2018 Annual Meeting Program
November 2-3, 2018

Western Kentucky University

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ECM Biosciences

Thank you to our In-Kind partners

Kentucky Science Center

WKU Office of Research and Creative Activity

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
<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>KAS Science Film Festival</strong></td>
<td>Thursday, November 1, 2018</td>
<td>6:30pm - 9:00pm</td>
<td>Downing Student Union 3020</td>
</tr>
<tr>
<td>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!</td>
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<tr>
<td><strong>KAS Governing Board Meeting</strong></td>
<td>Friday, November 2, 2018</td>
<td>9:00am - 11:00am</td>
<td>Downing Student Union 3029</td>
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<tr>
<td><strong>Kentucky Organization of Field Stations meeting</strong></td>
<td>Friday, November 2, 2018</td>
<td>9:30am - 11:30am</td>
<td>Downing Student Union 3004</td>
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<tr>
<td><strong>Registration Open</strong></td>
<td>Friday, November 2, 2018</td>
<td>11:30am - 5:00pm</td>
<td>Third Floor, Downing Student Union</td>
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<td>Check-in will also be available at the National Corvette Museum after 6:30pm, during the Reception &amp; Plenary.</td>
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<tr>
<td><strong>Poster Presenters check-in</strong></td>
<td>Friday, November 2, 2018</td>
<td>12:00pm - 2:30pm</td>
<td>Third Floor, Downing Student Union</td>
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<td>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</td>
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<tr>
<td><strong>Science Policy &amp; Advocacy workshop</strong></td>
<td>Friday, November 2, 2018</td>
<td>12:00pm - 1:00pm</td>
<td>Cupola Room (inside Fresh Dining Hall)</td>
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</table>
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, Professor Department of Molecular and Cellular Biochemistry, University of Kentucky and Chair, Public Affairs Advisory Committee, American Society of Biochemistry and Molecular Biology

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.

Oral Presentations- Friday Afternoon
Asterisk * denotes student research competition

Friday, November 2, 2018 1:14pm - 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
Jenna Kappes
Northern Kentucky University
Co-author
Daisy Davita
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
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

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 ? cell development and insulin expression

First Author
Lesley Golden
Murray State
### Computer & Informational Sciences - Oral Presentations

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<thead>
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<th>Time</th>
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<tbody>
<tr>
<td>1:15</td>
<td>Application of Huffman Coding in Cryptographic hash function SHA-1</td>
<td>Mustafa Atici (Western Kentucky University)</td>
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<td>1:30</td>
<td>Optically-Linked Raspberry Pi Beowulf Cluster</td>
<td>Christopher Harton (Murray State University)</td>
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<td>1:45</td>
<td>Analyzing Telomere Sequences: Telomere sequence identification and analysis in fungal genomics</td>
<td>Harrison Inocencio (University of Kentucky Department of Computer Science)</td>
<td>Michael Murray (University of Kentucky Department of Computer Science)</td>
<td>Mark Farman (University of Kentucky Department of Plant Pathology)</td>
<td>Jerzy Jaromczyk (University of Kentucky Department of Computer Science)</td>
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<tr>
<td>2:00</td>
<td>Analysis of the vulnerabilities of Point of Sale (PoS) systems in the Internet of Things</td>
<td>Bryan Kirshe (University of Kentucky)</td>
<td>Sherali Zeadally (University of Kentucky)</td>
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<tr>
<td>2:15</td>
<td>Utilizing Genome Assembly and Search Tools to Track Evolution of Magnaporthe Oryzae</td>
<td>Michael Murray (University of Kentucky)</td>
<td>Kelsey Cole (University of Kentucky)</td>
<td>Michael Murray (University of Kentucky)</td>
<td>Jerzy Jaromczyk (University of Kentucky)</td>
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<td>2:30</td>
<td>Game Prediction in Professional League of Legends using Neural Networks</td>
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<td>1:15</td>
<td>High-Throughput Microfluidics to Characterize Subtle Synaptic Phenotypes in C. elegans.</td>
<td>Jean-Pierre Amoakon</td>
<td>Farhan Kamili</td>
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<td>Georgetown College</td>
<td>Georgia Institute of Technology</td>
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<td>1:30</td>
<td>Implementation of the SPICE Observation Geometry System for the Lunar IceCube Mission</td>
<td>Jacob Schabert</td>
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<td>1:45</td>
<td>Safety Engineering for a CubeSat: Hazards and Verifications</td>
<td>Katerina Winters</td>
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<td>2:00</td>
<td>Safety Engineering for a CubeSat: Materials and Usage Requirements</td>
<td>Akira King</td>
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<td>2:15</td>
<td>The ThinSat Program: Flight Opportunities and the Future of Small Satellites</td>
<td>Christopher Coleman</td>
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<td>Aaron Zucherman</td>
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<td>Jose Garcia</td>
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<td>Matt Craft</td>
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## Environmental Science - Oral Presentations

**DSU 1037**

**Section meeting follows talks at 3:15**

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<tbody>
<tr>
<td>1:45</td>
<td>WITHDRAWN - American Chestnut Reintroduction in Kentucky: a GIS Approach</td>
<td>Jason Fox</td>
<td>Leslie North</td>
<td>Jason Polk</td>
<td>Sydney Herndon</td>
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<td>1:45 - An Index-Based Assessment of Tourism Development Impacts on Cold-Climate Hydrologically-Dominant Landscapes</td>
<td>Jason Fox</td>
<td>Leslie North</td>
<td>Jason Polk</td>
<td>Sydney Herndon</td>
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<tr>
<td>2:00</td>
<td>2:00 * - Analysis of the Bioaccumulation of Methylmercury in the Organs and Tissues of Bald Eagles</td>
<td>Evan Hendrickson</td>
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<td>2:15 - Assessment of Emerald Ash Borer Related Canopy Gaps in Kentucky Using Drone-Based Remote Sensing and Plot-Level Data</td>
<td>Brandon Preece</td>
<td>Richard Cristan</td>
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<td>2:30</td>
<td>2:30 - Comparison of Benthic Macroinvertebrate Sampling Methods on Non-Wadeable Waters: A Study Proposal</td>
<td>Ed Wilcox</td>
<td>Richard Cristan</td>
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</table>
2:45 - Ecosystem Exchange of Carbon Dioxide of a Grazed Pasture in Central Kentucky

First Author
Ian Ries
Kentucky State University

Co-author
Maheteme Gebremedhin
Kentucky State University

Co-author
Martin Matisoff
Kentucky State University

Co-author
Ken Andries
Kentucky State University

3:00 - Opportunities for collaborative research and education at a network of field stations in Kentucky

First Author
Stephen Richter
Eastern Kentucky 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
Stacy Antle
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
John Loughrin
USDA-ARS

Co-author
Pat Kambesis
Western Kentucky University
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
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<tr>
<td>2:00</td>
<td>Incision timing and its relationship to tectonic uplift and climate change: using thermochronology to unravel Ethiopia's</td>
<td>Shelby Bowden</td>
<td>Nahid Gani</td>
<td>Matthijs Van Soest</td>
<td>Royhan Gani</td>
<td>Paul O'Sullivan</td>
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<td>Western Kentucky University</td>
<td>Arizona State University</td>
<td>Western Kentucky University</td>
<td>GeoSeps Services LLC</td>
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<td>2:15</td>
<td>Mass-Transport Deposits in the Northern Gulf of Mexico and Their Implications to Hydrocarbon Exploration</td>
<td>Michael Arthur</td>
<td>M. Royhan Gani</td>
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<td>2:30</td>
<td>Spectral Analysis of Analog Lunar and Martian Mineral Samples</td>
<td>Madison Howard</td>
<td>Marianne Peterson</td>
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<td>Prabaker Misra</td>
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<td>St. Olaf</td>
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<td>Howard University</td>
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<td>2:45</td>
<td>Stratigraphic Controls on Cave Passage Development of Dogwood Cave, Hart, County, Kentucky</td>
<td>Patricia Kambesis</td>
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<td>3:00</td>
<td>Tekeze River Incision Constrained from Apatite (U-Th)/He Dating</td>
<td>Jacob Grigsby</td>
<td>Nahid Gani</td>
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<td>Shelby Bowden</td>
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Friday, November 2, 2018  1:15pm - 3:00pm

**Microbiology - Oral Presentations**

DSU 3006  Section meeting follows talks at 2:45 pm
**1:15 * - Effect of Growth Temperature on Mycoplasma iowae Pathogenicity**

First Author
Brittany Boyken
Kentucky Wesleyan College

Co-author
Justin Fraizer
Kentucky Wesleyan College

Co-author
Rachel Pritchard
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
Northern Kentucky University

Co-author
Riley James
Northern Kentucky University

Co-author
Joseph Mester Ph.D.
Northern Kentucky University

Co-author
Alan Cohen M.D.
Northern Kentucky University

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

First Author
Clarissa Gearner
Western Kentucky University

Co-author
Simran Banga
Western Kentucky University

**2:15 - UV Treatment of Environmental Fungi**

First Author
Ashley Wentworth
Northern Kentucky University

Co-author
Joseph Mester
Northern Kentucky University

Co-author
Colin Hartman
Northern Kentucky University

Co-author
Alan Cohen
Northern Kentucky University

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

First Author
William Fenske
Eastern Kentucky University

Co-author
William Staddon
Eastern Kentucky University

Co-author
Valerie Peters
Eastern Kentucky University

**Practice Room**

DSU 2081

This space is available for speakers to practice their presentations.

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

**Practice Room**

DSU 3004

This room is available for speakers to practice their presentations.

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Friday, November 2, 2018 2:59pm - 6:00pm

**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.

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

**Agricultural Science - Poster Presentations**

1. - Accumulation of Heavy Metals in Fruits of Plants Grown in Recycled Sewage Sludge

First Author: ERIC TURLEY
Kentucky State University

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
Murray State University

Co-author: Iin Handayani
Murray State University

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
Murray State University

Co-author: Kaeden Mollett
Murray State University

Co-author: Riley Mabe
Murray State University

Co-author: I. P. Handayani
Murray State University

Co-author: Brian Parr
Murray State University
5. * - Assessing the Rising Plate Meter Method to Determine Forage Production on Organic Dairies

<table>
<thead>
<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tbody>
<tr>
<td>Sarah Rhodes</td>
<td>Ray Smith</td>
<td>Bobby Baldridge</td>
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<tr>
<td>Asbury University</td>
<td>University of Kentucky</td>
<td>Asbury University</td>
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6. * - Comparing Characteristics of Soil under Various Management Conditions in Western Kentucky

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<td>River Dowell</td>
<td>Iin Handayani</td>
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<tr>
<td>Jake Owen</td>
<td>River Dowel</td>
<td>Alex Fichter</td>
<td>Ashley Robert</td>
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8. * - Economic Viability of Municipal Compost and Equine Stall Waste as Media Amendments in an In-Ground Pot-in-Pot Production

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<td>Ashley Robert</td>
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9. * - Effects of live yeast supplementation on rumen bacterial diversity of beef cattle

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

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

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

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13. - Food Safety Perceptions and Behaviors of Kentucky Farmer Market Consumers

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14. - Grafting success of eleven pawpaw cultivars and advanced selections using four grafting methods

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15. * - Growth of Pawpaw (Asimina triloba) Seedlings in Two Commercially Available Potting Mixes

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16. - Impact of aerobic compost tea on growth of Lactuca sativa

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17. - Impact of integrated crop-livestock rotation including small ruminants on nitrate and phosphorus concentrations in water
18. - Investigating the Impact of Soil Amendments on Eggplant Production

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<td>George Antonious</td>
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19. - Longitudinal Histological Study of Nosema ceranae in Honey Bees

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21. - The Effect of Sulfur and Copper Fungicides on June Drop of Pawpaw Fruit.

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22. - Variation in annonaceous acetogenins activity in twig tissues of pawpaw varieties and new advanced selections using.....

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23. - Yield Performance of 'Prime-Ark® 45' and 'Black Magic' Grown Organically in Kentucky

First Author
Jeremiah Lowe
Kentucky State University
Co-author
Kirk Pomper
Kentucky State University
Co-author
Sheri Crabtree
Kentucky State University

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

First Author
Andrea Shiverdecker
Northern Kentucky University
Co-author
Samantha Hamilton
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Co-author
Cooper Pfalz
Northern Kentucky University

27. * - Uncovering the Women of Parker Academy

First Author
Delaney Gilliam
Northern Kentucky University
Co-author
Lyndsey McNabb
Northern Kentucky University

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

Botany - Poster Presentations

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

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<td>29.</td>
<td>A Genetic Screen for Proteins Involved in ASP Invasion of the Wing Disc of Drosophila melanogaster</td>
<td>Anas Gondal, Hasan Salim, Ajay Srivastava</td>
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<td>30.</td>
<td>Cerebellar gene expression of cabin1</td>
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<td>Cloning Lectins for the Detection of Flavivirus Nonstructural Protein 1</td>
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<td>Cysteine Thiol Directed Chemical Modification of a KCNE1 Protein N-Terminus</td>
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<td>34.</td>
<td>Damage to Danio Rerio's Developing Neuromuscular Junction Could Lead to Expanded Synaptic Plasticity</td>
<td>Diana Schweitzer</td>
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<td><strong>35. * - De Novo Prediction of the Tail and Capsid Structure of Mycobacteriophage MooMoo</strong></td>
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<td><strong>38. - Evaluation of Genes that May Mediate Individualization in Spermatogenesis</strong></td>
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41. * - Fishing for fertility: Creating a PAM-1 substrate trap to isolate novel fertility-governing proteins

42. * - Generation of a transgenic beta cell line for study of Glis3 using CRISPR/Cas9 technology

43. * - Generation of transgenic zebrafish line by CRISPR/Cas9 to evaluate pancreas development and function

44. * - Integrin \( \beta_1 \) Promotes Kras-Mutated Lung Cancer Proliferation Via Mapk-Indepedendent Mechanism

45. * - Investigating a transient expression system in Nicotiana Benthamiana for the production of Novel TALE Proteins

46. * - Platinum Leaving Ligand Effects on Mammalian Cells
47. * - Potential for the green alga *Chlamydomonas reinhardtii* to degrade lignin

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*Co-author*  
Cydne Kitchens  
*Western Kentucky University*

48. * - Role of Shear Stress on Endothelial Insulin Sensitivity

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Lauren Walsh  
*University of Missouri*

*Co-author*  
Thaysa Ghiarone  
*University of Missouri*

*Co-author*  
Luis Martinez-Lemus  
*University of Missouri*

*Co-author*  
Jaume Padilla  
*University of Missouri*

49. - Spinal Cord Injury and its effect on Circadian Rhythm

*First Author*  
Charles Thaler  
*KBRIN*

50. * - The Bioinformatics of Mycobacteriophage Drake94

*First Author*  
Andrea Compton  
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*Co-author*  
Jennifer Doyle  
*Spalding University*

51. * - The effect of light pollution on imunoresopnse and neurogenesis in zebra finches

*First Author*  
Matthew Knerr  
*Western Kentucky University*

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

*First Author*  
Anna Strunjas  
*Western Kentucky University*

*Co-author*  
Ila Mishra  
*Western Kentucky University*

*Co-author*  
Noah Ashley  
*Western Kentucky University*

53. * - The effects of oxidative stress on p75NTR signaling in dopaminergic neurons.
<table>
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<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>54. The FGF signaling pathway plays an important role regulating gene expression in developing Xenopus laevis embryos</td>
<td>First Author: Kelsey Donahue</td>
<td>Co-author: Emily Shifley</td>
<td>Co-author: David Wang</td>
<td>Co-author: Malinda Stull</td>
<td>Co-author: Pei Guo Ding</td>
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<td>University of Texas Southwestern</td>
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<tr>
<td>55. The Role of Polarity Genes in Esophageal Adenocarcinoma Metaplasia</td>
<td>First Author: Young Koh</td>
<td>Co-author: Emily McCord</td>
<td>Co-author: Lindsay Calderon</td>
<td>Co-author: Margaret Ndinguri</td>
<td>Co-author: Chelsea Fitzpatrick</td>
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<td>Asbury University</td>
<td>EKU</td>
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<td>Morehead State University</td>
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<tr>
<td>56. Therapeutic and toxicity profile of Pt-Mal-LHRH, a target direct chemotherapeutic for triple negative breast cancer.</td>
<td>First Author: Adam Gehlhausen</td>
<td>Co-author: Emily McCord</td>
<td>Co-author: Lindsay Calderon</td>
<td>Co-author: Margaret Ndinguri</td>
<td>Co-author: Amber Persons</td>
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<td>Kentucky State</td>
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<td>57. The Chemical Characterization of Kentucky Honeys</td>
<td>First Author: Rebecca Jenkins</td>
<td>Co-author: Chelsea Fitzpatrick</td>
<td>Co-author: Brandon Van Ness</td>
<td>Co-author: Morehead State University</td>
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<td>58. Profiling whiskey fungus using the gas chromatography/mass spectrometry and laboratory serial dilutions methods</td>
<td>First Author: Amber Persons</td>
<td>Co-author: Chelsea Fitzpatrick</td>
<td>Co-author: Brandon Van Ness</td>
<td>Co-author: Morehead State University</td>
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</table>
59. * - Solid Phase Extraction of Tylosin from Cattle Waste With Determination by Liquid Chromatography Mass Spectrometry

First Author
Anne Carlisle
Western Kentucky University

Co-author
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Co-author
Eric Conte
Western Kentucky University

Co-author
John Kasumba
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Co-author
Getahun Agga
USDA

Co-author
John Loughrin
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60. * - Temporal Trend of Illicit and Neuropsychiatric Drug Consumption

First Author
Brittney Nelson
Murray State University

Co-author
Tara Croft
Murray State University

Co-author
Bikram Subedi
Murray State University

61. * - Using the Liquid Sampling-Atmospheric Pressure Glow Discharge with Capillary Channeled Polymer Fibers for Analysis of Pr

First Author
Daisy Sullivan
Berea College

Co-author
Dr. R. Kenneth
Clemson University

62. * - Application of an Analytical Assay for Quantification of Polyphosphate Using Silicon Photonic Microring Resonators

First Author
Beau Schweitzer
University of Michigan

63. * - Purification and Analysis of LHRH using HPLC

First Author
Sean Greer
Eastern Kentucky University

64. - Detection of Polyions with Pulsed Chronopotentiometry - Screening Antidotes for the Anticoagulants Low Molecular Heparin

First Author
Kyle Rowe
Northern Kentucky University

Co-author
Kebede Gemene
Northern Kentucky University

University

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<tr>
<td>65. * - Determination of Ochratoxin A in Kentucky Black Walnuts</td>
<td>Bryce Forry</td>
<td>Bruce Branan</td>
<td>Asbury University</td>
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<td>66. * - Investigating the Diffusion Behavior of Analytes subjected Peak Parking Capillary Electrophoresis</td>
<td>Lauren Rigg</td>
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<td>Northern Kentucky University</td>
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<td>67. * - Predicted Protein Structure and Function of the Bacteriophage: Mithril</td>
<td>Moria Magre</td>
<td>John Burden</td>
<td>Spalding University</td>
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<tr>
<td>68. * - Modeling Molecular Relaxation Dynamics for Diatom Clathrates</td>
<td>Levi Curtis</td>
<td>Jeremy Maddox</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>69. * - Protocols for UHF and UCCSD Potential Energy Curves</td>
<td>Elizabeth Hedrick</td>
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<td>Western Kentucky University</td>
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<tr>
<td>69.5 * - Unraveling Subtle Intermolecular Interactions in Crystals of a Solar Thermal Fuel.</td>
<td>Alexander Thome</td>
<td>Erin Calvert</td>
<td>Murray State University</td>
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<tr>
<td>70. - The Effectiveness of Thin Layer Spin Coating Sodium Acetate</td>
<td>Corey Mattic, Jr.</td>
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<td>Kentucky State University</td>
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<td>71. * - Avidin Functionalized Coverslips for Model Membrane Imaging</td>
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<td>Sergio Perez Cruz</td>
<td>Tessa Calhoun</td>
<td>Lindsey Miller</td>
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<td>Berea College</td>
<td>The University of Tennessee, Knoxville</td>
<td>The University of Tennessee, Knoxville</td>
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**72. Effects of Various Buffers and Parameters on the Structure and Behavior of Stimuli-Responsive Polymers**

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<th>First Author</th>
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<tr>
<td>Madisyn Hayes</td>
<td>Eric Milner</td>
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**Chemistry: Organic/Inorganic - Poster Presentations**

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

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<tr>
<td>KC Russell</td>
<td>John Benber</td>
<td>Shannon Biros</td>
<td>Peter Iovine</td>
<td>Jeff Katz</td>
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<td>Grand Valley State University</td>
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<td>University of San Diego</td>
<td>Colby College</td>
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<td></td>
<td>Kristine Nolin</td>
<td>Ellen Ellen Yezirski</td>
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<td></td>
<td>University of Richmond</td>
<td>Miami University</td>
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**74. - Synthesis of Oxacalixarenes from Silyl Protected Precursors**

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<td>KC Russell</td>
<td>Kimberly Richards</td>
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</table>

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

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<th>First Author</th>
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<td>Ban Wang</td>
<td>Isaac Howard</td>
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<td>Western Kentucky University</td>
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**76. - Interaction of a platinum tri-amine complex having a seven-membered chelate ring with 5'-GMP and N-AcMet**

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<th>First Author</th>
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<td>Jae Ko</td>
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<tr>
<td>Western Kentucky University</td>
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</table>
77. * - Synthesis of metal-organic frameworks mimicking carbonic anhydrase enzyme.

First Author
Simrat Kaur

University
WESTERN KENTUCKY UNIVERSITY

77.5. - An in vitro Study on Skin Protection Across the UV Spectra

First Author
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University of Kentucky

78. * - Phosphonium-containing Poly(ionic liquid) Networks Prepared From Thiol-ene 'Click' Photopolymerization

First Author
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Co-author
Rachel Whittaker
Murray State University

Co-author
Kevin Miller
Murray State University

79. * - Highly efficient and selective oxidation of sulfides catalyzed by manganese corroles with iodobenzene diacetate

First Author
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Co-author
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Co-author
Christian Alcantar
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Co-author
Rui Zhang
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80. * - Enantioselective Cross Aldol Reactions of Aldehydes

First Author
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Co-author
Chase Slone
Morehead State University

Co-author
Brandon Vanness
Morehead State University

81. * - Investigating the Synthesis of LMA-P2
82. * - Palladium-Catalyzed Heteroarylation Under Microwave Irradiation

First Author  
Sarah Little  
Morehead State University

Co-author  
Brandon Van Ness  
Morehead State University

83. * - Generation and kinetic studies of porphyrin-manganese(IV)-oxo intermediates

First Author  
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Northern Kentucky University

Co-author  
Claire Poling  
Northern Kentucky University

84. * - Synthesis and photocatalytic properties of three metal-organic framework materials

First Author  
Hannah Brooks  
Western Kentucky University

Co-author  
Bangbo Yan  
Western Kentucky University

85. * - The Syntheses of Heteroatom-activated Antibiotics

First Author  
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Co-author  
Sydney Goff  
Kentucky Wesleyan College  
Kyle Watson  
Kentucky Wesleyan College

86. * - Iron Catalyzed Oxidation of Amines to Imines

First Author  
Rachel Chute  
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Co-author  
Rachel Whittaker  
Murray State University

87. * - Solid Phase Organic Synthesis of an Antibody Drug Conjugate Linker

First Author  
Levi Blevins  
Berea College

Co-author  
Ominica Crockett  
Berea College

88. * - Phenylethynyloxacalixarenes Synthesis

First Author  
Jacolby Gardner
89. * - Synthesis and Mechanism study of Isocoumarin Analogues

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<td>Elizabeth Osifalugo</td>
<td>Andrew Quillen</td>
<td>Lili Ma</td>
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90. * - Annulene-Oxacalixarene Hybrids

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<th>First Author</th>
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<td>Emily Brown</td>
<td>Nicholas Spark</td>
<td>Eli Biedenbender</td>
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<td>Berea College</td>
<td>colleague</td>
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91. * - Synthesis and reactivity of platinum(II) anticancer drug analogs with unsymmetrical ligands

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<td>Shino Sleeper</td>
<td>Hayley VanMeter</td>
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92. * - Solid Phase Organic Synthesis of an Antibody Conjugate Linker?

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Computer & Informational Sciences - Poster Presentations


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<tr>
<td>Amanda Hansford</td>
<td>Heba Elgazzar</td>
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94. - Encoding and Decoding Messages in Android Applications

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<td>Richard Pike</td>
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</table>
95. * - Smart Routing Schemes for Dynamic Spectrum Access Network Architectures

First Author  
Brian Luciano  
University of Kentucky

96. * - Neighborhood Graphs for Cities in Kentucky: comparison for two distance measures

First Author  Co-author  
Luke de Castro  Jerzy Jaromczyk  
Henry Clay High School  University of Kentucky

Ecology - Poster Presentations

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

97. * - Nutrient Export of the Kentucky River to Detect Possible Eutrophication

First Author  Co-author  Co-author  Co-author  
Ieisha Hopwood  Kazi Javed  Tamara Sluss  Li Lu  
Kentucky State University  Kentucky State University  Kentucky State University  Kentucky State University

98. - Litter Breakdown and Invertebrate Detritivores from a Hydrologically Restored Stream

First Author  Co-author  
Jacob Becraft  Amy Braccia  
Eastern Kentucky University  Graduate Advisor

99. * - Influence of Salamanders on Leaf Litter Decomposition in Appalachian Headwater Streams

First Author  Co-author  Co-author  Co-author  
Emily Jones  Joseph Baecher  Amy Braccia  Stephen Richter  
Eastern Kentucky University  Eastern Kentucky University  Eastern Kentucky University  Eastern Kentucky University

100. - The Effects of Salinity on the Juvenile Freshwater Crayfish Procambarus clarkii

First Author  
Alexandra Ghinn  
Bellarmine University


First Author  
Ramon Guivas
102. * Use of eDNA in detection of multiple salamander species in eastern Kentucky streams

First Author
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Co-author
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Co-author
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104. - Effect of Plastic Microbeads in Two Face Washes on Zebrafish Reproductive Success

First Author
Autumn Holley
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Co-author
Indigo Thoman
Georgetown College

Co-author
Tracy Livingston
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105. - Accessing the Direct Toxicity of the Plant Volatile Indole on Herbivores

First Author
Rakhi Patel
University of Louisville

Co-author
Abhinav Maurya
University of Louisville

Co-author
Christopher Frost
University of Louisville

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

First Author
Natalie Holsclaw
Northern Kentucky University

Co-author
Allison Jones
Northern Kentucky University

Co-author
Richard Boyce
Northern Kentucky University

107. - Ecosystem functional consequences of top predator amphibian mortality due to the invasive shrub, Lonicera maackii
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<tr>
<td>108. * - Elevated Resistance to AITC in Wild Bacterial Endophytes of Arabidopsis thaliana</td>
<td>Yohannes Amsalu</td>
<td>Matalynn Shealy</td>
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<td>Berea College Biology Dept.</td>
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<td>Eastern Kentucky Biology Dept.</td>
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<td>109. - Differences in plant communities at natural and constructed upland-embedded wetlands in the Daniel Boone National Forest</td>
<td>Rachel Fedders</td>
<td>Stephen Richter</td>
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<td>110. - Ecosystem functional consequences of body size variation in an apex predator</td>
<td>David Smith</td>
<td>Cy Mott</td>
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<tr>
<td>111. * - Trophic effects of intraspecific body size variation among exploitative and interference competitors</td>
<td>Renae Steinberger</td>
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<td>University</td>
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<td>112. * - Determining the Cyanogenic Potential of Two Land Races of Lima Bean, Phaseolus lunatus</td>
<td>Maria Shields</td>
<td>Grace Freundlich</td>
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<td>University of Louisville</td>
<td>University of Louisville</td>
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<td>113. * - Do Drip Tips Benefit Leaves in Both the Understory and Canopy of a Neotropical Rainforest?</td>
<td>Makenna Thibodeaux</td>
<td>Chris Frost</td>
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<td>114. * - Do phenotypically plastic apex predators exhibit discrete patterns of local adaption to their invertebrate prey?</td>
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<tr>
<td>115</td>
<td>Does Life History Variation Mediate the Effects of Disease?</td>
<td>Alex Woolen, Murray State U.</td>
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<td>117</td>
<td>The Effect of Malathion Toxicity on Zebrafish Caudal Fin Regeneration</td>
<td>Indigo Thoman, Georgetown C.</td>
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<td>118</td>
<td>Comparison Study of Various CNN AI architectures for Prediction of Metal Sample Failure based on SEM images</td>
<td>Lawrence Madriaga, Western Ky. U.</td>
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<tr>
<td>119</td>
<td>Using NASA’s Land Information System (LIS) for hydrological and land-atmosphere coupling studies and as a lower boundary</td>
<td>Charles O'Connell, Western Ky. U.</td>
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</table>
### 120. - A Karst Disturbance Index Map for Hidden River Cave

**First Author**
Anna Harris  
**Western Kentucky University**

**Co-author**
Patricia Kambesis  
**Western Kentucky University**

### 121. * - A Synoptic Analysis of the 2012 Ohio Valley Heat Wave and an Investigation of the Effect on Public Health in Kentucky

**First Author**
Christopher Padgett  
**Western Kentucky University**

### 122. - Can remote sensing be used to accurately predict beaver activity?

**First Author**
Melody Feden  
**Murray State University**

**Co-author**
Haluk Cetin  
**Murray State University**

### 123. * - Case Study of the Significant Cold Temperatures February 14th-20th, 2015

**First Author**
Jennifer Van Antwerp  
**Western Kentucky University**

### 124. - Deriving Climate Statistics based on Kentucky Mesonet Observations

**First Author**
Eric Rappin  
**Western Kentucky University**

**Co-author**
Stuart Foster  
**WKU, Kentucky Climate Center, Kentucky Mesonet**

Co-author
Megan Schargorodski  
**WKU, Kentucky Climate Center, Kentucky Mesonet**

Co-author
Andrew Quilligan  
**WKU, Kentucky Climate Center, Kentucky Mesonet**

Co-author
Patrick Collins  
**WKU, Kentucky Climate Center, Kentucky Mesonet**

Co-author
Charles O'Connell  
**WKU, Kentucky Climate Center, Kentucky Mesonet**

### 125. - The Kentucky Forecasting System

**First Author**
Eric Rappin  
**Western Kentucky University**
126. - Evaluation of gluconic acid for the control of Nosema ceranae, a microsporidian infecting honey bees, Apis mellifera

First Author
Jacob Vincent
Kentucky State University

Co-author
Katherine Kamminga
Kentucky State University

Co-author
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Kentucky State University

127. * - Mercury Bioaccumulation in Bats from Mammoth Cave National Park

First Author
Isabel Chumbler
Western Kentucky University

128. * - Testing Nutrient Levels of Water Kentucky River for Harmful Algae Bloom Forecasting

First Author
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Co-author
Li Lu
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Co-author
Javed Kazi
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Co-author
Tamara Sluss
Kentucky State University

Co-author
Li Lu
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Co-author
Javed Kazi
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Co-author
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129. * - Use of a Reduced Sulfur Gas Chromatograph with Custom-made Permeation Tube for Analysis of Sulfur Compounds

First Author
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Co-author
Philip Silva
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Co-author
Anna Wilkin
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130. * - Using remote sensing and GIS to study the development of Harmful Algal Blooms in Lake Erie.

First Author
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Co-author
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Friday, November 2, 2018 3:00pm - 6:00pm

Geography - Poster Presentations


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

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

First Author
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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
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136. * - Comparing Accuracy of Supervised Image Classification of Wetlands in the Kentucky River Basin to the NLCD

First Author
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Co-author
Stephen Richter
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137. * - The spatial distribution of local and organic food availability in Kentucky

First Author
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### Geology - Poster Presentations

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<td>* - Anthropogenic Impacts on Encrusters in Association with Mercenaria mercenaria in Long Island Sound</td>
<td>Marie White</td>
<td>Michelle Casey</td>
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<td>Constance Brown</td>
<td>Daniel Martin, Trende (Trent) Marc Garrison</td>
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<td>Benjamin Currens University of Kentucky</td>
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<td>140.</td>
<td>* - Quantifying Hyporheic Flow in Beaver Ponds of Varying Size and Stream Morphology</td>
<td>Colton Sanders</td>
<td>Royhan Gani, Nahid Gani</td>
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<td>141.</td>
<td>* - Seismic Interpretation of the North-Central Gulf of Mexico: Implications for Salt Tectonic Modeling</td>
<td>Adam Mattson</td>
<td>Marlene Starr, Ahmed Abdel-Latif</td>
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<td>Saha Cardiovascular Research Center University of Kentucky</td>
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### Health Science - Poster Presentations

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<td>142.</td>
<td>* - Altered Immune Cell Profile Contributes to Increase Risk of Heart Disease in Aging Mice</td>
<td>Aubrey Melton</td>
<td>Renee Donahue University of Kentucky, Marlene Starr University of Kentucky</td>
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<td>Nutritional Sciences and Pharmacology Saha Cardiovascular Research Center</td>
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<td>143.</td>
<td>* - Glutamate-Induced Apoptosis on Olfactory Neuroepithelial Progenitors Derived from Bipolar and Non-Bipolar Subjects</td>
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144. * - Relationship between boneless meat yield and the size of Asian carp

First Author
Kaitlyn Sudd
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145. * - Parasite load as an indicator for zoonotic disease prevalence in feral cats versus shelter cats

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146. * - Physical Activity and Health Patterns of Berea Trail Town Users

First Author
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Glendy Pineda
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147. * - Effects of corn starch on the textural characteristics of fish meatballs prepared from deboned Asian carp meat.

First Author
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WITHDRAWN - Assessment of learning styles and learning retention among the elderly population in Frankfort, Kentucky

149. * - Sterilization of Staphylococcus aureus and Pseudomonas aeruginosa using Sanitrol

First Author
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Co-author
Jonathan Schneider
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150. * - L-Serine Reduces Reactive Oxygen Species Yield in Cisplatin Treated Zebrafish Utricles

First Author
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Co-author
Satya Moolani
Western Kentucky
University

151. * - Role of Gonadal Hormones in Cognitive Impairment Due to Hypovolemic Dehydration
152. - Loss of plasmid in plasmid-carrying strains of Escherichia coli treated with phenoxazines

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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>
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<td>University of Miami, Miller College of Medicine</td>
<td>NIH, National Cancer Institute</td>
<td>University of Science, Arts and Technology</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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155. * - The Health and Economic Impact of the Pinnacle Trails in a Kentucky Trail Town

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156. * - Vitreous Syneresis in the Human Eye

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<td>Meg Glenn</td>
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<td>Amanda Staples</td>
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<td>Rodney A. King</td>
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<td>Clostridium isolate growth in a zinc-limited environment</td>
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<td>Kaylee Fox</td>
<td>John Carmen</td>
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<td>Claire Rinehart</td>
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<td>Anmol Sandhu</td>
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<td>Joshua Nowacki</td>
<td>Jordan Stacy</td>
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**Physics and Astronomy - Poster Presentations**

168. * - Contemporaneous Ground-Based Observations of Blazars Observed with NASA's K2 Mission
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<th>First Author</th>
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<tr>
<td>Zoe Ward</td>
<td>Michael Carini</td>
<td>Western Kentucky</td>
<td>University Dept. of Physics and Astronomy</td>
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### 169. * - Development of a LabView Controlled Rotational Support System for the Dual Radiation Rotating Scattering Mask

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<td>Devon Loomis</td>
<td>Alexander Barzilov</td>
<td>University of Nevada, Las Vegas</td>
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### 170. * - Electrochemical Desulfurization and Electroactivity of Molybdenum Disulfide (MoS2) Nanocatalysts on Reduced Graphene

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<td>Taylor Robinson</td>
<td>Jacob Dobler</td>
<td>Lawrence Madriaga</td>
<td>Ivan Novikov</td>
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### 171. * - Engineered Nanocomposite Materials Properties through Embedding of Smaller Nanoparticles in a Polymer Matrix

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<td>Alex Henson</td>
<td>Sanju Gupta</td>
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### 172. * - Graphene-mediated Surface Enhanced Raman Spectroscopy for Detection of Biomolecules and Monitoring DNA Hybridization

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<td>Alexander Banaszak</td>
<td>Sanju Gupta</td>
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### 173. * - Graphene-Polymer Thin Film Composite Membranes as Efficient and Anti-fouling Membranes for Water Purification

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<td>Brendan Evans</td>
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</table>
174. * - Hydrothermally Synthesis and Properties of Mesoporous Molybdenum Disulfide (MoS2) ? Reduced Graphene Oxide Composites

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175. * - Improving Accuracy of Parity Violation Measurements for NOPTREX Experiment at LANL

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<tr>
<td>Daniela Olivera Velarde</td>
<td>Danielle Schaper</td>
<td>Christopher Crawford</td>
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176. * - Investigating the Efficacy of Histotripsy on Drug Delivery

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<td>Heather Thompson</td>
<td>Benjamin Wollant</td>
<td>Kenneth Bader</td>
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<td>St. Olaf College</td>
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177. * - Microstructure and Properties of Layered Transition Metal Carbides (Ti3C2Tx) MXenes Phases

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<td>Wyatt Ringo</td>
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178. * - Phase transitions in charged black holes

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<td>Emily Frame</td>
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<td>Fernando</td>
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179. * - Photon Simulation Studies for the Dark Energy Science Collaboration (DESC) at LSST (Large Synoptic Survey Telescope)

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<td>Sean Lawless</td>
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180. * - Robotics with Humanoid Robot NAO and Hexapod (Robotic Spider)
181. * - Self-Assembly of Spheres on a Cone Surface

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

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Co-author
Wayne Bresser
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Co-author
Chari Ramkumar
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183. * - XMM-Newton Observations of the Galactic Supernova Remnants G5.9+3.1 and G32.4+0.1

First Author
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184. - Time series analysis of the rapid optical variability observed in Blazars with NASA's K2 Mission.

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185. - Procedure improvement for FAPbI3 perovskite solar cells

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

First Author
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Co-author
Martin Veillette
Berea College

Co-author
Brian Leist
Berea College

Co-author
Mothi Ghimire
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<td>189. * - Disruption of cell adhesion, loss of Arp2/3 complex function in macrophages are not sufficient to induce NF-kB activity</td>
<td>Imelda Saintilma</td>
<td>Jeremy Rotty</td>
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<td>190. * - Disruption of choline acetyltransferase (ChAT) by congenital mutations: Screening potential therapeutic leads</td>
<td>Abigail Whitaker</td>
<td>David Rodgers</td>
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<td>191. * - Dose-dependent induction of circulating SAA, and pulmonary inflammation after ozone exposure: Alzheimer' Disease Link</td>
<td>Helina Asrat</td>
<td>Michelle Erickson</td>
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<td>192. * - Effects of TEA and 4-AP on Firing Frequency of Proprioceptive Neurons in Crustaceans</td>
<td>Emma Higgins</td>
<td>Allison Lane</td>
<td>Alexandra Stanback</td>
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<td>Bernardo Aguzzoli</td>
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</table>
**193. * - Mechanism of quinolone resistance in Escherichia coli type II topoisomerases**

**First Author**
Nyasha Gombami
Berea College

**Co-author**
Alexandria Oviatt
Vanderbilt University

**Co-author**
Neil Osheroff
Vanderbilt University

Medical Center

---

**194. - P. gingivalis infection debilitates anti-viral immune responses in gingival epithelial cells**

**First Author**
Ashley Cravens
Bellarmine University

**Co-author**
Diane Price
University of Louisville

**Co-author**
Juhi Bagaitkar
University of Louisville

School of Dentistry

**Co-author**
Richard Lamont
University of Louisville

School of Dentistry

---

**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

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

Psychology - Poster Presentations

200. * - Appraisal: The Effect of Electronic Media on Decision Making

First Author
Yabsira Ayele
Berea College

201. * - Sustaining Attention: The Effects of Fidgeting and Break type

First Author
briana beckler
berea college

202. * - User Acceptance of Automated Vehicles

First Author
Vanessa Jones
Morehead State University

Co-author
Emily Lush
Morehead State University

Co-author
Jorden Crowe
Morehead State University

Co-author
Abigail Mohr
Morehead State University

Co-author
Sydney Young
Morehead State University

Co-author
Gregory Corso
Morehead State University

203. * - The independence of implicit and explicit sequence learning

First Author
Allison Ludwig
204. * - Amazon Mechanical Turk Responses vs. Student Responses

First Author
Emily Lush
Morehead State University

Co-author
Brandi Carey
Morehead State University

Co-author
Gilbert Remillard
Morehead State University

Co-author
Gregory Corso
Morehead State University

205. - Emphasis and "only" influence sentence interpretation

First Author
Victoria Nash
Morehead State University

Co-author
David Potter
Morehead State University

Co-author
Katy Carlson
Morehead State University

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

208 * - Effects of Foraging Enrichment Predictability on the Behavior and Space Use of Zoo-housed Elephants
<table>
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<tr>
<th>Title</th>
<th>First Author</th>
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<tbody>
<tr>
<td>209. Zebrafish Spawning Conditions and Their Effects on Egg Success and Clutch Size</td>
<td>Cassandra Perkins</td>
<td>Greg Vicino</td>
<td>Angela Mackey</td>
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<td>Kentucky Wesleyan College</td>
<td>San Diego Zoo Global</td>
<td>Kentucky Wesleyan College</td>
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<td>210. The Influence of Endotoxic LPS on Primary Sensory Neurons in Crustaceans</td>
<td>Sydni Anderson</td>
<td>Dena Weinberger</td>
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<td>Maddie Stanback</td>
<td>Alexandra Stanback</td>
<td>Kelsi Vela</td>
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<td>Robin Cooper</td>
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<tr>
<td>211. Do Males Adjust Courtship Displays According to Female Feedback?</td>
<td>Brooklyn Samons</td>
<td>Laura Sullivan-Beckers</td>
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<td>213. Polyandry and polygyny in green salamanders, Aneides aeneus</td>
<td>Paul Cupp Jr</td>
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<td>Eastern Kentucky</td>
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</table>
214. * - Comparing the seasonal variation in distribution and abundance of anuran species in Daviess Co, KY.

First Author  Co-author
Jordan Danflous  Shannon Finerty
Kentucky Wesleyan  Kentucky Wesleyan
College  College

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

First Author  Co-author
Sarah Tabor  Berea College

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

"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.

The reception includes a cash bar, and we invite you to take advantage of free shuttles, 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)
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.

Saturday, November 3, 2018  7:00am - 4:00pm
Registration Open
Third Floor, Downing Student
Saturday, November 3, 2018  7:58am - 4:00pm

**Posters on Display**

Downing Student Union,  
Second & Third floors

Saturday, November 3, 2018  7:59am - 12:00pm

**Oral Presentations - Saturday morning**

Asterisk * denotes student research competition

Saturday, November 3, 2018  7:59am - 4:00pm

**Practice Room**

DSU 2081

This room is available for speakers to practice their presentations.

Saturday, November 3, 2018  7:59am - 4:00pm

**Practice Room**

DSU 3004

This room is available for speakers to practice their presentations.

Saturday, November 3, 2018  8:00am - 11:00am

**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
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
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<th>Co-author 2</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>Kentucky State University</td>
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<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>Kentucky State University</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 1994</td>
<td>Gagan Kolimadu</td>
<td>Kentucky State University</td>
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<td>Kentucky State University</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>Kentucky State University</td>
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<td>Eric Turley</td>
<td>Kentucky State University</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>
<td>Kentucky State University</td>
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First Author
Thomas Trivette
Kentucky State University

Co-author
George Antonious
Kentucky State University

Co-author
Eric Turley
Kentucky State University

Co-author
Quinn Heist
Kentucky State University

Co-author
Lusekelo Nkuwi
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

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

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  Co-author  Co-author
Adam Martin  Bommanna  Susan Hendricks
Student  Loganathan  Professor

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

First Author  Co-author
Andrew Ballard  Hanna Khouryieh
Western Kentucky  Western Kentucky
University  University

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

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


First Author  Co-author
Ryan Lamb  Matthew Nee
Western Kentucky  Western Kentucky
University  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  Co-author
Krista Riggins  Radhika Dasari
Eastern Kentucky  Eastern Kentucky
University  University

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

Ecology - Oral Presentations

DSU 1037  Section meeting follows talks at 11:30
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  
Murray State University

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
### 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 University

**Co-author**  
Howard Whiteman  
Murray State University

### 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  
Sarah Bissmeyer  
University of Louisville  
Carly Nunamaker  
University of Louisville  
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

### 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

### 11:00 - 2018 State of the Resource: Mammoth Cave National Park
11:15 * - Impact of season, game fencing, moon phase, and vegetation on activity overlap of ungulate species in Namibia

First Author
Emma Reasoner
Berea College

Co-author
Laurie Marker
Cheetah Conservation Fund

Saturday, November 3, 2018  8:00am - 5:00pm

Physics and Astronomy - Oral Presentations

<table>
<thead>
<tr>
<th>Time</th>
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<th>First Author</th>
<th>Co-author</th>
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</table>
| 08:00 | Thermoelectric Properties of Graphene-Carbon Nanotube Aerogels as 'Organic' Energy Harvesters | Romney Meek
Western Kentucky University | Sanju Gupta
Western Kentucky University |
| 08:15 | High Amplitude variabile Active Galactic Nuclei                       | Dirk Grupe
Morehead State University |                               |
| 08:30 | Citizen CATE: citizen scientist observations of 2017 total solar eclipse | Richard Gelderman
Western Kentucky University |                               |
| 08:45 | Nanosecond pulsed laser deposition of Pb thin film on Si (111)         |                                     |
09:00 - NGC 1566: A Temperamental Changing Look AGN

First Author
Rebecca Mikula
Morehead State University

Co-author
Dirk Grupe
Morehead State University

09:15 - Fabrication of Aluminum Nanoparticles via Pulsed Laser Ablation for Bacterial Deactivation

First Author
Lauren Cooper
Western Kentucky University

Co-author
Khomidkhodzha Kholidov
Western Kentucky University

09:30 - Computer Simulation of Atomic-Scale Defects in Intermetallic Compounds

First Author
Christopher Weaver
Northern Kentucky University

Co-author
Matthew Zacek
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
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
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

First Author
Chris Groves
Western Kentucky University
Co-author
Bobby Carson
Mammoth Cave National Park
Co-author
Barclay Trimble
Mammoth Cave National Park
Co-author
Vickie Carson
Mammoth Cave National Park
Co-author
Dave Spence
Mammoth Cave National Park

14:45 - System Parameters for the Eclipsing B-star Binary BD+11 3569

First Author
Wesley Ryle
Thomas More College
Co-author
Stephen Williams
United States Naval
15:00 * - Design and Implementation of a Data Processing and Statistical Analysis Tool for the Unihedron Sky Quality Meter

First Author
Zachary Pater
Morehead State University

Co-author
Jennifer Birriel
Northern Kentucky University

Co-author
Yin Liu
Stanford University

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

Physiology and Biochemistry - Oral Presentations

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

First Author
Daisy DiVita
Northern Kentucky University

Co-author
Michael Guy
Northern Kentucky University

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

First Author
Issac Domenech
Berea College

Co-author
Mark Krasnow
Stanford University

Co-author
Yin Liu
Stanford University

08:30 - Graphene oxide-based sensing technology for screening antibiotic resistance genes utilizing zinc finger proteins

First Author
Dat Thinh Ha
Western Kentucky University

Co-author
Moon-Soo Kim
Western Kentucky University

08:45 * - Early Detection of Breast Cancer Through Changes in Amino Acid Metabolism

First Author
David Kelley
Thomas More College

Co-author
Kyle Damen
Wood Hudson Cancer Research Laboratory

Co-author
James Deddens
Wood Hudson Cancer Research Laboratory

Co-author
Larry Douglass
Wood Hudson Cancer Research Laboratory

Co-author
Leila Valanejad
Wood Hudson Cancer Research Laboratory
09:00 * - Expression of Cathepsin L, HSP-90, and MAP kinase pathway proteins in bladder cancer characterized by physiology

First Author
Ryan Moore
Northern Kentucky University

Co-author
Kyle Damon
Wood Hudson Cancer Research Laboratory

Co-author
Zachary Taylor
Wood Hudson Cancer Research Laboratory

Co-author
Julia Carter
Wood Hudson Cancer Research Laboratory

09:15 * - Mapping the Binding Sites of FATTY ACID SYNTHASE on Chikungunya Viral RNA

First Author
Clara Reasoner
Berea College

Co-author
Yuqi Bian
Vanderbilt University

Co-author
Jeffrey Jian
Vanderbilt University

Co-author
Katherine Rothamel
Vanderbilt University

Co-author
Byungil Kim
Vanderbilt University

Co-author
Manuel Ascano
Vanderbilt University

09:30 * - Expression of translation initiation factor eIF4E and phospho eIF4E is increased in human ovarian cancer.

First Author
Kalin Russell
Wood Hudson Cancer Research Laboratory

Co-author
James Dedden
University of Cincinnati

Co-author
Larry Douglass
Wood Hudson Cancer Research Laboratory

Co-author
Julia H. Carter
Wood Hudson Cancer Research Laboratory

Co-author
Grace Restle
Wood Hudson Cancer Research Laboratory

09:45 * - Developing engineered zinc finger proteins immobilized on acrylamide gel surface as diagnostic probes for detecting path

First Author
Caleb Sedlak
WKU

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

Zoology and Botany - Oral Presentations

DSU 2113  Section meetings follow talks at 11:15
08:00 - Seasonal variation in the communication system of the field cricket Gryllus rubens (Orthoptera: Gryllinae)

First Author
Oliver Beckers
Murray State
University

Co-author
Nicholas Norman
Murray State
University

Co-author
Jacob Pease
Murray State
University

Co-author
Kai Murphey
Murray State
University

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

First Author
Steve Huskey
WKU

Co-author
Ruth Hughes
University of Notre Dame

Co-author
Kristen Pedersen
University of Southern California

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

First Author
Brett Hodinka
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

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

First Author
Olivia Gearner
Western Kentucky University

Co-author
Keith Philips
Western Kentucky University

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

First Author
Natalie Mercer
Kentucky Wesleyan College

Co-author
Milan Lstibůrek
Czech University of Life Sciences Prague

Co-author
Jan Stejskal
Czech University of Life Sciences Prague

Co-author
Shannon Finerty
Kentucky Wesleyan College

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

First Author
Samuel White
Murray State University

Co-author
Laura Sullivan-Beckers
Murray State University

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.
### 10:15 - Growth and Reproduction of the Bigeye Shiner, Notropis boops

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-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>
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### 10:30 - Canopy Conditions and Light Availability as Predictors of Running Buffalo Clover Population Trajectories

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<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>
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<th>First Author</th>
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<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>
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<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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<tr>
<th>First Author</th>
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<tr>
<td>Maggie Whitson</td>
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<td>Northern Kentucky University</td>
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**Saturday, November 3, 2018 9:00am - 3:00pm**

**Exhibitors Tables**

Third Floor, Downing Student Union

Visit our Exhibitors to find out about career opportunities, graduate schools, and to connect to great services & resources!
Statistics consultations

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:
https://www.kyscience.org/statistics_consults_at_kas.php

Student Competition Awards

Third Floor, Downing Student Union

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.

Past Presidents Lunch & Annual Business Meeting

Cupola Room (inside Fresh Dining Hall)

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.

Oral Presentations - Saturday Afternoon

Asterisk * denotes student research competition

Chemistry: Organic/Inorganic - Oral Presentations

DSU 3007
Section meeting follows talks at 3:00

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

<table>
<thead>
<tr>
<th>First Author</th>
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<tr>
<td>Junhao Huang</td>
<td>Quynh Nguyen</td>
<td>William Renzenbrink</td>
<td>Stephen Ramirez</td>
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### 13:45 * - Discovery of New Heteroaryl Aromatase Inhibitors through Computer Modeling

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<th>First Author</th>
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<td>Quynh Nguyen</td>
<td>Matthew Neiser</td>
<td>Stephen Ramirez</td>
<td>Andrew Quillen</td>
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### 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)]**

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Cristina Throckmorton</td>
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<td>Western Kentucky</td>
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<td>University</td>
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### 14:30 * - Synthesis and Biological Evaluation of Heteroaryl Ketones

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<th>First Author</th>
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<td>Stephen Ramirez</td>
<td>Quynh Nguyen</td>
<td>Alexander Rosen</td>
<td>Matthew Neiser</td>
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**Co-author**

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<tr>
<td>Lili Ma</td>
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<td>University</td>
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### 14:45 * - Synthesizing Cleavable Antibody Drug Conjugates via Solid Phase Organic Synthesis
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<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>13:15</td>
<td>Inadvertent local climate modification at a regional university in Kentucky, USA</td>
<td>Donald Yow</td>
<td>Matthew Ruggless</td>
<td>Eastern Kentucky University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tori Farrow</td>
<td>Jeremy Sandifer</td>
<td>Kentucky State University</td>
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<td></td>
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<td>Christopher Andrew</td>
<td></td>
<td>University of Louisville</td>
</tr>
<tr>
<td>13:30</td>
<td>URBAN HEAT AND DEMOGRAPHIC CHANGE: A COMPARATIVE ANALYSIS OF THE LARGEST 100 CITIES OF THE TEMPERATE-FORESTED ECOREGION</td>
<td>Christopher Andrew</td>
<td></td>
<td>University of Louisville</td>
</tr>
<tr>
<td>13:45</td>
<td>Analyzing sanitary sewer overflow event response to storm frequency</td>
<td>Christopher Andrew</td>
<td></td>
<td>University of Louisville</td>
</tr>
<tr>
<td>14:00</td>
<td>Comparing Sediment Yield of Selected Forest Ecosystems Using SWAT in Bell Watershed, Kentucky</td>
<td>Aman Bhatta</td>
<td>Buddhi Gyawali</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>14:15</td>
<td>Land cover classification and change detection using remote sensing imagery in Morgan County, Kentucky</td>
<td>Saaruj Khadka</td>
<td>Buddhi Gyawali</td>
<td>Kentucky State University</td>
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<td>Kentucky State</td>
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<td>University of Louisville</td>
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<tr>
<td>14:30</td>
<td>How economic geography might have saved the Mammoth Cave Mushroom Company</td>
<td></td>
<td></td>
<td>University of Louisville</td>
</tr>
</tbody>
</table>
14:45 * - Observing Boundary Layer Heights over Mountainous Terrain Using Aircraft Vertical Profiles

First Author
Dallas McKinney
Western Kentucky University

15:00 - Mapping Opioid Epidemic in Kentucky’s Counties

First Author
Charlie Zhang
University of Louisville

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

Health Science - Oral Presentations

13:15 * - Activation of Human Immune Responses by Novel Vaccines for Hepatitis C Virus

First Author
Samuel Adams
Northern Kentucky University

Co-author
Brett Messmer
Northern Kentucky University

Co-author
Hunter Morgan
Northern Kentucky University

Co-author
Ryan Fitzpatrick
Northern Kentucky University

Co-author
Joseph Mester
Northern Kentucky University

13:30 - Prevalence of Dyslipidemia in Young African Americans

First Author
Bisola Asaolu
Kentucky State University

13:45 * - Epidemiology of HPV-Associated Cancers: Changing Trends and Future Burden

First Author
Yeongha Oh
Berea College
14:00 - Bacterial deactivation by using Graphene quantum dot as an effective photodynamic therapy agent

<table>
<thead>
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<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Ermek Belekov</td>
<td>Lauren Cooper</td>
<td>Khomidkhodzha</td>
<td>Ilhom Saidjafarzoda</td>
<td>Michael Smith</td>
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<td>Physics and Astronomy</td>
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<td></td>
<td>Dave Monroe</td>
<td>Omer San</td>
<td>Ali Er</td>
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<td>Western Kentucky University</td>
<td>Oklahoma State University</td>
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14:15 - Effects of alpha & beta-adrenergic receptor blockade upon inflammatory responses & microglia activation to sleep loss.

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Nicholas Wheeler</td>
<td>Noah Ashley</td>
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<tr>
<td>Western Kentucky University</td>
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Saturday, November 3, 2018 1:15pm - 4:00pm

Mathematics - Oral Presentations

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<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15 *</td>
<td>A Study of Non-Linearity in a Simple Pendulum</td>
<td>Ethan Caudill</td>
<td>Jennifer Birriel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Morehead State University</td>
<td>Morehead State University</td>
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<td>University</td>
<td>University</td>
</tr>
<tr>
<td>13:30 *</td>
<td>Using Topology to find Copyright Infringement</td>
<td>Jeremiah Halter</td>
<td>1997</td>
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<tr>
<td>13:45</td>
<td>From the Hardwood to the Spreadsheet</td>
<td>Christopher Napier</td>
<td></td>
</tr>
</tbody>
</table>

Section meeting follows talks at 4:00
14:00 - Dr. Strangelog or: How I Learned to Stop Worrying and Love the Slide Rule

First Author
Dwight Smith
Kentucky Community and Technical College System

14:15 - Additive 3-Choosability of Planar Graphs with Girth 20

First Author
Axel Brandt
Northern Kentucky University
Co-author
Nathan Tenpas
Vanderbilt University
Co-author
Carl Yerger
Davidson College

14:30 - Rational Points on Circles and the Birch and Swinnerton-Dyer Conjecture

First Author
Andy Martin
Kentucky State University

14:45 - Applying the Hastings-Metropolis algorithm to chessboard placement problems

First Author
Doug Chatham
Morehead State University

15:00 - An Examination of Discrete Least Squares Approximation Techniques

First Author
Mark Robinson
Western Kentucky University

15:15 - Random Operators and Dynamical Localization

First Author
Kyle Besing
Kentucky Wesleyan College

15:30 - PDE Model for Solid-State Dewetting of a Binary Alloy Thin Film

First Author
Mikhail Khenner
15:45 - A Deeper Look into Open Coverings of the Rationals that do not Cover the Reals

First Author
Justin Trulen
Kentucky Wesleyan College

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

Science Education - Oral Presentations

13:15 - Death Knell for le Grand K.

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
### 14:30 - Middle School Investigation of Global Climate Change

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Shira Rabin</td>
<td>Bennet Kolb</td>
<td>Bronwyn Williams</td>
<td>Adam Stieglitz</td>
<td>Mary Brydon-Miller</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>Jefferson County Public Schools</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
</tr>
</tbody>
</table>

### Social Sciences: Anthropology/Sociology/Psychology

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

#### 13:15 * - Haptic Distance Ratios: The Geometry of Space within the Hands

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Sydney Wheeler</td>
<td>Farley Norman</td>
<td>Lauren Pederson</td>
<td>Catherine Dowell</td>
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<tr>
<td>Western Kentucky</td>
<td>Western Kentucky University</td>
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**Saturday, November 3, 2018 13:30 * - Water Deposits Connection to Decreased Evidence of Burial Practices in Iron Age Britain and Ireland.**

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Amanda Lilly</td>
<td>Northern Kentucky University</td>
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</table>

**1:45 - Five minute presentations**

**First Author**

Poster Presenters

### Physics Teaching Workshop - Ky Association of Physics Teachers

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

**Ogden College Hall Room 1007**
This workshop is open to any registered KAS meeting participant.

More Information

- Guidelines for the Research Paper
- Preparing the Presentation
- Abstract Guidelines
- Plagiarism Policy
- Rules and Policies for Kentucky Junior Academy
- Junior Academy Scoring rubric
- Download the 2020 Waiver- required for participation (word file)
- Publish your Research
- Video tips: Giving a good Scientific talk

2020