conference was jointly sponsored and organized by Sigma Xi and the University Honors Program. In 2006, WKU hosted a weekend-long celebration of student scholarship that included the Potter College Undergraduate Conference on Friday and the annual WKU Student Research Conference on Saturday, the latter again sponsored by Sigma Xi and the University Honors Program. The following year, a special committee composed of representatives of each college, the University Honors Program, and Sigma Xi organized a single conference. In 2006-2007 Sigma Xi and the Office of the Provost provided financial support for the conference.

In 2008 Provost Barbara Burch created the Student Research Council, a university-wide committee charged with promoting student scholarly activity on campus and organizing the annual student conference. Since that year, the Student Research Council has organized the annual Student Research Conference, with financial support provided by the WKU Chapter of Sigma Xi, the Office of the Provost, the Office of Research and Creative Activity, and other university units. With support from the Office of the Provost and the Office of Research, in 2012 the Student Research Council developed a weeklong celebration of student scholarship called REACH (Research Experiences and Creative Heights) Week. The Annual Student Scholar Showcase is a major university-wide event of REACH.

In 2022, per the vision of Provost Robert (Bud) Fischer and the Associate Provost for Research and Graduate Education, Ranjit Koodali, the erstwhile Student Research Council was renamed as the Student Scholar Showcase Council and the Student Research Conference was named to be Student Scholar Showcase.

# Conference Highlights

The 53rd Annual WKU Student Scholar Showcase proudly showcases 231 research projects and creative works. There are 126 posters and exhibits, 94 oral papers and 11 performances.

The interdisciplinary nature of the conference is evident in the broad range of subject areas covered in the presentations. Student participants represent diverse disciplines from 37 schools, departments, programs, and institutes representing all colleges.

1. Agriculture
2. Art
3. Biochemistry
4. Biology
5. Chemistry
6. Communication
7. Communication Sciences and Disorders
8. Computer Information Systems
9. Counseling and Student Affairs
10. Earth, Environmental, and Atmospheric Sciences
11. Economics
12. Educational Leadership
13. Engineering and Applied Sciences
14. English
15. Environmental, Health and Safety
16. Family and Consumer Sciences
17. Finance
18. Folk Studies and Anthropology
19. Health Sciences
20. History
21. Interdisciplinary Studies
22. Journalism and Broadcasting
23. Kinesiology, Recreation, and Sport
24. Mathematics
25. Music
26. Organizational Leadership
27. Philosophy and Religion
28. Physical Therapy
29. Teacher Education
30. Physics and Astronomy
31. Political Science
32. Psychological Sciences
33. Psychology
34. Public Health
35. Social Work
36. Teacher Education
37. Theatre and Dance

# Conference Organization

The research and creative projects presented at the conference are organized into graduate sessions and undergraduate sessions with five to six presentations per session. Students are grouped into sessions based on the subject areas of their projects: natural sciences, social sciences and education, health and human services, arts and humanities, business, and interdisciplinary studies.

WKU faculty, professional staff, and retired faculty and staff serve as Session Chairs to moderate the student presentations at the conference.

## Acknowledgements

On behalf of the entire campus community, the WKU Student Scholar Showcase extends appreciation and congratulations to the hundreds of students participating in the conference. We applaud your talent, creativity, dedication, and commitment to making the most of your educational experience at WKU. Your passion for learning and academic excellence, as well as your motivation to overcome challenges, not only distinguishes you from your peers but also serves as an inspiration to others. We are proud of your accomplishments, and you should be too.

WKU faculty and staff who have supervised the students on their research and creative projects are referred to as "mentors" and are identified parenthetically in the detailed session listings. We commend the mentors for their support of scholarly activities and for their assistance in preparing students for the conference.

Funding for the 53<sup>rd</sup> Annual WKU Student Scholar Showcase and other activities was provided by the Office of the Provost and Vice President for Academic Affairs and the Office of Research and Creative Activity.

The WKU Graduate School provides grants to graduate students to support scholarship that promotes inquiry and contributions to knowledge. A number of the graduate students presenting today were assisted by funding from the Graduate School.

A variety of funding opportunities are available to assist undergraduate students with their scholarship. In 2012 the Office of the Provost and Vice President for Academic Affairs and the Office of Research and Creative Activity initiated an internal funding program for undergraduate students called Faculty-Undergraduate Student Engagement (FUSE) grants. FUSE grants are designed to support students' intellectual development by fostering active engagement in the areas of research, creative and scholarly activities, and/or artistic performances.

Ms. Lynnsey Cole, Ms. Sam Hines, Ms. Felicia McCroskey, and Ms. Rynne Gregory from the Office of Research and Creative Activity provided countless hours of logistical planning and expertise that were crucial to coordinating the conference.



We offer our thanks to Ms. Mary Bidwell, Ms. Alicia Carter, Ms. Amy Bingham DeCesare, Ms. Carmen Herrera, Mr. Clinton Lewis, Mr. Tommy Newton, Ms. Aurelia Spaulding, Mr. Scott French, and other members of the WKU Office of Communications and Marketing staff provided vital assistance with conference artwork design, electronic advertising, photography, press and social media releases, and a View from the Hill video segment. Ms. Diana Keeling provided expert database support to the Student Scholar Showcase Council.

WKU faculty members, Drs. Katrina Burch, Ranjit Koodali, Natalie Mountjoy, Kandy Smith, and Lily Zhuhadar delivered informative professional development workshops for students in preparation of the conference.

The Downing Student Union staff at WKU provided logistical support for the conference. WKU Dining prepared lunch in the Fresh Food Company, and WKU Catering provided refreshment support in session Chairs room.

The WKU Student Scholar Showcase organizes the annual conference. Council members represent the following campus units: Academic Colleges, Communications and Marketing, Downing Student Union, Honors College, Graduate School, University Libraries, University Senate, Gatton Academy, Student Government Association (SGA), and Office of Research and Creative Activity.

Members in 2022-2023 are Dr. Ranjit Koodali (Chair), Dr. Christopher Biolsi, Dr. Jeffrey Budziak, Ms. Alicia Carter, Mr. Sam Earls, Prof. Dan Forrest, Ms. Samantha Hines, Dr. Lawrence Hill, Ms. Meygan Oliver, Dr. Ozkan Ozer, Mr. Steven Reed, Dr. Jenni Redifer, Dr. Ritchie Taylor, Prof. Leah Thompson, Dr. Cathleen Webb, Ms. ShyAnte'e Williams, and Dr. Lily Zhuhadar.

Ms. Felicia McCroskey, a WKU senior worked with the Council as a social media and website coordinator. For more information about the Council, visit <https://www.wku.edu/showcase/>.

The Council sincerely appreciates the students, faculty, staff, and community members who contributed to the great success of this interdisciplinary conference, as well as the friends and family members who attended the event.

# Session Chairs

Listed below are the WKU faculty and staff, who served as session Chairs at this year's conference. We greatly appreciate the assistance of the judges and thank them for volunteering. Many have volunteered at the conference for years or decades.

Aaron Wichman  
Alan White  
Amy Engelhoven  
Ashley Orehek Rossi  
Audie Wood  
Darlene Applegate  
Darwin Dahl  
David N. Brown  
Jerry Brotzge  
Katherine Howell  
Katrina Burch  
Kevin Modlin  
Lance Hahn  
Lauren Bland  
Leanna R. Miller  
Les Archer  
Marilyn Gardner  
Melissa Tolbert  
Molly Kerby  
Morteza Nurcheshmeh  
Nesma Soliman  
Paige Hiltner  
Pauline Norris  
Sara McCaslin  
Simran Banga  
Sungjin Im  
Vickie Shoumake  
Whitley Stone

# Oral Presentations and Performances

## Morning Sessions (8:30 am – 10:00 am)

### GRADUATE ORAL PRESENTATIONS: SESSION CHAIR: DR. SIMRAN BANGA

Room # 2113	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
8:30 AM	Legionella Pneumophila Effector MavA Functions as a Ras-guanine Exchange Factor	Kayode	Adeyemi	Simran	Banga
8:45 AM	Liquid Chromatography-Mass Spectrometry (LC-MS) Method Development for Determination of beta-Defensins in Bovine Milk	Elisha	Ogbebor	Eric	Conte
9:00 AM	Quantifying Estrone and beta-estradiol Conjugates in Dairy Cattle Urine Using Sorptive Stir Bar Extraction and Gas Chromatography-Mass Spectrometry	S. M. Istiak	Ahmed	Eric	Conte
9:15 AM	Conformational Space Search Techniques to Improve Rapid Protein Structure Prediction	Zach	Stichter	Sarah	Edwards
9:30 AM	Great Onyx Cave: A Natural Laboratory and Outdoor Classroom for Learning About Karst Hydrogeology, Mammoth Cave National Park, Kentucky	Meghan	Raines	Chris	Groves

### GRADUATE ORAL PRESENTATIONS: SESSION CHAIR: DR. LESTER ARCHER

ROOM # 2123	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
8:30 AM	Source Tracking and Contaminant Transport Mechanisms of Nitrates and E.coli in Karst Groundwater Systems Under Agricultural Land Use	Shreya	Pandey	Jason	Polk
8:45 AM	Sinkhole Hazard Assessment Index and Risk Analysis to Inform Karst Policy and Mitigation Planning	Meghan	Forbes	Jason	Polk
9:00 AM	Virtual Watershed Management Planning Framework for Hazard Mitigation Using GIS and Smart Sensor Technology Integration	Brittany	Pekara	Jason	Polk
9:15 AM	The Development Process and Procedures for the WKU Hazard Mitigation Plan	John	Bowen	Joshua	Durkee
9:30 AM	Recreating a Historical Landscape of Louisville, Kentucky With Arcgis Pro	Trevor	Harry	Jun	Yan

**GRADUATE ORAL PRESENTATIONS: SESSION CHAIR: ASHLEY OREHEK ROSSI**

<b>ROOM # 2124</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR R FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>8:30 AM</b>	Sediment Waves or Structural Folding? A Seismic Study of the Undulating Beds in the Port Isabel Fold Belt, Gulf of Mexico	Victor	Towoju	M. Royhan	Gani
<b>8:45 AM</b>	A Robust Algorithm for Designing an Actuator in Suppressing Vibrations Propagating on a String	Md Rafi As	Sadeq Ibn Emran	Ahmet Ozkan	Ozer
<b>9:00 AM</b>	Enhanced Antibacterial Activity of Pulsed Laser Synthesized Silver and Gold Nanoparticles Combined with Methylene Blue	Yaran	Allamyradov	Ali Oguz	Er
<b>9:15 AM</b>	Formation of Picosecond Laser-induced Periodic Surface Structures on Steel and Titanium for Knee Arthroplasty Prosthetic	Zikrulloh	Khuzhakulov	Ali Oguz	Er

**GRADUATE ORAL PRESENTATIONS: SESSION CHAIR: DR. AARON WICHMAN**

<b>ROOM # 3003</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>8:30 AM</b>	Girls to the Front: Rituals and Liminal Spaces at Punk Shows	Ciara	Bernal	Ann	Ferrell
<b>8:45 AM</b>	Gendered Eating: Bengali Folk Foodways in Atlanta, Georgia	M. Tazwar Hossain	Choudhury	Ann	Ferrell
<b>9:00 AM</b>	Narrative of the Black Woman's Upbringing	Justin	Smith	Ann	Ferrell
<b>9:15 AM</b>	The Spirits We Share: Ghost Story-telling Traditions Amongst Kentucky Women	Katelyn	Bennett	Kate	Horigan
<b>9:30 AM</b>	Attitudes and Beliefs Towards Death Amongst Gravers	Cori	Cox	Kate	Horigan

**UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR: DR. LANCE HAHN**

<b>ROOM # 3004</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>8:30 AM</b>	Cloud Forest Herbaceous Plant Diversity Declines as Forest Age Increases	Vivianna	Weaver	Martin	Stone
<b>8:45 AM</b>	A large-Scale Meteorological Feature Analysis of a High-Impact Winter Storm over Texas on February 13-15, 2021	Jeffery	Wood	Joshua	Durkee
<b>9:00 AM</b>	An Investigation of Large-scale Atmospheric Processes Toward the EF3 Tornado Across Nashville, Tennessee During March 2nd-3rd 2020	Austin	Hayes	Joshua	Durkee
<b>9:15 AM</b>	April 2020 Severe Weather Breakdown	Graham	Martin	Joshua	Durkee
<b>9:30 AM</b>	Hormonal Contraceptive Use: An Assessment of Executive Function	Maria	Pfeifer	Sam	Earls

**ORAL PRESENTATIONS: SESSION CHAIR: DR. MARILYN GARDNER**

<b>ROOM # 3005</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>8:30 AM</b>	Sense of Belonging on Campus: LGBTQIA+	Sadie	Jeannette	Marilyn	Gardner
<b>8:45 AM</b>	Equine Health During Historic Eastern Kentucky Flood	Scott	Hanson	Marilyn	Gardner
<b>9:00 AM</b>	Blues Narrative: Blues People, COVID-19, and Civil Unrest	Lamont	Pearley	Ann	Ferrell
<b>9:15 AM</b>	Far-left and Far-right Political Parties in The United Kingdom: A Comparative Analysis	A.	Chessor	Kevin	Modlin
<b>9:30 AM</b>	Who Believes in 2020 Election Conspiracies? Do They Correlate with Support for Election Reforms?	Johnnie	Boswell	Scott	Lasley
<b>9:45 AM</b>	Mommy & Me: Paid Parental Leave and Mother-child Quality Time	Parker	Cannon	Lauren	McClain

ORAL PRESENTATIONS & PERFORMANCES: SESSION CHAIR: DR. WHITLEY STONE

ROOM # 3007	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
8:30 AM	Going to the Source: A Qualitative Analysis of Challenges Facing Kentucky's Foster Care Communities	David	Roehm	Austin	Griffiths
8:45 AM	Using Biometric Technology to Measure Physiological Stress in Child Welfare Workers	Lindsey	Powell	Austin	Griffiths
9:00 AM	Use of Paid Parental Leave Benefits and Relationship Quality	Maria	Julian	Lauren	McClain
9:15 AM	The Reality of Bipolar Disorder: A Dance Film to Bring Awareness to the Misconceptions of Mental Health	Julia	Woolums	Meghen	McKinley
9:30 AM	How Gravity Affects Anatomical Structures in Dance	Kaleigh	Hampton	Anna	Patsfall

## Oral Presentations and Performances Midday Sessions (1:15 pm – 2:45 pm)

GRADUATE ORAL PRESENTATIONS: SESSION CHAIRS:  
DR. DAVID N. BROWN & DR. LEANNA MILLER

ROOM # 2113	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1:15 PM	A Predictive Model for Urban Karst Groundwater Systems	Trayson	Lawler	Jason	Polk
1:30 PM	Perceptions and Visual Awareness of Karst Flooding in Urban Areas to Inform Management and Preparedness	Hannah	Herrmann	Jason	Polk
1:45 PM	Utilizing Show Cave Tours to Assess Nonformal Karst Educational Outcomes in Youth	Matthew	Wisenden	Leslie	North
2:00 PM	InSAR Investigation of Subsidence in Northern and Central Bangladesh	Gavin	Middleton	Nahid	Gani
2:15 PM	New Insights into the Tectonic Framework and Geological Features of The Bengal Basin, Southeast Asia	Shahriar	Shahid	M. Royhan	Gani

**ORAL PRESENTATIONS & PERFORMANCES: SESSION CHAIR: AUDIE WOOD**

<b>ROOM # 2123</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTO R FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>1:15 PM</b>	Laser-induced Smart Surface Patterning	Inomjon	Majidov	Ali Oguz	Er
<b>1:30 PM</b>	Coating Biomedical Implants with Hydroxyapatite to Remedy Bioactivity Problems	Salizhan	Kylychbekov	Ali Oguz	Er
<b>1:45 PM</b>	Winter Weather Analysis and Atmospheric Contributions in Global and Local Scales for Major Winter Storm in the Rocky Mountains of March 2021	Alexis	Rodriguez	Joshua	Durkee
<b>2:00 PM</b>	New Analysis of Cold Clouds in Perseus Spiral Arm	Isaiah	Beauchamp	Steven	Gibson
<b>2:15 PM</b>	An Analysis of Atmospheric Contributions Toward the Resulting Severe Wind Event Across the Midwestern United States During August 2020	Hunter	Mathis	Joshua	Durkee

**UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR: ASHLEY OREHEK ROSSI**

<b>ROOM # 2124</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>1:15 PM</b>	Regional Control of Hairless and Hair Bearing Skin: With DKK2 and SOSTDC1 Wnt/ $\beta$ -catenin Signaling Pathways with the LEF/TCF Family	Divya	Naidugari	Sam	Earls
<b>1:30 PM</b>	Evaluating the Effects of Ionic Liquids on Bacteriophage Size	Sierra	Durkee	John	Andersland
<b>1:45 PM</b>	Comparison of Sleep Patterns of Two Arctic-breeding Bird Species Exposed to Different Predation Risks	Andrea	Diaz Buezo	Noah	Ashley
<b>2:00 PM</b>	Quantifying Gaining Stream Discharge for Jennings Creek, Bowling Green, Kentucky	Benjamin	Hauschild	Jason	Polk

UNDERGRADUATE ORAL PRESENTATIONS & PERFORMANCES: SESSION CHAIRS:  
DR. LES ARCHER & DR. SARA MCCASLIN

ROOM # 3003	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1:15 PM	Amour D'Arthur: Modern Love for a Medieval Man	Felicia	McCroskey	David	Bell
1:30 PM	Complementary Handbooks for Undergraduate Accompanists and Students Who Work with Them	Katelin	Drybrough	Zachary	Lopes
1:45 PM	Lágrimas De Pasión: El Pasillo, Ecuador's Bleeding Heart	Sara	Sparling	Liza	Kelly
2:00 PM	Bach's Second Cello Suite in D minor: A Performer's Analysis	Chris	Kim	Matthew	Herman
2:15 PM	Conceptualizing Tap Choreography	Sophia	Jones	Amanda	Clark

UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR:  
DR. MORTEZA NURCHESHMEH

ROOM # 3004	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1:15 PM	Preliminary Survey of Caves in the Glen Dean Limestone of Southcentral Kentucky	William	Strehl	Chris	Groves
1:30 PM	A Large- and Local-scale Analysis of Atmospheric Contributions Towards the August 2022 Flooding in Dallas, Texas	Samuel	Davidson	Joshua	Durkee
1:45 PM	Examination of Atmospheric Contributions to the Historic 4-5 March 2015 Ohio Valley Snowstorm	Dustin	Knight	Joshua	Durkee
2:00 PM	An Analysis of the April 4th-7th, 2022 Tornado Outbreak in the Southeast, with an Emphasis on Synoptic and Mesoscale Meteorology	Joseph	Lewis	Joshua	Durkee
2:15 PM	Completing and Improving the Collection of Data for Sustainability Reporting at WKU	Madeline	Petty	Leslie	North



UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIRS:  
ALAN WHITE & DR. KATRINA BURCH

ROOM # 3005	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1:15 PM	An Investigation of Continental-scale Atmospheric Contributions to the Historic Flash Flooding Event in Eastern Kentucky during July 2022	Kohen	Hernandez	Joshua	Durkee
1:30 PM	A Look into the Meteorological Properties Behind the February 28th to March 1st Severe Weather Outbreak	Jacob	Disinger	Joshua	Durkee
1:45 PM	SEM and EDS-based Elemental and High-resolution Petrography-based Analyses of Basalts from East Africa	John	Lunday	Nahid	Gani
2:00 PM	Geochemical Analysis of Volcanic Ash-layers Found at a Hominin Fossil Site in Afar, Ethiopia	William	Kilgore	M. Royhan	Gani
2:15 PM	Atypical Tornado Climatology and Vertical Profiling	Jackson	Powers	Xingang	Fan

UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIRS:  
PAULINE NORRIS & DR. JERRY BROTZGE

ROOM # 3007	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1:15 PM	Applying Heat Shrinking to Minimize Pillow Effect During LSF	Ashley	Kobylinski	Kevin	Schmaltz
1:30 PM	Analyzing the Impact of Real-time Weather Variables on Crash Severity Along Kentucky's Interstates: Case Studies of I-65, I-75, and I-64	Leah	Bell	Kirolos	Haleem
1:45 PM	Comprehensive Roadway Interchange Design Along Interstate-65	Jaci	Rone	Kirolos	Haleem
2:00 PM	Investigating Distracted Driving Crashes In Kentucky: Pre- and Post-COVID-19 Pandemic Comparison	Will	Pemberton	Kirolos	Haleem
2:15 PM	Geodetic Ratio, Color Sequences, and their Relation on Graphs	Matthew	Hendrix	Mustafa	Atici

# Oral Presentations and Performances

## Afternoon Sessions (3:00 pm – 4:30 pm)

UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR: DR. DARWIN DAHL

ROOM # 2113	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
3:00 PM	Climate Change Vulnerability Assessment of a Regional Karst Landscape for Hazard Mitigation Planning	Kara	Brunot	Jason	Polk
3:15 PM	Building Resilience with Rotary: Community Recovery through Service Learning via the Jennings Creek at Creekwood Restoration and Education Project	Gracie	Hendrickson -Brown	Jason	Polk
3:30 PM	Impacts of Land Use and Groundwater Inputs on Biological Stream Health and Habitat of Jennings Creek, Bowling Creek, Kentucky	Allison	Francis	Jason	Polk
3:45 PM	A Remote Sensing and Vertical Profile Investigation of the February 3-4, 2022 Ice Storm over Southwest Ohio	Joshua	Brown	Joshua	Durkee
4:00 PM	Analysis on Atmospheric Contributions to The 2022 May 14th, Laverne Oklahoma Severe Weather Outbreak	Cassandra	Campbell	Joshua	Durkee

UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR: AUDIE WOOD

ROOM # 2123	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
3:00 PM	An Analysis of the Continental-scale Atmospheric Forcing and Upper Air Conditions That Led to the July 19 2018 Southwestern Missouri Derecho Event	Kaylie	Bonifer	Joshua	Durkee
3:15 PM	An Analysis of the Large-scale Atmospheric Circulation Features Behind the 2019 Veteran's Day Extreme Cold Wave	Tyson	Stewart	Joshua	Durkee
3:30 PM	Influence of Large-Scale Atmospheric Conditions on the January 22-24, 2016, Eastern United States Winter Storm	A	Tekoe	Joshua	Durkee
3:45 PM	Building a Spectrometer for Photometric Titrations	Kareena	Pansuria	Eric	Conte
4:00 PM	Understanding Secondary Organic Aerosol Formation Through Chemical Kinetics Models	Nathan	Gillispie	Matthew	Nee

**UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR: DR. LAUREN BLAND**

<b>ROOM # 2124</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>3:00 PM</b>	Mechanical and Bioactive Properties of Pulsed Laser Deposited Hydroxyapatite Coatings	Chazz	Kitchens	Ali Oguz	Er
<b>3:15 PM</b>	Investigating T1 and T2 Relaxation Times in NMR: A Comparison of De-Ionized and Doped Water	Isaiah	Alvarez	Ivan	Novikov
<b>3:30 PM</b>	An Analysis on Rolling Oscillations of Liquid-Filled Containers Along a Curved Ramp Using ROL-FC Experimental Setup	Leah	Hartman	Ivan	Novikov
<b>3:45 PM</b>	An Experimental Design to Measure Stochastic Resonance in an Optical Interferometer	Lars	Hebenstiel	Ivan	Novikov
<b>4:00 PM</b>	Temporal Synchronization of Solar Data to Aid in Solar Flare Prediction	David	Boils	Paolo	Massa

**UNDERGRADUATE ORAL PRESENTATIONS & PERFORMANCES: SESSION CHAIR:  
DR. KEVIN MODLIN**

<b>ROOM # 3003</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>3:00 PM</b>	Using Standards-Based Grading to Promote Student Success and Learning in Introductory Physics	Travis	Oliver	Scott	Bonham
<b>3:15 PM</b>	Improving Visual Python Instruction in University Physics	Hannah	Kramer	Scott	Bonham
<b>3:30 PM</b>	Distance to RR Lyrae AO Tuc	Galilea	Ochoa	Ting-Hui	Lee
<b>3:45 PM</b>	Studying Blazar Variability with TESS: Comparing Data Reduction Pipelines with ZTF Observations and Power Spectrum Density (PSD) Plotting	Ethan	Poore	Michael	Carini
<b>4:00 PM</b>	Quarkonium Dynamics In Quantum Phase Space	Gabriel	Nowaskie	Tony	Simpao

**ORAL PRESENTATIONS: SESSION CHAIR: DR. DARLENE APPLIGATE**

<b>ROOM # 3004</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>3:00 PM</b>	Confusability of Emotion Categories for Dynamic Expressions	Tashaunda	Grimmett	Andrew	Mienaltowski
<b>3:15 PM</b>	Leadership Communication and Job Satisfaction	Adalin	McDaniel	Katrina	Burch
<b>3:30 PM</b>	Diagnosed by Dr. Hollywood: The Media's On-Screen Depictions of Mental Illness and Scripting the Public's Perceptions	Grace	Salloum	Andrew	Mienaltowski
<b>3:45 PM</b>	Coding Attention Responses in Children During Snack Delay Tasks as a Predictor for School-readiness	Malcolm	Jones	Elizabeth	Lemerise
<b>4:00 PM</b>	What are the Most Needed Skills for a Successful Management Career?	Pranav	Gangumolu	Xiaowen	Chen

**UNDERGRADUATE ORAL PRESENTATIONS & PERFORMANCES: SESSION CHAIR:  
NESMA SOLIMAN**

<b>ROOM # 3005</b>	<b>ABSTRACT TITLE</b>	<b>FIRST NAME</b>	<b>LAST NAME</b>	<b>MENTOR FIRST NAME</b>	<b>MENTOR LAST NAME</b>
<b>3:00 PM</b>	Entitlement and Empowerment in Sports Fans: A Marketing Perspective	Laurel	Johnston	Joanna	Phillips Melancon
<b>3:15 PM</b>	Assessing Various Card Hand Probabilities of the '500 Card' Deck	Sofia	Sileo	Dominic	Lanphier
<b>3:30 PM</b>	Statistical Analysis of Kentucky Mesonet Big Data: Factors Affecting Soil Moisture and Plant Growth In Kentucky	Ariti	Gani	Ngoc	Nguyen
<b>3:45 PM</b>	Properties of Time Series and Analysis in Mathematica	Kaden	Yonts	Ngoc	Nguyen
<b>4:00 PM</b>	How Large and Regional Scaled Variables Shaped The March 5th, 2022 Southcentral Iowa Tornadoes	Robert	Ferguson	Joshua	Durkee

UNDERGRADUATE ORAL PRESENTATIONS: SESSION CHAIR: KATHERINE HOWELL

ROOM # 3007	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
3:00 PM	Coleus Academy: Creating a Digital Encyclopedia of Adulthood	Janessa	Unsold	Mark	Simpson
3:15 PM	Long, Hot Summer: Freedom Summer and Human Rights Abuses	Ashley	Ranger	Patricia	Minter
3:30 PM	A Case Study in Imperialism, Patriarchal-State Building, and Rape as a Tool of War	Anna	Whaley	Patricia	Minter
3:45 PM	America, The Beautiful: How Cosmetics Companies in the 1950s Created and Challenged Idealized Views of Femininity in the U.S.	Bridget	Beavin	Tamara	Van Dyken
4:00 PM	Puerto Rican "Second Class Citizenship" Results in "Second Class Justice": What That Means for the U.S. Territory	Shane	Stryker	Anthony	Harkins

## Oral Posters Morning Session (8:30 am – 10:00 am)

SESSION CHAIRS: DR. MOLLY KERBY & DR. MELISSA TOLBERT

### DSU 1<sup>ST</sup> FLOOR

BOARD #	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1	Impacts of African Savannah Elephant ( <i>Loxodonta africana</i> ) Habitat Modification on Avian and Mammal Habitat Use	Dakota	Vaccaro	Bruce	Schulte
2	Towards Using Iron/nickel Hybrids to Replace Platinum in Light-harvesting Materials	Rajib	Nath	Lawrence	Hill
3	Lithologic Mapping of the Mountain Pass Mining District, California Using Sentinel-2 Satellite Data	Nima	Esmaeilzadeh	Nahid	Gani
4	Differences in Renewable Energy Generation and Renewable Energy Policy Across California, Kansas, and Tennessee	Madeline	Petty	Jun	Yan
5	Covid-19 in Older Adults: Analyzing the Impact of a Bingocize Covid-19 Workshop on Behavioral Health Outcomes	Lillian	Forseth	Jason	Crandall

<b>6</b>	The Relationship Between Smartphone Addiction and PTSD: The Role of Avoidance Coping	Caitlin	McGettrick	Matthew	Woodward
<b>7</b>	Through the Looking Glass: Investigating Incivility and Depletion Through a Cognitive Process Lens	Melissa	Sorensen	Katrina	Burch
<b>8</b>	Exploring Psychological Detachment, Work-Related Rumination, and Role-Centrality in Working from Home	Cora	Hurt	Katrina	Burch
<b>9</b>	Investigating the Daily Effects of Workplace Email Incivility on Work Interference with Family	Molly	Simmons	Katrina	Burch
<b>10</b>	Examining Reports of Parental Involvement, Marital Satisfaction, and Infant Temperamental Anger from a Multi-reporter Perspective	Logan	Rios	Diane	Lickenbrock
<b>11</b>	Simultaneous Alcohol and Marijuana (SAM) Use and PTSD Symptoms Predict Blackouts in Emerging Adults	Katie	Moskal	Jenni	Teeters
<b>12</b>	The Impact of Beliefs About Emotions on Emotion Regulation and Psychological Health	Sarah	Brock	Qin	Zhao
<b>13</b>	Head Start Family Engagement in Informal Science: Link to School Readiness and Science Process Skills	Keegan	Cundiff	Erin	Jant
<b>14</b>	Integrating Anti-racism into Social Work Education: Perceptions and Insights from BSW Program Director	Taylor	Eberhardt	Simon	Funge
<b>15</b>	Examining the Impact of Holistic Practices on LGBTQIA+ Wellness	Airelle	Railley	Michelle	Reece
<b>16</b>	Continuation of Museum Visitor Engagement Research Derived from the Mobile Application Muser	Madison	Whittle	Kara	Glenn
<b>17</b>	Expansion of Solar Eclipse Research Project Through Extended Reality (XR), Experience-based Digital Media to Promote Citizen Science	Travis	Peden	Mark	Simpson
<b>18</b>	Assessing the Involvement of Neuronal Migration Genes During Tumor Metastasis in Drosophila	Annah	Hopkins	Ajay	Srivastava
<b>19</b>	Discovery and Analysis of Mycobacterium Phages Ciggy, Llorens, and Spouty	Ashlynn	Linnet	Rodney	King
<b>20</b>	Discovery and Analysis of Mycobacteriophage Tc1f	Tyler	Clifton	Rodney	King

## DSU 2<sup>ND</sup> FLOOR

BOARD #	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
21	Characterizing the Onset of Peripheral Inflammatory Responses to Acute Sleep Fragmentation Among Female Mice	Maharshi	Sharma	Noah	Ashley
22	Inflammation from Acute Sleep Fragmentation Begins in Peripheral Tissues Instead of Brain	Cam	Fields	Noah	Ashley
23	Variation in Maple Sap Sugar Content	Isabella	McIntosh	Michael	Stokes
24	The Neuroinflammatory Response to Acute Sleep Fragmentation in Female Mice	Cole	Taylor	Noah	Ashley
25	Molecular Evolution of the Cancer-related Gene FGFR2	Savanna	Arnold	Chandrakanth	Emani
26	Analyzing the Effect of Anoa Mutation on The Firing Pattern of Olfactory Neurons	Natasha	Otieno	Cheryl	Kirby-Stokes
27	Molecular Evolution of the Cancer-related Mitogen-activated Protein Kinase Kinase Kinase 1 (map3k1)	Meredith	Moser	Emani	Chandrakanth
28	Evaluation of Ionic Liquids as a Means of Preparing Environmental Biofilms for Observation by Scanning Electron Microscopy	Molly	Shreve	John	Andersland
29	Molecular Evolution of Cancer-related Myeloproliferative Leukemia Virus Oncogene (MPL)	Jocelyn	Seadler	Chandrakanth	Emani
30	Molecular Evolution of the Cancer-related Mediator of RNA Polymerase II Transcription, Subunit 12 Homolog Gene (med12)	Yasmina	Muradova	Chandrakanth	Emani
31	Molecular Evolution of the Cancer-related Myeloid/lymphoid or Mixed-Lineage Leukemia 3 gene (MLL3)	Bailey	Seadler	Chandrakanth	Emani
32	The Molecular Evolution of Cancer-Related Gene FGFR3	Elena	Baggett	Chandrakanth	Emani
33	Analysis of Protein-protein Interactions Between Legionella Effectors by Bacterial Two-hybrid System	Briana	Harness	Simran	Banga
34	Effect of Photodynamic Therapy on Legionella Pneumophila	Aubry	Holt	Simran	Banga
35	Melanoma Incidence Rates and Outcomes in Rural vs. Urban Areas in Kentucky	Mason	Towery	Doug	McElroy
36	The Inflammatory Effect of Glucocorticoids on Sleep	Esther	Gorecki	Noah	Ashley
37	Investigations in dCas9 Binding Affinity	Hadley	Jones	Moon-Soo	Kim

38	Comparing SAV Ratios of Emulsion-polymerized Polymethyl-methacrylate Beads	Julian	Williams	Matthew	Nee
39	Simulation of Precursor Environments Leading to Formation of Secondary Organic Aerosols	Austin	Lobe	Matthew	Nee
40	Polystyrene Beads with Incorporated Photocatalyst	Kellen	Patterson	Matthew	Nee
41	Synthesis, Characterization, and Study of Biomimetic Metal Complexes for Important Oxidation Reactions	Madeline	Nichols	Rui	Zhang
42	Real-time Monitoring of Rhodamine 6G Photodegradation Using Colloidal Gold Surface Enhanced Raman Spectroscopy	Addison	Hoskins	Matthew	Nee

## Oral Posters Midday Session (1:15 pm – 2:45 pm)

SESSION CHAIRS: DR. VICKIE SHOUMAKE & DR. AMY ENGELHOVEN

### DSU 1<sup>ST</sup> FLOOR

BOARD #	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1	The Effect of Adapted Cardio Drumming in Adults with Down Syndrome	Aaliyah	Van	Janice	Smith
2	An Analysis of the Large-scale Atmospheric Contributions Towards the Dual Derechos Across the Midwest and Mid-Atlantic States in June 2013	Susanne	Peake	Josh	Durkee
3	Sub-basin Delineation in Hidden River Cave System, Horse Cave	Mia	West	Patricia	Kambesis
4	Working with Kentucky Amish and Mennonite Communities to Develop Solutions for Contaminated Drinking Water Sources	Katelyn	Lane	Christopher	Groves
5	Life In The Dark: H <sub>2</sub> S-oxidizing Microbes and their Impacts in Parker Cave	Kendall	Wheeler	Pat	Kambesis
6	Quantitative Groundwater Tracing Experiments in The Great Onyx Groundwater Basin, Mammoth Cave National Park, Kentucky	Katie	Norman	Lee Anne	Bledsoe
7	The Effects of Synoptic-scale Weather Systems on Midwest Snowfall	Charles	Loewy	Zachary	Suriano
8	Changes to Travel Plans to Mammoth Cave Due to Weather and Covid	Kenyan	Wood	Jacob	Byl
9	Subjective Risk Beliefs About Side-Effects of the COVID-19 Vaccine	Thorin	Bowman	Jacob	Byl



10	Plastic Development in Disc Golf Production	Matthew	Muse	Benjamin	Dinan
11	An Environment That Heals You	Brinkley	Esserman	Shahnaz	Aly
12	Cane Craft Bourbon Distillery	Westen	Jeffries	Shahnaz	Aly
13	The Hill Resort	Connor	Pace	Shahnaz	Aly
14	The Beauty of Community	Samuel	Lynch	Shahnaz	Aly
15	Container City	Kyler	Philpot	Shahnaz	Aly
16	Critical Analysis of Mobile and Metabolic Architecture	Peter	Hall	Shahnaz	Aly
17	The Oasis Hotel and Resort	Jacob	Downing	Shahnaz	Aly
18	Architecture with Personality	Ella	Ramic	Shahnaz	Aly
19	Faros Library Vault and Learning Center	Edward	Anglea	Shahnaz	Aly
20	An Innovative and Healthful Approach to Community-based Design	Garrett	Payne	Shahnaz	Aly

## DSU 2<sup>ND</sup> FLOOR

BOARD #	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
21	Studios on 6th	Olivia	Slown	Shahnaz	Aly
22	Multipurpose Venue for Healthy Lifestyle	David	Wade	Shahnaz	Aly
23	Trammel Fork Distillery	Linder	Mean	Shahnaz	Aly
24	Building an Avenue for Learning	Jacob	Riggs	Shahnaz	Aly
25	Functionalist Philosophy in Architecture: The Kentucky Technical Institute	Nick	Lee	Shahnaz	Aly
26	A Stay at the Live Oak Inn	Shiven	Patel	Shahnaz	Aly
27	Health Within Architecture	Shane	Daugherty	Shahnaz	Aly
28	Healing Through Architecture	Carson	Skopek	Shahnaz	Aly
29	Creating a Sense of Home	Lindsey	Wilkinson	Shahnaz	Aly
30	WKU E-sports Coliseum	Samuel	Munoz	Shahnaz	Aly
31	Noise and Vibration Mitigation in a Top Loaded Washing Machine	Bailey	Stinson	Morteza	Nurcheshmeh
32	Development of Robot to Participate in IEEE Southeastcon 2023 Hardware Competition	Mary	Begley	Mark	Cambron
33	Biophilic Design and its Effects on Mental and Physical Health	Alexandria	Lahman	Shahnaz	Aly
34	The Immersive Virtual Experience Through Virtual Reality CAVE: The Approach to Improve Spatial Perception in Architectural Design	Flora	Lin	Fatemeh	Orooji
35	Investigating Efficacy Of Euler Buckling Formula Vs. Other Formulae in Calculating Critical Failure Loads for Columns With Pinned End Conditions: Engineering Statics Case Study	Omar	Mansour	Kirolos	Haleem

36	Assessing the Distribution of Internal Tensile and Compression Forces in Different Truss Bridge Designs Using Engineering Statics Program	Morgan	Cambron	Kirolos	Haleem
37	Development of Low-cost Systems for the Drone Delivery of Medical Supplies	Nishu	Anekere	Farhad	Ashrafzadeh
38	Analysis of The Fairness of Stormwater Fee Systems	Emily	Davis	Warren	Campbell
39	A Critical Review of Mixed Reality in Building Information Modeling for Early Stage Design	Grasen	Akridge	Fatemeh	Orooji
40	Testing Dice Fairness	Cameron	Miller	Warren	Campbell
41	Newtonian vs Non-Newtonian Flow Comparison	Ryan	Alvey	Manohar	Chidurala
42	Fluid Structure Interaction Analysis of a Cantilever Beam	Mason	Coburn	Manohar	Chidurala

## Oral Posters Afternoon Session (3:00 pm – 4:30 pm)

SESSION CHAIR: PAIGE HILTNER

### DSU 1<sup>ST</sup> FLOOR

BOARD #	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
1	Costume Design to Convey World and Character in Historical/Fantasy Video Games	Trinity	Ray	Jane	Fife
2	Workplace Violence Among Young Black Workers Ages 18-24 in Southcentral Kentucky	Shwe	Win	Edrisa	Sanyang
3	Teacher Expectations for Their ELL Students' Mathematical Ability and Performance	Adelle	Reyes	Nicholas	Fortune
4	Sears and its Target Demographic Across a Century	Grace	Engelhardt	Kristi	Branham
5	Bluegrass Backstory: How Podcasting Can Connect People to Local History	David	Hartlage	David	Serafini
6	Rose Colored Glasses: Thesis Film	April	Gregory	Sara	Thomason
7	Thereafter	Aaron	Davis	Sara	Thomason
8	Perceptions of Sexual Identity Stereotyping Among Physical Education Undergraduate Students	Brody	Johnson	Jean	Chen
9	Effectiveness of Nintendo Ring Fit in improving Balance Deficits After Recovery from ACL Reconstruction	Emma	Lord	Whitley	Stone
10	Rock out Workout: Cardiodrumming's Impact on Function With Down Syndrome	Ana	Avendano-Martinez	Whitley	Stone

11	The Effects of K-12 Mathematics Experiences on Future Teachers: Self-efficacy and Confidence	Annabelle	Goodman	Nick	Fortune
12	Do Teachers Think Math is More Difficult for ELL Students?	Anthony	Cabrera	Nicholas	Fortune
13	Wolfram Demonstrations Simulating Boundary Stabilization/Control of Linear PDE's	Jacob	Walterman	Ozkan	Ozer
14	The Discovery of Gwendoluna, a Viral Predator of Mycobacterium Smegmatis	Savanna	Arnold	Rodney	King
15	Photodeactivation of Pathogens Using Methylene Blue with Nanoparticles for Prosthetic Joint Infection	Justice	ben Yosef	Ali Oguz	Er
16	Combining Ground-based Observations with Observations from the Transiting Exoplanet Survey Satellite to Understanding the Blazar Phenomena: The Case of 1ES 1959+650	Brycen	Daniels	Michael	Carini
17	Understanding the Blazar Phenomena by Combining Ground-based Observations with Observations from the Transiting Exoplanet Survey Satellite: BL Lacertae and 3C 66A	Kelly	Humphrey	Michael	Carini
18	Development of a Compact Broadband Leak Detector for Autonomous Vehicles Transporting Hazardous Material	Rasesh	Desai	Vladimir	Dobrokh otov
19	Synthesis of 4d- and 5d-element Based Transition Metal Oxides	Hannah	Laney	Jasminka	Terzic
20	Experimental Determination of Coefficients of Friction in Rolling Oscillation of Liquid-Filled Container (ROL-FC) Experimental Setup for Generation of Cycloid	Samuel	Sherrard	Ivan	Novikov

## DSU 2<sup>ND</sup> FLOOR

BOARD #	ABSTRACT TITLE	FIRST NAME	LAST NAME	MENTOR FIRST NAME	MENTOR LAST NAME
21	Masculinity, Femininity, and Dignity: Examining the Relationship Between Gender Expression and Respect	Ashton	Lyvers	Amy	Brausch
22	Religious Conflict, Centrality, and Affiliation in Sexual Minority Young Adults	McKenna	Tate	Amy	Brausch
23	The Relationship Between Non-acceptance of Emotions and Non-suicidal Self-injury	Sydney	Graham	Amy	Brausch
24	Examining Associations Between Infant Behavioral Inhibition, Autonomic Responses, and Regulatory Behaviors With Mothers	Alyssa	Swift	Diane	Lickenbrock
25	Examining Sexual Assault Instances as a Moderator Between PTSD Symptoms and Drinking Behaviors	Sidney	Traxler	Jenni	Teeters

26	Using Machine Learning to Categorize Political Language	Desmond	Harris	Lance	Hahn
27	Instabid? Examination of Popular Social Media Platforms and their Associations with Mental Health Problems in Young Adults	Olivia	Dick	Matthew	Woodward
28	Pain Perception: A Distinct Emotional Category	Lynnsey	Cole	Andrew	Mienaltowski
29	Literacy-focused Cognitive Activities Predict Health-related Quality of Life in Older Adulthood	Grace	Cloherty	Matthew	Shake
30	Membership in a Sorority Moderates the Association between PTSD and Alcohol-Related Problems	Greta	Kreuzer	Matthew	Woodward
31	The Effects of Replication Crisis Instruction on the Development of Skepticism	Ericka	Hoppes	Cassie	Whitt
32	Skillssets Associated With Effective Retrieval Strategy Use	Aimee	Scott	Jenni	Redifer
33	To See or Not to See	Suchita	Tipirneni	Jenni	Redifer
34	Police Presence, Social Media Consumption, and Perceived Feelings of Safety	Hannah	Hennessey	Christopher	Peters
35	Evaluating Effects of Neurofeedback Among Individuals with Trauma	Caylie	Hadden	Sungjin	Im
36	Reducing Pre-presentation Memory Deficits by Increasing Metacognitive Awareness and Utilizing Placebo Effects	Ryan	Hocklander	Qin	Zhao
37	Purpose Makes Practice: Proposing a Framework for Teaching Metacognitive Skills in the Violin Lesson	Hannah	Kabrick	Lisa	Duffin
38	Road Safety in Gambia and Tanzania	Divya	Naidugari	Grace	Lartey
39	Improving Diagnostic Outcomes for Individuals with Autism Spectrum Disorders Within the Hispanic Community in Bowling Green, Kentucky	Bethany	Waddey	Leisa	Hutchison
40	A Spatial Analysis of Social Disorganization and Violent Crime in Louisville Neighborhoods	Katie	Dudgeon	Kyle	Maksuta
41	Checking-in on Mom: An Examination of Paid and Unpaid Leave on Maternal Postpartum Depression	Elianna	Yankee	Lauren	McClain
42	Using Explicit Instruction to Teach Coding and Robotics to Young Children With Disabilities	Ashley	Barker	John	Wright