2018 Annual Meeting Program
November 2-3, 2018

Western Kentucky University

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![ECM Biosciences](image)

Thank you to our In-Kind partners

![WKU Office of Research and Creative Activity](image)

Thank you our Local Arrangements Team at WKU:
Ryanne Gregory, Leslie North, Cheryl Davis, Claire Rinehart, Kerrie McDaniel,
Richard Gelderman and Rodney King.

Online Program, 2018

Poster presentations are Friday from 3-6 pm and Posters will all remain in place through Saturday.

Oral Presentations are Friday from 1:15-3 pm and Saturday 8am-4pm

Thursday, November 1, 2018  6:30pm - 9:00pm

KAS Science Film Festival
Kick off the KAS Meeting with a Science-themed mini-film festival, complete with popcorn! We've collected a few favorites, including Science in Exile; Short films will change the way you see slime molds, bats, and the mighty coelacanth!

**Friday, November 2, 2018 9:00am - 11:00am**

**KAS Governing Board Meeting**

Downing Student Union 3029

**Friday, November 2, 2018 9:30am - 11:30am**

**Kentucky Organization of Field Stations meeting**

Downing Student Union 3004

**Friday, November 2, 2018 11:30am - 5:00pm**

**Registration Open**

Third Floor, Downing Student Union

Check-in will also be available at the National Corvette Museum after 6:30pm, during the Reception & Plenary.

**Friday, November 2, 2018 12:00pm - 2:30pm**

**Poster Presenters check-in**

Third Floor, Downing Student Union

After checking in at Registration, we ask Poster presenters to check in at the Posters table for further instructions. All posters should be setup by 2:30pm

**Friday, November 2, 2018 12:00pm - 1:00pm**

**Science Policy & Advocacy workshop**

Cupola Room (inside Fresh Dining Hall)

What do scientists need to know about public policy? Do you want to advocate for science but aren't sure how to start? This workshop is for everyone – students and faculty - regardless of discipline, who are interested in learning more about the role of science in policy-making and in becoming empowered to be a voice for science. Our colleagues at the American Society for Biochemistry and Molecular Biology will provide practical guidance on how to engage in advocacy initiatives at local, state and national levels.

This event is FULL.

Featured Speakers:
Dr. Matthew Gentry received his B.S. from the University of Evansville in 1996. He then studied yeast cell cycle regulation via protein phosphatase 2A at Syracuse University in Dr. Richard Hallberg’s lab, receiving his Ph.D. in 2003. He was a postdoctoral fellow at UC-San Diego with Dr. Jack Dixon where he discovered glycogen and starch phosphatases and how they are integral for both human and plant energy metabolism. He began his independent career in 2008 and he is currently a Professor in the College of Medicine at the University of Kentucky where he oversees projects on both Lafora disease and biofuels research. The lab focuses on the regulation of specific phosphatases and E3 ubiquitin ligases in both human glycogen and plant starch metabolism utilizing in vitro biochemical and structural techniques; in situ cell culture models; and in vivo mouse, algal and plant models. Dr. Gentry has been continuously funded by NINDS since 2006, he is an NIH K99/R00 Pathway to Independence Award recipient, he received the NIH Young Investigator IDeA Maciag Award, the 2018 NINDS Landis Award, he is an NSF CAREER awardee, and PI of both a NINDS R01 and P01. He is a Journal of Biological Chemistry Editorial Board member, Director of the NIH-funded Lafora Epilepsy Cure Initiative, and Chair of the ASBMB Public Action Advisory Committee (PAAC).

Dr. Trent Garrison, Assistant Professor, Environmental Geoscience, Northern Kentucky University, and Co-Chair, Education and Advocacy Committee, Kentucky Academy of Science

Dr. Trent Garrison grew up in Hyden, Kentucky where he attended Leslie County High School. With an interest in science, he later went on to attend Eastern Kentucky University (BS and MS in hydrogeology), Kentucky State University (Public Administration), and then University of Kentucky (PhD – Environmental Geology). Dr. Garrison is now an Assistant Professor of Environmental Geoscience at Northern Kentucky University, where he studies a variety of environmental geology issues that affect Kentuckians, such as water issues and dye tracing techniques, as well as soil, air, and water quality in areas affected by coal fires in the state. In addition, Dr. Garrison has a strong passion for teaching, science advocacy, outreach, and interdisciplinary networking between students and professionals.

As Physical Science Representative and Education & Advocacy Co-Chair of KAS, Dr. Garrison was actively involved in research during the 2018 state legislative session, frequently reporting how HB 200 and other legislation would impact higher education. With input from others in KAS, he authored the letters to our state legislators opposing cuts to higher education, which, along with other groups’ advocacy efforts, led to education cuts not being as severe as originally proposed. He also assisted with KAS’s involvement in the March For Science and spoke about the importance of science outreach and involvement in policy.

Ms. Alexa Johnson, Ph.D. Candidate, Rehabilitation Sciences, University of Kentucky and past participant in the American Association for the Advancement of Science - Catalyzing Advocacy for Science and Engineering (CASE) workshop

Alexa is currently studying biomechanics of the lower extremity in military personnel with low back pain, as well as lower extremity loading mechanics in athletes with anterior cruciate ligament reconstruction. She previously completed her Master’s degree (MS in Kinesiology) at the University of Michigan and her Bachelor’s degree (BS in Kinesiology) at California State University Fullerton. Not only is she passionate about biomechanics and sports medicine but she is also passionate about how to translate our jargon science language to the public so everyone can understand it, aka science communication, as well as advocating for women in STEM. These passions have led to her interest in science policy, where she is now trying to figure out how she can pair a career in research and science policy simultaneously. Last March she was selected by UK to attend a workshop called Catalyzing Advocacy for Science and Engineering (CASE) put on by the American Association for the Advancement of Science (AAAS) where she learned not only about science communication and
science policy but also spent a day on the Hill meeting with Kentucky Congress members advocating for science funding.

Friday, November 2, 2018  1:14pm - 3:00pm

Oral Presentations- Friday Afternoon
Asterisk * denotes student research competition

Friday, November 2, 2018  1:15pm - 3:00pm

Cellular and Molecular Biology - Oral Presentations
DSU 3007  Section meeting follows talks at 3:00

1:15 * - Analysis of effects on tRNA modifications and hyphal growth by the elongator complex in C. albicans.

First Author
Justin Rabe
Northern Kentucky University

Co-author
Rachel Morgeson
Northern Kentucky University

Co-author
Jenna Kappes
Northern Kentucky University

Co-author
Daisy Davita
Northern Kentucky University

Co-author
Kaylee Fox
Northern Kentucky University

Co-author
Olivia Gilliam
Northern Kentucky University

Co-author
John Carmen
Northern Kentucky University

Co-author
Michael Guy
Northern Kentucky University

Co-author
John Carmen
Northern Kentucky University

Co-author
Michael Guy
Northern Kentucky University

1:30 * - Comparison of differentiation capacity between cell lines using the trilineage differentiation assay.

First Author
Priscila Garcia
Anschutz Medical Campus

1:45 - Investigating How EF-24 and Cisplatin Effect Cancer and Renal Cells

First Author
Denis Hodzic
Western Kentucky University

2:00 * - Oxidative stress mediated downregulation of transcription factor Glis3 results in beta cell dysfunction

First Author
Erin Clayton
Murray State University

Co-author
Gary ZeRuth
Murray State University

Co-author
Murray State University
2:15 * - Targeted integration of fluorescent reporters into iPSCs using CRISPR/Cas9

**First Author**  
Chann Han  
*Berea College*

**Co-author**  
Dennis Roop  
*University of Colorado Denver - Anschutz Medical Campus*

**Co-author**  
Igor Kogut  
*University of Colorado Denver - Anschutz Medical Campus*

**Co-author**  
Ganna Bilousova  
*University of Colorado Denver - Anschutz Medical Campus*

**Co-author**  
Partick Sean McGrath  
*University of Colorado Denver - Anschutz Medical Campus*

**Co-author**  
Kiel Carson Butterfield  
*University of Colorado Denver - Anschutz Medical Campus*

2:30 - The involvement of JAK/STAT signaling during air sac primordium development in *Drosophila melanogaster*

**First Author**  
Nathan Powers  
*Western Kentucky University*

**Co-author**  
Ajay Srivastava  
*Western Kentucky University*

2:45 * - Transcription factor Gli-similar 3 in pancreatic β cell development and insulin expression

**First Author**  
Lesley Golden  
*Murray State University*

**Co-author**  
Gary ZeRuth  
*Murray State University*

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Friday, November 2, 2018  1:15pm - 3:00pm

**Computer & Informational Sciences - Oral Presentations**  
DSU 2113  
Section meeting follows talks at 3:00

1:15 - Application of Huffman Coding in Cryptographic hash function SHA-1

**First Author**  
Mustafa Atici  
*Western Kentucky University*

1:30 * - Optically-Linked Raspberry Pi Beowulf Cluster

**First Author**  
Christopher Harton  
*Murray State University*

1:45 * - Analyzing Telomere Sequences: Telomere sequence identification and analysis in fungal genomics

**First Author**
2:00 * - Analysis of the vulnerabilities of Point of Sale (PoS) systems in the Internet of Things

First Author
Bryan Kirshe
University of Kentucky

Co-author
Michael Murray
University of Kentucky

Co-author
Sherali Zeadally
University of Kentucky

2:15 * - Utilizing Genome Assembly and Search Tools to Track Evolution of Magnaporthe Oryzae

First Author
Michael Murray
University of Kentucky

Co-author
Kelsey Cole
University of Kentucky

Co-author
Jerzy Jaromczyk
University of Kentucky

2:30 * - Game Prediction in Professional League of Legends using Neural Networks

First Author
Stephen Goins
Bellarmine University

Friday, November 2, 2018 1:15pm - 3:00pm

Engineering - Oral Presentations

DSU 2123
Section meeting follows talks at 2:30pm

1:15 * - High-Throughput Microfluidics to Characterize Subtle Synaptic Phenotypes in C. elegans.

First Author
Jean-Pierre Amoakon
Georgetown College

Co-author
Farhan Kamili
Georgia Institute of Technology

1:30 * - Implementation of the SPICE Observation Geometry System for the Lunar IceCube Mission

First Author
Jacob Schabert
Morehead State University

1:45 * - Safety Engineering for a CubeSat: Hazards and Verifications

First Author
Katerina Winters
Morehead State University

2:00 * - Safety Engineering for a CubeSat: Materials and Usage Requirements
2:15 - The ThinSat Program: Flight Opportunities and the Future of Small Satellites

First Author
Christopher Coleman
Morehead State University

Co-author
Robert Twiggs
Morehead State University

Co-author
Aaron Zucherman
Morehead State University

Co-author
Jose Garcia
Morehead State University

Co-author
Matt Craft
Twiggs Space Lab

Co-author
Amin Djamshidpour
Twiggs Space Lab

Co-author
Regan Smith
Virginia Space

Co-author
Hank Voss
Near Space Launch

Co-author
Jeff Dailey
Near Space Launch

Co-author
Matt Orvis
Near Space Launch

Friday, November 2, 2018 1:15pm - 3:15pm

Environmental Science - Oral Presentations

DSU 1037

Section meeting follows talks at 3:15

WITHDRAWN - A synoptic focus on the January 2016 blizzard and tornado event using satellite and radar imagery

WITHDRAWN - American Chestnut Reintroduction in Kentucky: a GIS Approach

1:45 - An Index-Based Assessment of Tourism Development Impacts on Cold-Climate Hydrologically-Dominant Landscapes

First Author
Jason Fox
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Sydney Herndon
Western Kentucky University

2:00 * - Analysis of the Bioaccumulation of Methylmercury in the Organs and Tissues of Bald Eagles

First Author
Evan Hendrickson
Western Kentucky University

2:15 - Assessment of Emerald Ash Borer Related Canopy Gaps in Kentucky Using Drone-Based Remote Sensing and Plot-Level Data

First Author
Brandon Preece
Kentucky State University

Co-author
Richard Cristan
Kentucky State University

Co-author
Kentucky State University
Friday, November 2, 2018  1:15pm - 3:15pm

Geology - Oral Presentations

DSU 3002
Section meeting follows talks at 3:15

1:15 - A Geochemical Comparison of two Telogenetic Karst Springs During Reverse Flow, Mammoth Cave, Kentucky

First Author
Chelsey Kipper
Western Kentucky University

Co-author
Patricia Kambesis
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

1:30 - Do Radioactive Black Shales Potentially Affect Human Health as well as Water Quality of Streams in Eastern Kentucky?

First Author
Mitchell Grothaus
Morehead State University

Co-author
Elizabeth Hereford
Morehead State University

Co-author
Robert Grigsby
Morehead State University

Co-author
Geoffrey Gearner
Morehead State University

Co-author
Timothy Hare
Morehead State University

Co-author
Charles Mason
Morehead State University

1:45 - Fate of Indirect greenhouse gases in Karst Landscapes Associated with Land Use

First Author
2:00 - Incision timing and its relationship to tectonic uplift and climate change: using thermochronology to unravel Ethiopia’s

First Author
Shelby Bowden
Western Kentucky University

Co-author
Nahid Gani
Western Kentucky University

Co-author
Matthijs Van Soest
Arizona State University

Co-author
Royhan Gani
Western Kentucky University

Co-author
Paul O’Sullivan
GeoSeps Services LLC

2:15 - Mass-Transport Deposits in the Northern Gulf of Mexico and Their Implications to Hydrocarbon Exploration

First Author
Michael Arthur
Western Kentucky University

Co-author
M. Royhan Gani
Western Kentucky University

2:30 * - Spectral Analysis of Analog Lunar and Martian Mineral Samples

First Author
Madison Howard
Morehead State University

Co-author
Marianne Peterson
St. Olaf

Co-author
Prabhakar Misra
Howard University

2:45 - Stratigraphic Controls on Cave Passage Development of Dogwood Cave, Hart, County, Kentucky

First Author
Patricia Kambesis
Western Kentucky University

3:00 - Tekeze River Incision Constrained from Apatite (U-Th)/He Dating

First Author
Jacob Grigsby
Western Kentucky University

Co-author
Nahid Gani
Institution

Co-author
Shelby Bowden
Institution

Friday, November 2, 2018 1:15pm - 3:00pm

Microbiology - Oral Presentations
DSU 3006
Section meeting follows talks
1:15 * - Effect of Growth Temperature on Mycoplasma iowae Pathogenicity

First Author: Brittany Boyken  
Co-author: Justin Fraizer  
Co-author: Rachel Pritchard  
Kentucky Wesleyan College  
Kentucky Wesleyan College  
Kentucky Wesleyan College

1:30 - Host range shift of H3N8 canine influenza virus: A phylodynamics approach to delineate its origin and its adaptation

First Author: Alexander Lai  
Kentucky State University

1:45 * - Novel Inactivation of the Causative Fungus of White Nose Syndrome with Methoxsalen and Ultraviolet A Light

First Author: Colin Hartman  
Co-author: Riley James  
Co-author: Joseph Mester Ph.D.  
Co-author: Alan Cohen M.D.  
Northern Kentucky University  
Northern Kentucky University  
Northern Kentucky University  
Northern Kentucky University

2:00 * - Potential Use of Essential oils as Alternative Treatment for Bacterial Skin Infections

First Author: Clarissa Gearner  
Co-author: Simran Banga  
Western Kentucky University  
Western Kentucky University

2:15 - UV Treatment of Environmental Fungi

First Author: Ashley Wentworth  
Co-author: Joseph Mester  
Co-author: Colin Hartman  
Co-author: Alan Cohen  
Northern Kentucky University  
Northern Kentucky University  
Northern Kentucky University  
Northern Kentucky University

2:30 * - Metal and antibiotic cross-resistance among bacteria isolated from the Kentucky River

First Author: William Fenske  
Co-author: William Staddon  
Co-author: Valerie Peters  
Eastern Kentucky University  
Eastern Kentucky University  
Eastern Kentucky University

Friday, November 2, 2018  1:15pm - 6:00pm

Practice Room  
DSU 2081

This space is available for speakers to practice their presentations.
Practice Room

DSU 3004
This room is available for speakers to practice their presentations.

Poster Session and Social Hour

Asterisk* denotes student research competition
Downing Student Union,
Second & Third floors

Light refreshments will be served. Poster presenters will be at their posters during the session, and posters will remain up until the end of the day on Saturday.

Agricultural Science - Poster Presentations

1. - Accumulation of Heavy Metals in Fruits of Plants Grown in Recycled Sewage Sludge
First Author: Eric Turley
Co-author: George Antonious
Kentucky State University

WITHDRAWN - Applicability of waste-reared black soldier fly larvae as an ingredient in the diet of Nile tilapia
First Author: Nathan Folz
Co-author: Iin Handayani
Co-author: Brian Parr
Murray State University

4. * - Assessing Soil Quality Indicators in No-Till and Conventional Tillage Systems: Study Case: IL, IN, and KY
First Author: Riley Mabe
Co-author: Kaeden Mollett
Murray State University

5. * - Assessing the Rising Plate Meter Method to Determine Forage Production on Organic Dairies
First Author
6. * - Comparing Characteristics of Soil under Various Management Conditions in Western Kentucky

First Author: River Dowell  
University: Murray State


First Author: Jake Owen  
Co-author: River Dowell  
University: Murray State

8. * - Economic Viability of Municipal Compost and Equine Stall Waste as Media Amendments in an In-Ground Pot-in-Pot Production

First Author: Ashley Robert  
Co-author: Alyx Shultz  
University: Murray State

9. * - Effects of live yeast supplementation on rumen bacterial diversity of beef cattle

First Author: Kyle Cannon  
Co-author: Megan McCoun, Hank Schweickart  
University: Kentucky State

10. * - Effects of live yeast supplementation on rumen fluid metabolome of beef cattle

First Author: Megan McCoun  
Co-author: Kyle Cannon, Hank Schweickart  
University: Kentucky State

11. - Effects of water soluble fertilizers on growth performance of lotus plants in containers

First Author: Changzheng Wang  
Co-author: Changzheng Wang, Lingyu Huang  
University: Kentucky State

12. * - Evaluation of Soil Response to the Applications of Ammonium Nitrate and Horse Manures

First Author: Sarah Forden  
Co-author: Lin Handayani, Kyle Hanenberger  
University: Murray State
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>13. - Food Safety Perceptions and Behaviors of Kentucky Farmer Market Consumers</td>
<td>Hanna(John) Khouryieh</td>
<td>Marlain Khouryieh Western Kentucky University</td>
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<td>14. - Grafting success of eleven pawpaw cultivars and advanced selections using four grafting methods</td>
<td>Sheri Crabtree Kentucky State University</td>
<td>Jeremy Lowe Kentuck State University Kentuck State University Kirk Pomper Kentucky State University</td>
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<td>15. * - Growth of Pawpaw (Asimina triloba) Seedlings in Two Commercially Available Potting Mixes</td>
<td>Aidan Thompson Kentucky State University</td>
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<tr>
<td>16. - Impact of aerobic compost tea on growth of Lactuca sativa</td>
<td>Ella Potts Murray State University</td>
<td>Jessica Stoner Murray State University lin Handayani Murray State University Alyx Shultz Kentucky State University</td>
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<td>17. - Impact of integrated crop-livestock rotation including small ruminants on nitrate and phosphorus concentrations in water</td>
<td>Ellyn Anthony Kentucky State University</td>
<td>Shawn Lucas Kentucky State University Derek Law Kentucky State University Tony Silvermail Beyond the Bridge Organic Farm Kentucky State University Blake Van Sanford Kentucky State University</td>
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<td>18. - Investigating the Impact of Soil Amendments on Eggplant Production</td>
<td>Yogendra Upadhyaya Kentucky State</td>
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<td>19. - Longitudinal Histological Study of Nosema ceranae in Honey Bees</td>
<td>Katherine Kamminga</td>
<td>Thomas Webster</td>
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<td>Thomas Trivette</td>
<td>George Antonious</td>
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<td>22. - Variation in annonaceous acetogenins activity in twig tissues of pawpaw varieties and new advanced selections using.....</td>
<td>HARRY MOMO</td>
<td>Jeremiah Lowe</td>
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Friday, November 2, 2018 3:00pm - 6:00pm

**Anthropology and Sociology - Poster Presentations**

24. - Ethnographic Study of Ohio River Barge Deckhands

First Author
Dee Broomhead  
*Northern Kentucky University*

**25.** Preliminary Results From 2017 NKU Excavations at the Glacken Site (15BE272), Big Bone Lick State Historic Site

*First Author*  
Alessa Rulli  
*Northern Kentucky University*

**26.** Multidisciplinary Approaches to Research and Abolitionism Through the Parker Academy

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<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tbody>
<tr>
<td>Andrea Shiverdecker</td>
<td>Samantha Hamilton</td>
<td>Cooper Pfalz</td>
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<td>*Northern Kentucky</td>
<td><em>Northern Kentucky</em></td>
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**27.** Uncovering the Women of Parker Academy

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<th>First Author</th>
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<tr>
<td>Delaney Gilliam</td>
<td>Lyndsey McNabb</td>
</tr>
<tr>
<td>*Northern Kentucky</td>
<td><em>Northern Kentucky</em></td>
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**Botany - Poster Presentations**

**28.** Cultivation of Peanuts in Oak Tree Saw Dust to Increase Resveratrol

*First Author*  
Wendy Cecil  
*Western Kentucky University*

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**Cellular and Molecular Biology - Poster Presentations**

**29.** A Genetic Screen for Proteins Involved in ASP Invasion of the Wing Disc of Drosophila melanogaster

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<tr>
<th>First Author</th>
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<tr>
<td>Anas Gondal</td>
<td>Hasan Salim</td>
<td>Ajay Srivastava</td>
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<td>*Western Kentucky</td>
<td><em>Western Kentucky</em></td>
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**30.** Cerebellar gene expression of cabin1

*First Author*
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<th>Co-author</th>
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<tr>
<td>31. * - Characterization of a Basement Membrane Associated Protein</td>
<td>Aref Ranjbar</td>
<td>Ajay Srivastava</td>
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<td>Western Kentucky</td>
<td>Western Kentucky University</td>
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<td>32. - Cloning Lectins for the Detection of Flavivirus Nonstructural Protein 1</td>
<td>Natalie Mercer</td>
<td>Krystal Hamorsky</td>
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<td>Kentucky Wesleyan</td>
<td>Kentucky Wesleyan University</td>
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<td>33. - Cysteine Thiol Directed Chemical Modification of a KCNE1 Protein N-Terminus</td>
<td>Sharman N</td>
<td>Keenan Taylor</td>
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<td>Berea College</td>
<td>Vanderbilt University</td>
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<tr>
<td>34. * - Damage to Danio Rerio’s Developing Neuromuscular Junction Could Lead to Expanded Synaptic Plasticity</td>
<td>Diana Schweitzer</td>
<td>Dena Weinberger</td>
</tr>
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<td></td>
<td>Murray State University</td>
<td>Murray State University</td>
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<td>35. * - De Novo Prediction of the Tail and Capsid Structure of Mycobacteriophage MooMoo</td>
<td>Alexander Stewart</td>
<td>Claire Rinehart</td>
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<td>Western Kentucky</td>
<td>Western Kentucky University</td>
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<td>36. - Detection of antibiotic resistance genes using engineered zinc finger proteins immobilized on the silane polymer-coated</td>
<td>Jiyoung Shim</td>
<td>Moon-Soo Kim</td>
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<td>Western Kentucky</td>
<td>Western Kentucky University</td>
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<td>37. * - Effect of HER2 expression on NUPL2 protein in cervical cancer cells</td>
<td>Tristan Haight</td>
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<td>38. - Evaluation of Genes that May Mediate Individualization in Spermatogenesis</td>
<td>Olivia Honaker</td>
<td>Darren Paris</td>
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<td>39. * - Examining how the FGF signaling pathway effects gene expression within the pharynx during embryonic development</td>
<td>Elizabeth Wilke</td>
<td>Emily Shifley</td>
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<td>40. * - Examining the Role that Iroquois Genes Play During Embryonic Development</td>
<td>Maria Stewart</td>
<td>Emily Shifley</td>
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<tr>
<td>41. * - Fishing for fertility: Creating a PAM-1 substrate trap to isolate novel fertility-governing proteins</td>
<td>Autumn Graves</td>
<td>Chris Trzepacz</td>
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<td>42. * - Generation of a transgenic beta cell line for study of Glis3 using CRISPR/Cas9 technology</td>
<td>NancyAnn Webster</td>
<td>Gary ZeRuth</td>
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<td>43. * - Generation of transgenic zebrafish line by CRISPR/Cas9 to evaluate pancreas development and function</td>
<td>LilyAnne Grieve</td>
<td>Gary ZeRuth</td>
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<td>44. * - Integrin β1 Promotes Kras-Mutated Lung Cancer Proliferation Via Mapk-Independent Mechanism</td>
<td>Kateryna Nabukhotna</td>
<td>Scott Haake</td>
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<td>46. * - Platinum Leaving Ligand Effects on Mammalian Cells</td>
<td>Emily Nole</td>
<td>Jessica Schlabach</td>
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<td>47. * - Potential for the green alga Chlamydomonas reinhardtii to degrade lignin</td>
<td>Meg Dillingham</td>
<td>Cydne Kitchens</td>
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<td>48. * - Role of Shear Stress on Endothelial Insulin Sensitivity</td>
<td>Areli Medina Hernandez</td>
<td>Lauren Walsh</td>
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<td>Berea College</td>
<td>University of Missouri</td>
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<td>49. - Spinal Cord Injury and its effect on Circadian Rhythm</td>
<td>Charles Thaler</td>
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<td>50. * - The Bioinformatics of Mycobacteriophage Drake94</td>
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</table>
51. * - The effect of light pollution on immunoresponse and neurogenesis in zebra finches

First Author
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52. * - The Effects of Acute Sleep Fragmentation on Microglial Cells

First Author
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Co-author
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53. * - The effects of oxidative stress on p75NTR signaling in dopaminergic neurons.

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54. - The FGF signaling pathway plays an important role regulating gene expression in developing Xenopus laevis embryos

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55. - The Role of Polarity Genes in Esophageal Adenocarcinoma Metaplasia

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56. * - Therapeutic and toxicity profile of Pt-Mal-LHRH, a target direct chemotherapeutic for triple negative breast cancer.

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Margaret Ndinguri
EKU
### Chemistry: Analytical/Physical - Poster Presentations

#### 57. * - The Chemical Characterization of Kentucky Honeys

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<tr>
<th>First Author</th>
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<tr>
<td>Rebecca Jenkins</td>
<td>Chelsea Fitzpatrick</td>
<td>Brandon Van Ness</td>
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<td>Morehead State University</td>
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#### 58. * - Profiling whiskey fungus using the gas chromatography/mass spectrometry and laboratory serial dilutions methods

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<th>First Author</th>
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<tr>
<td>Amber Persons</td>
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<td>Kentucky State University</td>
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#### 59. * - Solid Phase Extraction of Tylosin from Cattle Waste With Determination by Liquid Chromatography Mass Spectrometry

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<tr>
<td>Anne Carlisle</td>
<td>Keerthi Appala</td>
<td>Eric Conte</td>
<td>John Kasumba</td>
<td>Getahun Agga</td>
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<td>John Loughrin</td>
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#### 60. * - Temporal Trend of Illicit and Neuropsychiatric Drug Consumption

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<td>Brittney Nelson</td>
<td>Tara Croft</td>
<td>Bikram Subedi</td>
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#### 61. * - Using the Liquid Sampling-Atmospheric Pressure Glow Discharge with Capillary Channeled Polymer Fibers for Analysis of Pr

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<tr>
<td>Daisy Sullivan</td>
<td>Dr. R. Kenneth</td>
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<td>Berea College</td>
<td>Marcus</td>
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<td><em>Clemson University</em></td>
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#### 62. * - Application of an Analytical Assay for Quantification of Polyphosphate Using Silicon Photonic Microring Resonators

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<td>Beau Schweitzer</td>
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<td>University of Michigan</td>
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#### 63. * - Purification and Analysis of LHRH using HPLC
64. Detection of Polyions with Pulsed Chronopotentiometry - Screening Antidotes for the Anticoagulants Low Molecular Heparin

First Author: Sean Greer  
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Co-author: Kyle Rowe  
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65. Determination of Ochratoxin A in Kentucky Black Walnuts

First Author: Bryce Forry  
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Co-author: Bruce Branan  
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66. Investigating the Diffusion Behavior of Analytes subjected Peak Parking Capillary Electrophoresis

First Author: Lauren Rigg  
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67. Predicted Protein Structure and Function of the Bacteriophage: Mithril

First Author: Moria Magre  
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68. Modeling Molecular Relaxation Dynamics for Diatom Clathrates

First Author: Levi Curtis  
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Co-author: Jeremy Maddox  
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69. Protocols for UHF and UCCSD Potential Energy Curves

First Author: Elizabeth Hedrick  
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69.5 Unraveling Subtle Intermolecular Interactions in Crystals of a Solar Thermal Fuel.

First Author: Alexander Thome  
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Co-author: Erin Calvert  
Murray State University

Co-author: Kasey Clear  
Murray State University

Co-author: Sebastian Jezowski  
Murray State University
70. - The Effectiveness of Thin Layer Spin Coating Sodium Acetate

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71. * - Avidin Functionalized Coverslips for Model Membrane Imaging

First Author
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Co-author
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Co-author
Lindsey Miller
The University of Tennessee, Knoxville

72. * - Effects of Various Buffers and Parameters on the Structure and Behavior of Stimuli-Responsive Polymers

First Author
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Co-author
Eric Milner
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Chemistry: Organic/Inorganic - Poster Presentations

73. - A Dispersed REU Program on Theoretically Interesting Molecules (TIM)

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Co-author
Shannon Biros
Grand Valley State University
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Peter Iovine
University of San Diego
Co-author
Jeff Katz
Colby College
Co-author
Kristine Nolin
University of Richmond
Co-author
Ellen Ellen Yezirski
Miami University

74. - Synthesis of Oxacalixarenes from Silyl Protected Precursors

First Author
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Co-author
Kimberly Richards
Northern Kentucky University
Co-author
Bailey Hardey
Northern Kentucky University
Co-author
Rachel Holland
Northern Kentucky University

75. - Catalytic Bis(imino)pyridine Iron Complexes for Carbene Reactions of Diazo Compounds

First Author
Ban Wang
Western Kentucky University
Co-author
Isaac Howard
Western Kentucky University

76. - Interaction of a platinum tri-amine complex having a seven-membered chelate ring with 5'-GMP and N-AcMet
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<td>Jae Ko</td>
<td>Kevin Williams</td>
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**77. * - Synthesis of metal-organic frameworks mimicking carbonic anhydrase enzyme.**

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<td>Simrat Kaur</td>
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**77.5. - An in vitro Study on Skin Protection Across the UV Spectra**

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<td>Cheyenne Boone</td>
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**78. * - Phosphonium-containing Poly(ionic liquid) Networks Prepared From Thiol-ene 'Click' Photopolymerization**

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<td>Samantha Sims</td>
<td>Rachel Whittaker</td>
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**79. * - Highly efficient and selective oxidation of sulfides catalyzed by manganese corroles with iodobenzene diacetate**

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<td>Ben Willis</td>
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**80. * - Enantioselective Cross Aldol Reactions of Aldehydes**

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<td>Samantha Bradley</td>
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**81. * - Investigating the Synthesis of LMA-P2**

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<td>Sarah Little</td>
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<td>82. * - Palladium-Catalyzed Heteroarylation Under Microwave Irradiation</td>
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<td>84. * - Synthesis and photocatalytic properties of three metal-organic framework materials</td>
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<td>85. * - The Syntheses of Heteroatom-activated Antibiotics</td>
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<td>86. * - Iron Catalyzed Oxidation of Amines to Imines</td>
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<td>87. * - Solid Phase Organic Synthesis of an Antibody Drug Conjugate Linker</td>
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<td>88. * - Phenylethynyloxacalixarenes Synthesis</td>
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<td>89. * - Synthesis and Mechanism study of Isocoumarin Analogues</td>
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<td>90. * - Annulene-Oxacalixarene Hybrids</td>
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<td>91. * - Synthesis and reactivity of platinum(II) anticancer drug analogs with unsymmetrical ligands</td>
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**Computer & Informational Sciences - Poster Presentations**

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<td>94. - Encoding and Decoding Messages in Android Applications</td>
<td>Richard Pike</td>
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<td>95. * - Smart Routing Schemes for Dynamic Spectrum Access Network Architectures</td>
<td>Brian Luciano</td>
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<td>University of Kentucky</td>
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<td>96. * - Neighborhood Graphs for Cities in Kentucky: comparison for two distance measures</td>
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<td>97. *</td>
<td>Nutrient Export of the Kentucky River to Detect Possible Eutrophication</td>
<td>Ieisha Hopwood</td>
<td>Kazi Javed</td>
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<td>Kentucky State University</td>
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<td>Litter Breakdown and Invertebrate Detritivores from a Hydrologically Restored Stream</td>
<td>Jacob Becraft</td>
<td>Amy Braccia</td>
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<td>99. *</td>
<td>Influence of Salamanders on Leaf Litter Decomposition in Appalachian Headwater Streams</td>
<td>Emily Jones</td>
<td>Joseph Baecher</td>
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<td>The Effects of Salinity on the Juvenile Freshwater Crayfish Procambarus clarkii</td>
<td>Alexandra Ghinn</td>
<td>Kyle Laufenburger</td>
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<td>101. *</td>
<td>Evaluation of biomass and filtration method on eDNA detection of fantail darters (Etheostoma flabellare)</td>
<td>Ramon Guivas</td>
<td>Florene Bell</td>
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<td>Asbury University</td>
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<td>102. *</td>
<td>Use of eDNA in detection of multiple salamander species in eastern Kentucky streams</td>
<td>Angie Flores</td>
<td>Robert Ramsey</td>
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<td>Asbury University</td>
<td>University of Kentucky</td>
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<td>103. *</td>
<td>Detection of species using eDNA in high elevation habitats in the Sierra Nevada in Sequoia-</td>
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</table>
104. - Effect of Plastic Microbeads in Two Face Washes on Zebrafish Reproductive Success

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105. - Accessing the Direct Toxicity of the Plant Volatile Indole on Herbivores

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106. * - Honeysuckle leaf blight increases leaf loss in Amur honeysuckle

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Rachel Fedders  Stephen Richter  Eastern Kentucky  Eastern Kentucky  Eastern Kentucky  Eastern Kentucky
University  University  University  University  University

110. - Ecosystem functional consequences of body size variation in an apex predator
111. * - Trophic effects of intraspecific body size variation among exploitative and interference competitors

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112. * - Determining the Cyanogenic Potential of Two Land Races of Lima Bean, Phaseolus lunatus

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113. * - Do Drip Tips Benefit Leaves in Both the Understory and Canopy of a Neotropical Rainforest?

First Author
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114. * - Do phenotypically plastic apex predators exhibit discrete patterns of local adaption to their invertebrate prey?

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115. - Does Life History Variation Mediate the Effects of Disease?

First Author
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116. - A phylogenetic examination of the Pseudanophthalmus cave beetles (Carabidae) of western Kentucky.

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117. - The Effect of Malathion Toxicity on Zebrafish Caudal Fin Regeneration

First Author
Indigo Thoman
**Engineering - Poster Presentations**

118. - Comparison Study of Various CNN AI architectures for Prediction of Metal Sample Failure based on SEM images

<table>
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<tr>
<th>First Author</th>
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<td>Lawrence Madriaga</td>
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<td>Morteza Nurcheshmeh</td>
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<td>Western Kentucky</td>
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<td>University</td>
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119. - Using NASA’s Land Information System (LIS) for hydrological and land-atmosphere coupling studies and as a lower boundary

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<td>Charles O’Connell</td>
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**Environmental Science - Poster Presentations**

120. - A Karst Disturbance Index Map for Hidden River Cave

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<tr>
<td>Anna Harris</td>
<td>Patricia Kambesis</td>
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121. * - A Synoptic Analysis of the 2012 Ohio Valley Heat Wave and an Investigation of the Effect on Public Health in Kentucky

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<th>First Author</th>
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<tr>
<td>Christopher Padgett</td>
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122. - Can remote sensing be used to accurately predict beaver activity?

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<td>Melody Feden</td>
<td>Haluk Cetin</td>
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<td>Murray State</td>
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123. * - Case Study of the Significant Cold Temperatures February 14th-20th, 2015
### 124. - Deriving Climate Statistics based on Kentucky Mesonet Observations

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<tr>
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<td>Stuart Foster</td>
<td>Megan Schargorodski</td>
<td>Andrew Quilligan</td>
<td>Patrick Collins</td>
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### 125. - The Kentucky Forecasting System

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<th>First Author</th>
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<td>Eric Rappin</td>
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<td>Western Kentucky University</td>
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### 126. - Evaluation of gluconic acid for the control of Nosema ceranae, a microsporidian infecting honey bees, Apis mellifera

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<th>First Author</th>
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<tr>
<td>Jacob Vincent</td>
<td>Katherine Kamminga</td>
<td>Thomas Webster</td>
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<tr>
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### 127. * - Mercury Bioaccumulation in Bats from Mammoth Cave National Park

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<tr>
<td>Isabel Chumbler</td>
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<td>Western Kentucky University</td>
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### 128. * - Testing Nutrient Levels of Water Kentucky River for Harmful Algae Bloom Forecasting

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<td>Imani Harris</td>
<td>Li Lu</td>
<td>Javed Kazi</td>
<td>Tamara Sluss</td>
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### 129. * - Use of a Reduced Sulfur Gas Chromatograph with Custom-made Permeation Tube for Analysis of Sulfur Compounds

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<td>Spencer Toms</td>
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</table>
130. * - Using remote sensing and GIS to study the development of Harmful Algal Blooms in Lake Erie.

First Author
Steven Collett
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University

Western Kentucky University
Co-author
Philip Silva
USDA-ARS

Friday, November 2, 2018 3:00pm - 6:00pm

Geography - Poster Presentations


First Author
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Co-author
Tori Murley
ECTC

132. * - The Impact of Urban Heat Island Magnitude on Organized Convective Systems

First Author
Logan Twohey
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Co-author
Jason Naylor
University of Louisville

133. * - Comparing water quality variables between first order streams located in agricultural and heavily forested communities

First Author
Caitlin Mullins
Kentucky State University

134. - Trends in Total Suspended Solids(TSS) Discharge of Headwater Streams in Agricultural and Forested Watersheds

First Author
Jarod Jones
Kentucky State University

135. * - Observing Trends in Foodborne Illnesses and Health and Food Codes in the United States

First Author
Megan Paule
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136. * - Comparing Accuracy of Supervised Image Classification of Wetlands in the Kentucky River Basin to the NLCD
137. * - The spatial distribution of local and organic food availability in Kentucky

First Author
Ariel Smith
Kentucky State University

Geology - Poster Presentations

Friday, November 2, 2018 3:00pm - 6:00pm

138. * - Anthropogenic Impacts on Encrusters in Association with Mercenaria mercenaria in Long Island Sound

First Author
Marie White
Murray State University

139. * - Dye Trace Study of Karst Groundwater Flow at Mystery Spring and Wildcat Culvert in Lexington, Fayette County, Kentucky

First Author
Constance Brown
Northern Kentucky University

140. * - Quantifying Hyporheic Flow in Beaver Ponds of Varying Size and Stream Morphology

First Author
Colton Sanders
Murray State University

141. - Seismic Interpretation of the North-Central Gulf of Mexico: Implications for Salt Tectonic Modeling

First Author
Adam Mattson
Western Kentucky University
### Health Science - Poster Presentations

**142. * - Altered Immune Cell Profile Contributes to Increase Risk of Heart Disease in Aging Mice**

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<td>Aubrey Melton</td>
<td>Renee Donahue</td>
<td>Marlene Starr</td>
<td>Ahmed Abdel-Latif</td>
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<td>Saha Cardiovascular Research Center</td>
<td>Nutritional Sciences and Pharmacology</td>
<td>Saha Cardiovascular Research Center</td>
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149. * - Sterilization of Staphylococcus aureus and Pseudomonas aeruginosa using Sanitol

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<td>Riley James</td>
<td>Joseph Mester</td>
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150. * - L-Serine Reduces Reactive Oxygen Species Yield in Cisplatin Treated Zebrafish Utricles

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<td>Elvin Irihamye</td>
<td>Satya Moolani</td>
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151. * - Role of Gonadal Hormones in Cognitive Impairment Due to Hypovolemic Dehydration

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<td>Evy Perler-Tomboly</td>
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152. - Loss of plasmid in plasmid-carrying strains of Escherichia coli treated with phenoxazines

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<td>K.N. Thimmaiah</td>
<td>Mark Montgomery</td>
<td>Larry Sylvester</td>
<td>Padma Thimmaiah</td>
<td>Ashish Pagare</td>
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<td>Paul Grisham</td>
<td>Lindsay Massie</td>
<td>Piya Adris</td>
<td>Sarah Holt</td>
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<td>Darrell Barnes</td>
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153. - Survival time distribution of advanced stage metastatic melanoma among Whites and Minority populations in Florida

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<td>Frederick Bebe</td>
<td>Shasa Hu</td>
<td>Tony Brown</td>
<td>Orien Tulp</td>
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<tr>
<td>Kentucky State</td>
<td>University of Miami,</td>
<td>NIH, National Cancer Institute</td>
<td>University of Science, Arts and Technology</td>
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<td>University</td>
<td>Miller College of Medicine</td>
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154. * - The Effect of Chronic Sleep Fragmentation and 6-OHDA on Microglia Activation

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<td>Kristen Eads</td>
<td>Ila Mishra</td>
<td>Noah Ashley</td>
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</table>
155. * - The Health and Economic Impact of the Pinnacle Trails in a Kentucky Trail Town

First Author
Glendy Pineda
Berea College

Co-author
Louisa Summers
Berea College

Co-author
Jaden Johnson
Berea College

156. * - Vitreous Syneresis in the Human Eye

First Author
Meg Glenn
KBRIN (UofL)

Co-author
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University of Louisville

Friday, November 2, 2018 3:00pm - 6:00pm

Mathematics - Poster Presentations

157. - Investigating Tire Tracks to Determine a Vehicles Direction

First Author
Richard Cyrus
Morehead State

University

158. - Predictive MLS Soccer Ratings

First Author
Taylor Ray
Morehead State

Microbiology - Poster Presentations

159. - A Close Look at the K1 Bacteriophages Capricorn and Dalmuri, Including Similarities and Differences

First Author
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Co-author
Claire Rinehart
Western Kentucky

University

Co-author
Anmol Sandhu
Western Kentucky

University

Co-author
Sahil Chhabra
Western Kentucky

University

Co-author
Samuel Chang
Western Kentucky

University

160. * - An Introduction to the Forms and Functions of the A4 Mycobacteriophage Wizard007

First Author
Samuel Chang
Western Kentucky

University
### 161. - Characterization of Mycobacteriophage MooMoo

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<tr>
<td>Amanda Staples</td>
<td>Rodney A. King</td>
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### 162. * - Clostridium isolate growth in a zinc-limited environment

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<td>Kamila Nurmakova</td>
<td>Christopher Lopez</td>
<td>Eric Skaar</td>
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### 163. * - Effect of Growth Temperature on Mycoplasma iowae Pathogenicity

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<td>Christopher Frazier</td>
<td>Brittany Boyken</td>
<td>Rachel Pritchard</td>
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### 164. * - Immunity Repressor Gene Regional Difference May Control Gene Expression of Lytic and Lysogenic Life Cycles

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### 165. - Role of tRNA modifications in the regulation of pseudohyphal growth in yeast

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<td>Kaylee Fox</td>
<td>John Carmen</td>
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### 166. * - Ruin Genome

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<td>Anmol Sandhu</td>
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<td>WKU</td>
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### 167. - The House Sparrow as a Better Model for the Human Gut Microbiome

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<tr>
<td>Joshua Nowacki</td>
<td>Jordan Stacy</td>
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<td>KBRIN</td>
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</table>
**Physics and Astronomy - Poster Presentations**

| 168. * - Contemporaneous Ground-Based Observations of Blazars Observed with NASA's K2 Mission |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| **First Author** | **Co-author** | **Co-author** | **Co-author** |
| Zoe Ward | Michael Carini | Western Kentucky | University Dept. of |
| Western Kentucky University Dept. of Physics and Astronomy | Western Kentucky University | Physics and Astronomy | Astronomy |

| 169. * - Development of a LabView Controlled Rotational Support System for the Dual Radiation Rotating Scattering Mask |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| **First Author** | **Co-author** | **Co-author** | **Co-author** | **Co-author** |
| Devon Loomis | Alexander Barzilov | Lawrence Madriaga | Ivan Novikov | Seth Harper |
| Western Kentucky University | University of Nevada, Las Vegas | Western Kentucky University | Western Kentucky University | Western Kentucky University |

| 170. * - Electrochemical Desulfurization and Electroactivity of Molybdenum Disulfide (MoS2) Nanocatalysts on Reduced Graphene |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| **First Author** | **Co-author** | **Co-author** | **Co-author** | **Co-author** |
| Taylor Robinson | Jacob Dobler | Sanju Gupta | Western Kentucky University | Western Kentucky University |
| Western Kentucky University | University | Western Kentucky University | Sanju Gupta |

| 171. * - Engineered Nanocomposite Materials Properties through Embedding of Smaller Nanoparticles in a Polymer Matrix |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| **First Author** | **Co-author** | **Co-author** | **Co-author** |
| Alex Henson | Sanju Gupta | Western Kentucky University | University |
| Western Kentucky University | University | Western Kentucky University |

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<td>Alexander Banaszak</td>
<td>Sanju Gupta</td>
<td>Western Kentucky University</td>
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<p>| 173. * - Graphene-Polymer Thin Film Composite Membranes as Efficient and Anti-fouling Membranes for Water Purification |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <strong>First Author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> |
| Brendan Evans | Western Kentucky University | Sanju Gupta | University |
| University | University | Western Kentucky University | University |</p>
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<tr>
<td>174. * - Hydrothermally Synthesis and Properties of Mesoporous Molybdenum Disulfide (MoS2) Reduced Graphene Oxide Composites</td>
<td>Jacob Dobler</td>
<td>Taylor Robinson</td>
<td>Sanju Gupta</td>
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<td>175. * - Improving Accuracy of Parity Violation Measurements for NOPTREX Experiment at LANL</td>
<td>Daniela Olivera</td>
<td>Danielle Schaper</td>
<td>Christopher Crawford</td>
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<td>176. * - Investigating the Efficacy of Histotripsy on Drug Delivery</td>
<td>Heather Thompson</td>
<td>Benjamin Wollant</td>
<td>Kenneth Bader</td>
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<td>177. * - Microstructure and Properties of Layered Transition Metal Carbides (Ti3C2Tx) MXenes Phases</td>
<td>Wyatt Ringo</td>
<td>Sanju Gupta</td>
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<td>178. * - Phase transitions in charged black holes</td>
<td>Emily Frame</td>
<td>Sharmanthie</td>
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<td>Fernando</td>
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<tr>
<td>179. * - Photon Simulation Studies for the Dark Energy Science Collaboration (DESC) at LSST (Large Synoptic Survey Telescope)</td>
<td>Sean Lawless</td>
<td>Carlos Galiendo</td>
<td>Akhtar Mahmood</td>
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<tr>
<td>180. * - Robotics with Humanoid Robot NAO and Hexapod (Robotic Spider)</td>
<td>Carlos Galiendo</td>
<td>Muhammad Saleem</td>
<td>Akhtar Mahmood</td>
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<td>Bellarmine University</td>
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</table>
181. * - Self-Assembly of Spheres on a Cone Surface

First Author
Talha Rehman
Berea College

182. * - Systematic Study of the Effect of Incorporation of Carbon Nanotubes into GexSe1-x Glass System

First Author
John Adamick
Northern Kentucky University

Co-author
John Rademacher
Northern Kentucky University

Co-author
Wayne Bresser
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Co-author
Chari Ramkumar
Northern Kentucky University

183. * - XMM-Newton Observations of the Galactic Supernova Remnants G5.9+3.1 and G32.4+0.1

First Author
Lori Porter
Craft Academy

Co-author
Thomas Pannuti
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184. - Time series analysis of the rapid optical variability observed in Blazars with NASA's K2 Mission.

First Author
Kennedy Pendleton
2001

Co-author
Michael Carini
Department of Physics and Astronomy
Western Kentucky University

185. - Procedure improvement for FAPbl3 perovskite solar cells

First Author
Valeria Rosa Rocha
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Co-author
Somin Park
University of Kentucky

186. - Measurements of the entanglement of quantum of lights due to spontaneous parametric down conversion

First Author
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Berea College

Co-author
Martin Veillette
Berea College

Co-author
Brian Leist
Berea College

Co-author
Mothi Ghimire
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Physiology and Biochemistry - Poster Presentations

187. * - A functional module for a response to low nutrients in Arabidopsis

First Author
Muntathar Alshimary
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Co-author
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University of Chicago

Co-author
Jean Greenberg
University of Chicago

188. * - Computational and experimental approaches to study the role of protein modifications by urea
### 189. * - Disruption of cell adhesion, loss of Arp2/3 complex function in macrophages are not sufficient to induce NF-kB activity

<table>
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<tr>
<th>First Author</th>
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<tr>
<td>Imelda Saintilma</td>
<td>Jeremy Rotty</td>
<td>Uniformed Services University of the Health Sciences</td>
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### 190. * - Disruption of choline acetyltransferase (ChAT) by congenital mutations: Screening potential therapeutic leads

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<th>First Author</th>
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<tbody>
<tr>
<td>Abigail Whitaker</td>
<td>David Rodgers</td>
<td>University of Kentucky</td>
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### 191. * - Dose-dependent induction of circulating SAA, and pulmonary inflammation after ozone exposure: Alzheimer' Disease Link

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<tbody>
<tr>
<td>Helina Asrat</td>
<td>Michelle Erickson</td>
<td>US Department of Veterans Affairs</td>
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### 192. * - Effects of TEA and 4-AP on Firing Frequency of Proprioceptive Neurons in Crustaceans

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<td>Emma Higgins</td>
<td>Allison Lane</td>
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<td>Bernardo Aguzzoli</td>
<td>Aaron Silverstein</td>
<td>Bennett Collis</td>
<td>Bharath Chithrala</td>
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<td>Robin Cooper</td>
<td>University of Kentucky</td>
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### 193. * - Mechanism of quinolone resistance in Escherichia coli type II topoisomerase

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<th>First Author</th>
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<td>Nyasha Gombami</td>
<td>Alexandria Oviatt</td>
<td>Neil Osheroff</td>
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<td>Medical Center</td>
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### 194. - P. gingivalis infection debilitates anti-viral immune responses in gingival epithelial cells
195. * - Pharmacological identification of cholinergic receptor subtypes in modulation of neural circuits in D. melanogaster

First Author
Umair Bhutto
University of Kentucky

Co-author
Eashwar Somasundaram
University of Kentucky

Co-author
Robin Cooper
University of Kentucky

196. * - Placental Transfer and Metabolism of FDA-approved Drugs Repurposed for Novel Tocolytic Use

First Author
Allison Harper
Berea College

Co-author
Shajila Siricilla
Vanderbilt University

Co-author
Raymond Johnson
Vanderbilt University

Co-author
Lauren Lambert
Vanderbilt University

Co-author
Jennifer Herington
Vanderbilt University

197. - Regulation of Programmed Genome Rearrangement in the Sea Lamprey

First Author
Taylor Stewart
Centre College

Co-author
Gena Wilson
Murray State University

Co-author
Cody Saraceno
University of Kentucky

Co-author
Jeramiah Smith
University of Kentucky

198. - TBF-B Pathway in relation to down regulation of PTTG gene expression

First Author
Alanis Morgan
Kentucky Biomedical Research Infrastructure Network

199. * - The Role of Reactive Oxygen Species in Regulating TRPV4 Responses to Stimuli

First Author
Zackery Hill
University of Pikeville

Co-author
Karthik Suresh
Johns Hopkins Div of Pulmonary and Critical Medicine

Co-author
Xin Yan
Johns Hopkins Div of Pulmonary and Critical Care Medicine

Co-author
Laura Servinsky
Johns Hopkins Div of Pulmonary and Critical Care Medicine

Co-author
Haiyang Jiang
Johns Hopkins Div of Pulmonary and Critical Care Medicine

Co-author
Larissa Shimoda
Johns Hopkins Div of Pulmonary and Critical Care Medicine
### Psychology - Poster Presentations

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<th>Session</th>
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<td>200. *</td>
<td>Appraisal: The Effect of Electronic Media on Decision Making</td>
<td>Yabsira Ayele</td>
<td>Emily Lush</td>
<td>Jorden Crowe</td>
<td>Abigail Mohr</td>
<td>Sydney Young</td>
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<td>201. *</td>
<td>Sustaining Attention: The Effects of Fidgeting and Break type</td>
<td>briana beckler</td>
<td>Gregory Corso</td>
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<td>203. *</td>
<td>The independence of implicit and explicit sequence learning</td>
<td>Allison Ludwig</td>
<td>Brandi Carey</td>
<td>Gilbert Remillard</td>
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<td>204. *</td>
<td>Amazon Mechanical Turk Responses vs. Student Responses</td>
<td>Emily Lush</td>
<td>Jorden Crowe</td>
<td>Vanessa Jones</td>
<td>Abigail Mohr</td>
<td>Sydney Young</td>
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<td>205.</td>
<td>Emphasis and &quot;only&quot; influence sentence interpretation</td>
<td>Victoria Nash</td>
<td>David Potter</td>
<td>Katy Carlson</td>
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</table>
### Science Education - Poster Presentations

206. - An Interactive Earth: Augmented Reality and Hands-On Earth Science Inquiry in Schools

*First Author*
Olivia Santangelo  
*Western Kentucky University*

207. *- Impact of Problem Based Team Learning on Underserved Students in Introductory Biology and Genetics Courses

*First Author*
Shelby Diener  
*Northern Kentucky University*

### Zoology - Poster Presentations

208 *- Effects of Foraging Enrichment Predictability on the Behavior and Space Use of Zoo-housed Elephants

*First Author*
Cassondra Perkins  
*Kentucky Wesleyan College*

*Co-author*
Greg Vicino  
*San Diego Zoo Global*

*Co-author*
Angela Mackey  
*Kentucky Wesleyan College*

209. - Zebrafish Spawning Conditions and Their Effects on Egg Success and Clutch Size

*First Author*
Sydni Anderson  
*Murray State University*

*Co-author*
Dena Weinberger  
*Murray State University*

210. *- The Influence of Endotoxic LPS on Primary Sensory Neurons in Crustaceans

*First Author*
Maddie Stanback  
*University of Kentucky*

*Co-author*
Alexandra Stanback  
*University of Kentucky*

*Co-author*
Kelsi Vela  
*University of Kentucky*

*Co-author*
Ross Basham  
*University of Kentucky*

*Co-author*
Bernardo Aguzzoli  
*University of Kentucky*

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*University of Kentucky*

*Co-author*
University of Kentucky

*Co-author*
Bharath Chithrala  
*University of Kentucky*

*Co-author*
Robin Cooper  
*University of Kentucky*

211. - Do Males Adjust Courtship Displays According to Female Feedback?

First Author
Jonathan Eisenhour
Morehead State University

Co-author
Matthew Fossett
David Eisenhour
Morehead State University

213. - Polyandry and polygyny in green salamanders, Aneides aeneus

First Author
Paul Cupp Jr
Eastern Kentucky University

214. * - Comparing the seasonal variation in distribution and abundance of anuran species in Daviess Co, KY.

First Author
Jordan Danflous
Kentucky Wesleyan College

Co-author
Shannon Finerty
Kentucky Wesleyan College

215. * - Overwintering implications for the cercaria of the diagenetic trematode, Proterometra macrostoma

First Author
Sarah Tabor
Berea College

Friday, November 2, 2018  7:00pm - 10:00pm

Reception and Plenary at National Corvette Museum
Facilitated by President-Elect Leslie North

Free Shuttles to Corvette Museum begin at 6:30

"Behind the Scenes at the Corvette Cave-In"

Get the inside story from scientists on the now-famous sinkhole at the National Corvette Museum and find out how an interdisciplinary team of scientists and technicians came together to study and repair the sinkhole, as well as develop the Corvette Cave-In Sinkhole Exhibit at the museum.

The reception and plenary are included in your meeting registration, and entrance to the museum is included with this event. Tour the exhibit with your fellow scientists and learn about the cars and the karst!

The 2018 Science Education & Outreach Award will be presented at this program
available between Downing Student Union, the National Corvette Museum and the Hyatt Place beginning at 6:30pm.

Bring a guest- Guest tickets for this Friday night event are available for $25

Featured Speakers

Jason S. Polk, Ph.D.
Associate Professor of Geography and Geology
Western Kentucky University
He also is the Director of the Center for Human-GeoEnvironmental Studies (CHNGES) and HydroAnalytical Lab. Dr. Polk earned his doctorate degree from the University of South Florida in Geography and Environmental Science and Policy. His current research investigates climate change, karst landscapes and processes, water resources and sustainability, isotope hydrology and geochemistry, and global climate dynamics. Dr. Polk is a Fellow of the National Speleological Society, Chair of the Geological Society of America Karst Division, and conducts research in various places all over the world, including the Caribbean, Vietnam, Iceland, and elsewhere. Dr. Polk will be speaking about the science of sinkholes and how the team used a variety of geoscience methods to study the NCM sinkhole and plan its remediation.

Katie Ellison
Marketing & Communications Manager
National Corvette Museum & NCM Motorsports Park
Katie Ellison joined the National Corvette Museum team in 2009 after serving as Marketing Director of the Bowling Green Area Convention and Visitors Bureau. A graduate of Western Kentucky University and Leadership Bowling Green, Katie serves on the boards of the Professional Marketing Association, Bowling Green Area Lodging Association and The Center for Gifted Studies at WKU.

Ric Federico, PG, CHMM, HEM
EnSafe Business Lead and Branch Manager
Ricardo (Ric) Federico graduated from Western Kentucky University in Bowling Green,
Kentucky in 1994 with a B.S. in Geography and an emphasis in karst hydrogeology. Ric has 24 years of environmental consulting experience, the last 17 of them with EnSafe where he serves as the Branch Manager and Business Lead in their Bowling Green, Kentucky office. Ric’s practice specialties include soil and groundwater investigation & remediation; merger and acquisition support including environmental site assessment; vapor intrusion assessment; and brownfields redevelopment. Ric will talk about EnSafe’s primary contribution to the project, which was vetting assessment options and methods, then designing and conducting a karst geophysical survey of the SkyDome collapse area using microgravity. He will discuss challenges – perceptual, physical, and logistical – to project approval and implementation, discuss hurdles along the way, and summarize the results and excellent correlation with the WKU cave survey data.

S. Craig Smith, PE,
Senior Project Manager, Hayward Baker Inc.

Mr. Smith joined Hayward Baker in 2005 as an Area Manager overseeing the geotechnical construction markets in Tennessee and Kentucky. Currently, he is a Senior Project Manager based in the Knoxville, TN office where he manages Hayward Baker’s large and/or high-risk projects throughout the southeastern United States. Mr. Smith’s primary area of focus is in the drilling and grouting sector consisting of micropile installation, anchored retaining walls, landslide repair, structural underpinning, and grouting techniques for ground improvement including karst mitigation.

Prior to joining Hayward Baker, Mr. Smith worked for a large site development contractor overseeing large bulk earth moving projects, landfill construction projects, and landslide repair projects throughout the southeastern United States. Mr. Smith started his career working for a geotechnical design firm specializing in the design of coal tailing impoundments in the eastern coal fields, landslide mitigation design, and performing design work for various Hayward Baker offices.

Mr. Smith is a Geotechnical Engineer with more than 20 years of experience receiving both his B.S. and M.S. degrees from the University of Tennessee Knoxville in 1992 and 1994 respectively.
### Registration Open
Third Floor, Downing Student Union

### Posters on Display
Downing Student Union, Second & Third floors

### Oral Presentations - Saturday morning
Asterisk * denotes student research competition

### Practice Room
DSU 2081
This room is available for speakers to practice their presentations.

### Practice Room
DSU 3004
This room is available for speakers to practice their presentations.

### Agricultural Science - Oral Presentations
DSU 3005  
Section meeting follows talks at 11:45

08:00 - Monensin alters the functional and metabolomic profile of rumen microbiota in beef cattle

**First Author**  
James Adeyemi  
Kentucky State University

**Co-author**  
Hank Schweickart  
Kentucky State University

**Co-author**  
Ibukun Ogunade  
Kentucky State University
08:15 - A Cyanide Group Reduced Cypermethrin Half-Lives on Cucumber Grown Under Greenhouse Conditions

First Author
George Antonious
Kentucky State University

08:30 - Quantification of tylosin antibiotics and antibiotic resistance genes in cattle waste.

First Author
Keerthi Appala
Western Kentucky University

Co-author
Eric Conte
Western Kentucky University

Co-author
John Kasumba
Western Kentucky University

Co-author
Getahun Agga
USDA

Co-author
John H Loughrin
USDA

Co-author
Anne Carlisle
Western Kentucky University

08:45 - Evaluation of Stocking Density in a Live Holding Recirculating System for Food-size Largemouth Bass, Micropterus salmoides

First Author
Sujan Bhattarai
Kentucky State University

Co-author
Kenneth Semmens
Kentucky State University

09:00 - Rove beetles in blackberry plots bordered by native perennials or pasture and treated with biological insecticides.

First Author
Sathya Govindasamy
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
Mamata Bashyal
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

Co-author
Jill Fisk
Kentucky State University

Co-author
Krystin Moody
Kentucky State University

Co-author
Katherine Buckler
Kentucky State University

09:15 - Parental gender preference as a factor in population sustainability

First Author
Elmer Gray
Western Kentucky University

Co-author
Sai Pavan Adigarla
Western Kentucky University

Co-author
Sravya Patil Bagli
Western Kentucky University

09:30 - Yield of zucchini, Cucurbita pepo, grown in various soil amendments

First Author
Quinn Heist
Kentucky State University

Co-author
George Antonious
Kentucky State University

Co-author
Eric Turley
Kentucky State University
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<tr>
<th>Time</th>
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<tr>
<td>09:45</td>
<td>Do Online Shoppers Have Knowledge on Community Supported Agriculture Programs?</td>
<td>Wyatt Lucas</td>
<td>Dominique Gumirakiza</td>
<td>Western Kentucky</td>
<td>University, Dept. of Agriculture</td>
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<tr>
<td>10:15</td>
<td>Evaluation of drug-resistant Enterobacteriaceae on produce from small farms.</td>
<td>Tavin Marshall</td>
<td>Shreya Patel</td>
<td>Avinash Tope</td>
<td>Kentucky State</td>
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<td>10:30</td>
<td>Optimizing Non-Phytate Phosphorus in Soybean Meal-Based Diets for Largemouth Bass Micropterus salmoides</td>
<td>Kasondra Miller</td>
<td>Gagan Kolimadu</td>
<td>Habte-Michael Habte-Tsion</td>
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<td>10:45</td>
<td>Assessing the Use of Biochar for Immobilization of Trace Elements in Sewage Sludge</td>
<td>Lusekelo Nkuwi</td>
<td>George Antonious</td>
<td>Eric Turley</td>
<td>Quinn Quinn Heist</td>
<td>Yogendra Yogendra</td>
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<td>11:00</td>
<td>Efficacy of a fertilization solution created with testes extraction and maceration in largemouth bass</td>
<td>Amit Sharma</td>
<td>Kenneth Semmens</td>
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Kentucky State University

Co-author
Yogendra Upadhyaya
Kentucky State University

11:30 - Low-Tech hydroponics for beginning and limited resource farmers

First Author
Nanaaishat umar
Kentucky State University

Co-author
Siddhartha Dasgupta
Kentucky State University

Co-author
Richard Bryant
Kentucky State University

Saturday, November 3, 2018 8:00am - 12:00pm

Chemistry: Analytical/Physical - Oral Presentations
DSU 3007

Section meeting follows talks at 10:30

08:00 * - Consumption Profiles of Illicit and Neuropsychiatric Drugs in Urban and Rural Communities Using Sewage Epidemiology

First Author
Tara Croft
Murray State University

Co-author
Bikram Subedi
Murray State University

08:15 - Investigating caffeine levels in water sources in Morehead, Kentucky

First Author
Brandon VanNess
Morehead State University

Co-author
Melanie West
Morehead State University

Co-author
Sarah Little
Morehead State University

Co-author
Sarah Little
Morehead State University

08:30 * - Various Tools for Quantifying Diffusion of a Model Analyte Set via Capillary Electrophoresis

First Author
Corbin Arrasmith
Northern Kentucky University

08:45 * - Temporal Changes in Dissolved Calcium Levels in Stream and River Waters in Western Kentucky

First Author
Adam Martin
Student

Co-author
Bommanna
Loganathan

Co-author
Bommanna
Loganathan

09:00 * - Effect of kappa-carrageenan on the Stability of Oil-in-water Emulsions

First Author
Andrew Ballard
09:30 * - Identifying Fecal Biomarkers of Obesity in Mouse Model Using Proton Nuclear Magnetic Resonance Metabolomics

First Author
Yacine Choutri
Berea College
Co-author
Paul Voziyan
Vanderbilt University
Medical Center
Co-author
Donald Stec
Vanderbilt University
Institute of Chemical Biology


First Author
Ryan Lamb
Western Kentucky University
Co-author
Matthew Nee
Western Kentucky University

10:00 - Incorporation of metal oxides into a polymer substrate for buoyant photocatalysts

First Author
Lovence Ainembabazi
Western Kentucky University

10:15 - Electrochemical Method for Fabrication of Metal Nanostructures Across Micron Gap Electrodes

First Author
Krista Riggins
Eastern Kentucky University
Co-author
Radhika Dasari
Eastern Kentucky University

Saturday, November 3, 2018 8:00am - 12:00pm

Ecology - Oral Presentations

08:00 - Towards rapid assessment of wetland biological condition using indicator species

First Author
Suneeti Jog
Murray State University
Co-author
Jason Bried
Murray State University
Co-author
Tommi Fouts
Northeastern State University

08:15 - Experts and models can agree on species sensitivity values for wetland assessments

First Author
Jason Bried
08:30 - Verification of a Vegetation Index of Biotic Integrity (KY-VIBI) and a Rapid Wetland Assessment (KY-WRAM) in western KY

First Author
Elizabeth Malloy
Eastern Kentucky University

Co-author
Stephen Richter
Eastern Kentucky University

Co-author
David Brown
Eastern Kentucky University

Co-author
Kelly Watson
Eastern Kentucky University

Co-author
Michelle Cook
Kentucky Division of Water

08:45 - Does increasing food-web stability mediate the effects of cattle grazing in aquatic ecosystems?

First Author
Hannah Moore
Murray State University

Co-author
Howard Whiteman
Murray State University

09:00 - Population Dynamics and Foraging Ecology of Copperheads in the Red River Gorge, KY.

First Author
Josh Hendricks
Eastern Kentucky University

Co-author
Jesse Sockman
Eastern Kentucky University

Co-author
Kyle Muennich
Eastern Kentucky University

Co-author
Austin Owens
Eastern Kentucky University

Co-author
Stephen Richter
Eastern Kentucky University

09:15 - The Kentucky Arboreal Ant Survey: ant communities among forests and urban greenspaces

First Author
Daniella Prince
University of Louisville

Co-author
Benjamin Adams
Natural History Museum of Los Angeles County

Co-author
Stephen Yanoviak
Department of Biology, University of Louisville

09:30 * - Soil function assessment of urban prairie restoration.

First Author
Sarah Benton
University of Louisville

Co-author
Sarah Emery
University of Louisville

09:45 - Beaver-mediated restoration in a degraded desert ecosystem

First Author
Melody Feden
Murray State
10:15 - Varying duration periods of the herbivore-associated cue differentially affect fitness in *P. lunatus* and *C. annuum*

**First Author**  
Grace Freundlich  
*University of Louisville*

**Co-author**  
Liana Greenburg  
*Wageningen University*

**Co-author**  
Sarah Bissmeyer  
*University of Louisville*

**Co-author**  
Carly Nunamaker  
*University of Louisville*

**Co-author**  
Chris Frost  
*University of Louisville*

---

10:30 - Assessment of Native Pollinator Habitat Planting Densities and Site Preparation Treatments on Abandoned Agriculture Land

**First Author**  
Louis Ross  
*Kentucky State University*

**Co-author**  
Richard Cristan  
*Kentucky State University*

**Co-author**  
*Kentucky State University*

**Co-author**  
*University*

---

10:45 - New methods utilized to deter elephant (*Loxodonta Africa*) from crop raiding in the Kasigau Wildlife Corridor, Kenya

**First Author**  
R. Lynn Von Hagen  
*Western Kentucky University*

**Co-author**  
Bruce Schulte  
*Western Kentucky University*

**Co-author**  
*University*

---

11:00 - 2018 State of the Resource: Mammoth Cave National Park

**First Author**  
Autumn Turner  
*Western Kentucky University, Crawford Hydrology Laboratory*

**Co-author**  
Lee Anne Bledsoe  
*Western Kentucky University*

**Co-author**  
Chris Groves  
*Western Kentucky University, Crawford Hydrology Laboratory*

**Co-author**  
Cate Webb  
*Western Kentucky University*

**Co-author**  
Rickard Toomey III  
*National Park Service, Mammoth Cave National Park*

**Co-author**  
Bobby Carson  
*National Park Service, Mammoth Cave National Park*

**Co-author**  
Katie Algeo  
*Western Kentucky University*

---

11:15 * - Impact of season, game fencing, moon phase, and vegetation on activity overlap of ungulate species in Namibia

**First Author**  
Emma Reasoner
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Thermoelectric Properties of Graphene-Carbon Nanotube Aerogels as 'Organic' Energy Harvesters</td>
<td>Romney Meek</td>
<td>Sanju Gupta</td>
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<td>Western Kentucky University</td>
<td>Western Kentucky</td>
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<tr>
<td>08:15</td>
<td>High Amplitude variable Active Galactic Nuclei</td>
<td>Dirk Grupe</td>
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<td>Morehead State University</td>
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<tr>
<td>08:30</td>
<td>Citizen CATE: citizen scientist observations of 2017 total solar eclipse</td>
<td>Richard Gelderman</td>
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<td>Western Kentucky University</td>
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<tr>
<td>08:45</td>
<td>Nanosecond pulsed laser deposition of Pb thin film on Si (111)</td>
<td>Devon Loomis</td>
<td>Bektur Abdisatarov</td>
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<td>Western Kentucky University</td>
<td>Western Kentucky</td>
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<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Ilhom Saidjafarzoda</td>
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<td>University</td>
<td>Western Kentucky</td>
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<td></td>
<td></td>
<td>Co-author</td>
<td>Donald Price</td>
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<td></td>
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<td>Co-author</td>
<td>Ali Er</td>
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<td></td>
<td></td>
<td>Co-author</td>
<td>Mikhail Khenner</td>
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<td>Western Kentucky University</td>
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<tr>
<td>09:00</td>
<td>NGC 1566: A Temperamental Changing Look AGN</td>
<td>Rebecca Mikula</td>
<td>Dirk Grupe</td>
</tr>
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<td></td>
<td></td>
<td>Morehead State University</td>
<td>Morehead State</td>
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<tr>
<td>09:15</td>
<td>Fabrication of Aluminum Nanoparticles via Pulsed Laser Ablation for Bacterial Deactivation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
09:30 * - Computer Simulation of Atomic-Scale Defects in Intermetallic Compounds

First Author
Christopher Weaver
Northern Kentucky University

Co-author
Matthew Zacate
Northern Kentucky University

09:45 * - Effects of Plastic Deformation and Tensile Strain on Polycrystalline Solids

First Author
Jesse Tapp
Murray State University

Co-author
Dylan Weaver
Murray State University

10:15 * - Dependence of Helium Atmospheric Pressure Plasma Jet-Induced DNA Damage on Voltage Pulse Frequency and Irradiation Time.

First Author
Kemo Jammeh
Berea College

Co-author
Sylwia Ptasinska
University of Notre Dame

10:30 * - Blue Light and UV Blocking Lenses

First Author
Marissa Walls
Morehead State University

Co-author
Jennifer Birriel
Morehead State University

10:45 * - Investigating the Anode Heel Effect at 75kV and 140kV

First Author
Casey Christian
Morehead State University

Co-author
Ignacio Birriel
Morehead State University

Co-author
Michael Gossman
Tri-State Regional Cancer Center

11:00 - Modular Bootstrap Bounds at Finite Central Charge

First Author
Casey Christian
Morehead State University

Co-author
Joshua Qualls
Morehead State University

11:15 * - Energy Determination in the ISS-CREAM Instrument Using Simulations

First Author
Tyler LaBree
Northern Kentucky University
11:30 * - Analyses of Jet measurements in Relativistic Heavy Ion Collisions
First Author
Ricardo Santos
Berea College
Co-author
Christine Nattrass
University of Tennessee
Co-author
Soren Sorensen
University of Tennessee
Co-author
Redmer Bertens
University of Tennessee
Co-author
James Neuhaus
University of Tennessee
Co-author
Austin Schmier
University of Tennessee
Co-author
Jerrica Wilson
University of Tennessee
Co-author
Mariah McCreary
University of Tennessee

11:45 * - Nylon or Steel?
First Author
Tanner Tackett
Morehead State University
Co-author
Ignacio Birriel
Morehead State University

13:15 * - X-ray Diffractometry and Compression of Materials
First Author
Hayden Johnson
Murray State University
Co-author
Jacob Hall
Murray State University

13:30 - TESS: Initial Results and Follow-Up Work at the University of Louisville
First Author
Garrison Turner
Big Sandy Community and Technical College

13:45 - A look at Swift observations of the highly variable Active Galactic Nucleus RX J0148-2758
First Author
Parker Poulos
Morehead State University
Co-author
Dirk Grupe
Morehead State University

14:00 - Long term X-Ray and UV monitoring of the Narrow Line Seyfert 1 Galaxy, RXJ2217.9-5941
First Author
Alanna Cavins
Morehead State University

14:15 - An XMM-Newton Observation of the Galactic Supernova Remnant CTB 1 (G116.9+0.2)
First Author
Thomas Pannuti
Morehead State University
### 14:30 - Night Sky Quality at Mammoth Cave National Park

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Chris Groves</td>
<td>Bobby Carson</td>
<td>Barclay Trimble</td>
<td>Vickie Carson</td>
<td>Dave Spence</td>
</tr>
<tr>
<td>Western Kentucky</td>
<td>Mammoth Cave National Park</td>
<td>Mammoth Cave National Park</td>
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<td>Mammoth Cave National Park</td>
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<td>University</td>
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### 14:45 - System Parameters for the Eclipsing B-star Binary BD+11 3569

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Wesley Ryle</td>
<td>Stephen Williams</td>
<td>Terri Perrino</td>
<td>Sierra O'Bryan</td>
</tr>
<tr>
<td>Thomas More College</td>
<td>United States Naval Observatory</td>
<td>Thomas More College</td>
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</table>

### 15:00 * - Design and Implementation of a Data Processing and Statistical Analysis Tool for the UniHedron Sky Quality Meter

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Zachary Pater</td>
<td>Jennifer Birriel</td>
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<td>Morehead State</td>
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Saturday, November 3, 2018 8:00am - 12:00pm

**Physiology and Biochemistry - Oral Presentations**

**DSU 2123**

Section meeting follows talks at 10:00

08:00 * - Identification of conserved motifs important for Trm732 function in yeast

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Daisy DiVita</td>
<td>Michael Guy</td>
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<tr>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
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<td>University</td>
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</table>

08:15 * - Characterization of the Molecular Diversity of Pulmonary Sensory Neurons

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Issac Domenech</td>
<td>Mark Krasnow</td>
<td>Yin Liu</td>
</tr>
<tr>
<td>Berea College</td>
<td>Stanford University</td>
<td>Stanford University</td>
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08:30 - Graphene oxide-based sensing technology for screening antibiotic resistance genes utilizing zinc finger proteins

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<tr>
<td>08:45</td>
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<td>09:45</td>
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</table>
### Zoology and Botany - Oral Presentations

**08:00** - Seasonal variation in the communication system of the field cricket *Gryllus rubens* (Orthoptera: Gryllinae)

- **First Author**: Caleb Sedlak  
- **University**: Western Kentucky

**08:15** - The kinematics of envenomation by the yellow stingray, *Urobatis jamaicensis*

- **First Author**: Oliver Beckers  
- **University**: Murray State

**08:30** - Effect of sleep loss on cognitive function and baseline plasma corticosterone levels in an arctic-breeding songbird

- **First Author**: Brett Hodinka  
- **University**: Western Kentucky

**08:45** - New Discoveries of Relationships in Spider Beetles and Related Families Using Molecular Phylogenetics

- **First Author**: Olivia Gearner  
- **University**: Western Kentucky

**09:00** * - Heritable Behavioral Tendencies of the African Lion

- **First Author**: Natalie Mercer  
- **College**: Kentucky Wesleyan

**09:15** * - Courtship behavior, communication, and copulation in Tigrosa annexa

- **First Author**: Samuel White
WITHDRAWN - Genealogical history and admixture proportion of tiger salamanders in Black Lake, Mono County, California.

09:45 * - Bioenergetic measurements of macroinvertebrates in northern temperate streams using digital technologies.

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Rachel Prokopius</td>
<td>John Piccolo</td>
<td>Eva Bergman</td>
<td>Larry Greenberg</td>
<td>Denis Lafage</td>
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<tr>
<td>Northern Kentucky University</td>
<td>Karlstad Universitet</td>
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<tr>
<td>Co-author</td>
<td>Richard Durstche</td>
<td>Karlstad Universitet</td>
<td>Northern Kentucky University</td>
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10:15 - Growth and Reproduction of the Bigeye Shiner, Notropis boops

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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Matthew Fossett</td>
<td>Jon Eisenhour</td>
<td>David Eisenhour</td>
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<tr>
<td>Morehead State University</td>
<td>Morehead State University</td>
<td>Morehead State University</td>
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</table>

10:30 - Canopy Conditions and Light Availability as Predictors of Running Buffalo Clover Population Trajectories

<table>
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<tr>
<th>First Author</th>
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</thead>
<tbody>
<tr>
<td>Jessica King</td>
<td>Jennifer Koslow</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
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</tbody>
</table>

10:45 * - Molecular analysis of glyceraldehyde 3-phosphate dehydrogenase genes in Ragweed (Asteraceae).

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Kiana Mattingly</td>
<td>Robert Day</td>
<td>Joann Lau</td>
<td>David Robinson</td>
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<td>Bellarmine University</td>
<td>Bellarmine University</td>
<td>TLH</td>
<td>Bellarmine University</td>
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11:00 - A Statistical Approach to Defining the Typical Herbarium

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<th>First Author</th>
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<tr>
<td>Maggie Whitson</td>
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<tr>
<td>Northern Kentucky University</td>
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<td>Event</td>
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<tr>
<td><strong>Exhibitors Tables</strong></td>
<td>Third Floor, Downing Student Union</td>
</tr>
<tr>
<td>Visit our Exhibitors to find out about career opportunities, graduate schools, and to connect to great services &amp; resources!</td>
<td>Saturday, November 3, 2018</td>
</tr>
<tr>
<td><strong>Statistics consultations</strong></td>
<td>DSU 3018</td>
</tr>
<tr>
<td>Calling all researchers! Take advantage of the experts at UK's Applied Statistics Lab, courtesy of KBRIN! If you have data you're working with now, or if you're still designing a project, let the statistics experts help you sort out your data analysis. Find out more and make an appointment in advance: <a href="https://www.kyscience.org/statistics_consults_at_kas.php">https://www.kyscience.org/statistics_consults_at_kas.php</a></td>
<td>Saturday, November 3, 2018</td>
</tr>
<tr>
<td><strong>Student Competition Awards</strong></td>
<td>Third Floor, Downing Student Union</td>
</tr>
<tr>
<td>All day Saturday we'll be announcing student competition winners. Come check the screen by the registration desk to see winners. Student winners, we’ll be taking your photos to post on our website.</td>
<td>Saturday, November 3, 2018</td>
</tr>
<tr>
<td><strong>Past Presidents Lunch &amp; Annual Business Meeting</strong></td>
<td>Cupola Room (inside Fresh Dining Hall)</td>
</tr>
<tr>
<td>All KAS members are welcome to this meeting. At this time there are no more lunch tickets available but we are making arrangements for anyone to attend the meeting who wishes to join us.</td>
<td></td>
</tr>
<tr>
<td><strong>Oral Presentations - Saturday Afternoon</strong></td>
<td>Asterisk * denotes student research competition</td>
</tr>
<tr>
<td><strong>Chemistry: Organic/Inorganic - Oral Presentations</strong></td>
<td>DSU 3007 Section meeting follows talks at 3:00</td>
</tr>
</tbody>
</table>

First Author
Junhao Huang
Western Kentucky University

13:30 * - Heteroaryl Isocoumarins as Potential Aromatase Inhibitors: Substrate Scope Investigation

First Author
Quynh Nguyen
Northern Kentucky University

Co-author
William Renzenbrink
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

Co-author
William Renzenbrink
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

13:45 * - Discovery of New Heteroaryl Aromatase Inhibitors through Computer Modeling

First Author
Ayanav Roy
Northern Kentucky University

Co-author
Matthew Neiser
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Andrew Quillen
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

Co-author
Matthew Neiser
Northern Kentucky University

Co-author
Ayanov Roy
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

WITHDRAWN - Pyridine N-Oxide Assisted Activation of Alkynes by Visible Light Photo-Redox Catalysis

14:15 * - Synthesis and structures of a 3D porous metal-organic framework [Fe(bpc)]

First Author
Cristina Throckmorton
Western Kentucky University

14:30 * - Synthesis and Biological Evaluation of Heteroaryl Ketones

First Author
Stephen Ramirez
Northern Kentucky University

Co-author
Quynh Nguyen
Northern Kentucky University

Co-author
Alexander Rosen
Northern Kentucky University

Co-author
Matthew Neiser
Northern Kentucky University

Co-author
Ayanov Roy
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

14:45 * - Synthesizing Cleavable Antibody Drug Conjugates via Solid Phase Organic Synthesis

First Author
Michael James
Berea College

Co-author
Levi Blevins
Berea College

Co-author
Ominica Crockett
Berea College

Co-author
Elizabeth Thomas
University of Pikeville
13:15 - Inadvertent local climate modification at a regional university in Kentucky, USA

First Author
Donald Yow
Eastern Kentucky University
Co-author
Matthew Ruggless
Eastern Kentucky University

13:30 - URBAN HEAT AND DEMOGRAPHIC CHANGE: A COMPARATIVE ANALYSIS OF THE LARGEST 100 CITIES OF THE TEMPERATE-FORESTED ECOREGION

First Author
Tori Farrow
Kentucky State University
Co-author
Jeremy Sandifer
Kentucky State University

13:45 - Analyzing sanitary sewer overflow event response to storm frequency

First Author
Christopher Andrew Day
University of Louisville

14:00 - Comparing Sediment Yield of Selected Forest Ecosystems Using SWAT in Bell Watershed, Kentucky

First Author
Aman Bhatta
Kentucky State University
Co-author
Buddhi Gyawali
Kentucky State University

14:15 - Land cover classification and change detection using remote sensing imagery in Morgan County, Kentucky

First Author
Saaruj Khadka
Kentucky State University
Co-author
Buddhi Gyawali
Kentucky State University
Co-author
Tilak Shrestha
Kentucky State University

14:30 - How economic geography might have saved the Mammoth Cave Mushroom Company

First Author
Katie Algeo
Western Kentucky University

14:45 - Observing Boundary Layer Heights over Mountainous Terrain Using Aircraft Vertical Profiles

First Author
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00</td>
<td>Mapping Opioid Epidemic in Kentucky’s Counties</td>
<td>Dallas McKinney, Western Kentucky University</td>
</tr>
<tr>
<td>13:15</td>
<td>Activation of Human Immune Responses by Novel Vaccines for Hepatitis C Virus</td>
<td>Samuel Adams, Brett Messmer, Hunter Morgan, Ryan Fitzpatrick, Joseph Mester, Northern Kentucky University</td>
</tr>
<tr>
<td>13:30</td>
<td>Prevalence of Dyslipidemia in Young African Americans</td>
<td>Bisola Asaolu, Kentucky State University</td>
</tr>
<tr>
<td>13:45</td>
<td>Epidemiology of HPV-Associated Cancers: Changing Trends and Future Burden</td>
<td>Yeongha Oh, Berea College</td>
</tr>
<tr>
<td>14:00</td>
<td>Bacterial deactivation by using Graphene quantum dot as an effective photodynamic therapy agent</td>
<td>Ermek Belekov, Lauren Cooper, Khomidkhodzha, Ilhom Saidjafarzoda, Michael Smith, Western Kentucky University Physics and Astronomy Department</td>
</tr>
</tbody>
</table>
14:15 - Effects of alpha & beta-adrenergic receptor blockade upon inflammatory responses & microglia activation to sleep loss.

First Author
Nicholas Wheeler
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30</td>
<td>Rational Points on Circles and the Birch and Swinnerton-Dyer Conjecture</td>
<td>Andy Martin</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>14:45</td>
<td>Applying the Hastings-Metropolis algorithm to chessboard placement problems</td>
<td>Doug Chatham</td>
<td>Morehead State University</td>
</tr>
<tr>
<td>15:00</td>
<td>An Examination of Discrete Least Squares Approximation Techniques</td>
<td>Mark Robinson</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>15:15</td>
<td>Random Operators and Dynamical Localization</td>
<td>Kyle Besing</td>
<td>Kentucky Wesleyan College</td>
</tr>
<tr>
<td>15:30</td>
<td>PDE Model for Solid-State Dewetting of a Binary Alloy Thin Film</td>
<td>Mikhail Khenner</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>15:45</td>
<td>A Deeper Look into Open Coverings of the Rationals that do not Cover the Reals</td>
<td>Justin Trulen</td>
<td>Kentucky Wesleyan College</td>
</tr>
</tbody>
</table>

Saturday, November 3, 2018 1:15pm - 4:00pm

Science Education - Oral Presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Location</th>
<th>Notes</th>
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<tbody>
<tr>
<td>13:15</td>
<td>Death Knell for le Grand K.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
First Author
Andy Martin
Kentucky State University

13:30 - Why do students leave quantitative STEM majors?
First Author
Hannah Brewer
Morehead State University
Co-author
Wilson Gonzalez-Espada
Morehead State University
Co-author
Robert Boram
Morehead State University

13:45 - Evaluating the effectiveness of a concept-map oriented curriculum in a flipped chemistry classroom
First Author
Bharath Kumar
Midway University

14:00 - PowerPoint Reimagined: Enhancing Lessons to Guide Reasoning, Foster Collaboration, and Promote Active Learning
First Author
Kevin Revell
Murray State University

14:15 - Science Seminar Series of WKCTC: Going Strong for 33 Years
First Author
Karen Hlinka
Kentucky Community and Technical College System

14:30 - Middle School Investigation of Global Climate Change
First Author
Shira Rabin
University of Louisville
Co-author
Bennet Kolb
Jefferson County Public Schools
Co-author
Bronwyn Williams
University of Louisville
Co-author
Adam Stieglitz
University of Louisville
Co-author
Mary Brydon-Miller
University of Louisville

Saturday, November 3, 2018 1:15pm - 4:00pm
Social Sciences: Anthropology/Sociology/Psychology
DSU 2113
Section meetings to follow talks
13:15 * - Haptic Distance Ratios: The Geometry of Space within the Hands

First Author
Sydney Wheeler
Western Kentucky University

Co-author
Farley Norman
Western Kentucky University

Co-author
Lauren Pederson
Western Kentucky University

Co-author
Catherine Dowell
Western Kentucky University

13:30 * - Water Deposits Connection to Decreased Evidence of Burial Practices in Iron Age Britain and Ireland.

First Author
Amanda Lilly
Northern Kentucky University

1:45 - Five minute presentations

First Author
Poster Presenters

Saturday, November 3, 2018  2:00pm - 5:00pm

Physics Teaching Workshop - Ky Association of Physics Teachers
Ogden College Hall Room 1007

This workshop is open to any registered KAS meeting participant.

Quick links

Guidelines for the Research Paper
Preparing the Presentation
Kentucky Junior Academy of Science Plagiarism Policy
Rules and Policies for Kentucky Junior Academy
Junior Academy Scoring rubric
Video tips: Giving a good Scientific talk
KSU Campus Map
Kentucky State University
Chronicle of the New Researcher publishes research from young scientists