2018 Annual Meeting Program
November 2-3, 2018

Western Kentucky University

Thank you to our Platinum Sponsor

American Synthetic Rubber Company
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ECMBiosciences

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

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

KAS Science Film Festival
### Downing Student Union 3020

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!

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAS Governing Board Meeting</td>
<td>Friday, November 2, 2018</td>
<td>9:00am - 11:00am</td>
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<tr>
<td>Kentucky Organization of Field Stations meeting</td>
<td>Friday, November 2, 2018</td>
<td>9:30am - 11:30am</td>
</tr>
<tr>
<td>Registration Open</td>
<td>Friday, November 2, 2018</td>
<td>11:30am - 5:00pm</td>
</tr>
<tr>
<td>Poster Presenters check-in</td>
<td>Friday, November 2, 2018</td>
<td>12:00pm - 2:30pm</td>
</tr>
<tr>
<td>Science Policy &amp; Advocacy workshop</td>
<td>Friday, November 2, 2018</td>
<td>12:00pm - 1:00pm</td>
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</tbody>
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**Featured Speakers:**

[Dr. Matthew Gentry](https://example.com), Professor Department of Molecular and Cellular Biochemistry, University of [example].
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.

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

Oral Presentations- Friday Afternoon

Asterisk * denotes student research competition

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

Cellular and Molecular Biology - Oral Presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>1:15</td>
<td>Analysis of effects on tRNA modifications and hyphal growth by the elongator complex in C. albicans.</td>
<td>Justin Rabe, Northern Kentucky University</td>
<td>Rachel Morgeson, Northern Kentucky University</td>
<td>Jenna Kappes, Northern Kentucky University</td>
<td>Daisy Davita, Northern Kentucky University</td>
<td>Kaylee Fox, Northern Kentucky University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author Olivia Gilliam, Northern Kentucky University</td>
<td>Co-author John Carmen, Northern Kentucky University</td>
<td>Co-author Michael Guy, Northern Kentucky University</td>
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</tr>
<tr>
<td>1:30</td>
<td>Comparison of differentiation capacity between cell lines using the trilineage differentiation assay.</td>
<td>Priscila Garcia, Anschutz Medical Campus</td>
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<tr>
<td>1:45</td>
<td>Investigating How EF-24 and Cisplatin Effect Cancer and Renal Cells</td>
<td>Denis Hodzic, Western Kentucky University</td>
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<tr>
<td>2:00</td>
<td>Oxidative stress mediated downregulation of transcription factor Glis3 results in beta cell dysfunction</td>
<td>Erin Clayton, Murray State University</td>
<td>Gary ZeRuth, Murray State University</td>
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</tbody>
</table>
2:15 * - Targeted integration of fluorescent reporters into iPSCs using CRISPR/Cas9

First Author  Co-author  Co-author  Co-author  Co-author
Chann Han  Dennis Roop  Igor Kogut  Ganna Bilousova  Partick Sean McGrath
Berea College  University of Colorado  University of Colorado  University of Colorado  University of Colorado

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

First Author  Co-author
Nathan Powers  Ajay Srivastava
Western Kentucky University  Western Kentucky University

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

First Author  Co-author
Lesley Golden  Gary ZeRuth
Murray State University  Murray State University

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

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

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

First Author
Mustafa Atici
Western Kentucky University

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

First Author
Christopher Harton
Murray State University

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

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

First Author
Bryan Kirshe
University of Kentucky

Co-author
Sherali Zeadally
University of Kentucky

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

First Author
Michael Murray
University of Kentucky

Co-author
Kelsey Cole
University of Kentucky

Co-author
Jerzy Jaromczyk
University of Kentucky

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

First Author
Stephen Goins
Bellarmine University

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

Engineering - Oral Presentations

DSU 2123  Section meeting follows talks at 2:30pm

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

First Author
Jean-Pierre Amoakon
Georgetown College

Co-author
Farhan Kamili
Georgia Institute of Technology

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

First Author
Jacob Schabert
Morehead State University

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

First Author
Katerina Winters
Morehead State University

2:00 * - Safety Engineering for a CubeSat: Materials and Usage Requirements
Friday, November 2, 2018  1:15pm - 3:15pm

Environmental Science - Oral Presentations  
DSU 1037  
Section meeting follows talks at 3:15

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

WITHDRAWN - American Chestnut Reintroduction in Kentucky: a GIS Approach

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

First Author  
Jason Fox  
Western Kentucky University

Co-author  
Leslie North  
Western Kentucky University

Co-author  
Jason Polk  
Western Kentucky University

Co-author  
Sydney Herndon  
Western Kentucky University

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

First Author  
Evan Hendrickson  
Western Kentucky University

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

First Author  
Brandon Preece  
Kentucky State University

Co-author  
Richard Cristan  
Kentucky State University
### 2:30 - Comparison of Benthic Macroinvertebrate Sampling Methods on Non-Wadeable Waters: A Study Proposal

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed Wilcox</td>
<td>Richard Cristan</td>
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<tr>
<td>Kentucky State</td>
<td>Kentucky State</td>
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<td>University</td>
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### 2:45 - Ecosystem Exchange of Carbon Dioxide of a Grazed Pasture in Central Kentucky

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Ian Ries</td>
<td>Maheteme</td>
<td>Martin Matisoff</td>
<td>Ken Andries</td>
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<tr>
<td>Kentucky State</td>
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### 3:00 - Opportunities for collaborative research and education at a network of field stations in Kentucky

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Stephen Richter</td>
<td>Eastern Kentucky</td>
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<tr>
<td>University</td>
<td>University</td>
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</tbody>
</table>

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

**Geology - Oral Presentations**

<table>
<thead>
<tr>
<th>1:15 - A Geochemical Comparison of two Telogenetic Karst Springs During Reverse Flow, Mammoth Cave, Kentucky</th>
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</thead>
<tbody>
<tr>
<td>First Author</td>
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<tr>
<td>Chelsey Kipper</td>
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<tr>
<td>Western Kentucky</td>
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</tbody>
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<table>
<thead>
<tr>
<th>1:30 - Do Radioactive Black Shales Potentially Affect Human Health as well as Water Quality of Streams in Eastern Kentucky?</th>
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<tbody>
<tr>
<td>First Author</td>
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<tr>
<td>Mitchell Grothaus</td>
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<tr>
<td>Morehead State</td>
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</tbody>
</table>

Co-author: Charles Mason
Morehead State University

<table>
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<tr>
<th>1:45 - Fate of Indirect greenhouse gases in Karst Landscapes Associated with Land Use</th>
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<tbody>
<tr>
<td>First Author</td>
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</table>
### 2:00 - Incision timing and its relationship to tectonic uplift and climate change: using thermochronology to unravel Ethiopia's

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<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<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</td>
<td>Western Kentucky</td>
<td>Arizona State</td>
<td>Western Kentucky</td>
<td>GeoSeps Services</td>
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<td>University</td>
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<td>University</td>
<td>University</td>
<td>LLC</td>
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</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Michael Arthur</td>
<td>M. Royhan Gani</td>
<td>McArthur</td>
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<td>Western Kentucky</td>
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<td>University</td>
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### 2:30 * - Spectral Analysis of Analog Lunar and Martian Mineral Samples

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<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Madison Howard</td>
<td>Marianne Peterson</td>
<td>Prabhakar Misra</td>
</tr>
<tr>
<td>Morehead State</td>
<td>St. Olaf</td>
<td>Howard University</td>
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<td>University</td>
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### 2:45 - Stratigraphic Controls on Cave Passage Development of Dogwood Cave, Hart, County, Kentucky

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Patricia Kambesis</td>
<td>McArthur</td>
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<tr>
<td>Western Kentucky</td>
<td>University</td>
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### 3:00 - Tekeze River Incision Constrained from Apatite (U-Th)/He Dating

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<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Jacob Grigsby</td>
<td>Nahid Gani</td>
<td>Shelby Bowden</td>
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<tr>
<td>Western Kentucky</td>
<td>Institution</td>
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<td>University</td>
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Microbiology - Oral Presentations

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

DSU 3006  Section meeting follows talks
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

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

Practice Room
DSU 2081
This space is available for speakers to practice their presentations.
Friday, November 2, 2018  1:15pm - 6:00pm

**Practice Room**

DSU 3004

This room is available for speakers to practice their presentations.

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.

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

   **Co-author**  
   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  
   University

   **Co-author**  
   Riley Mabe  
   University

   **Co-author**  
   I. P. Handayani  
   University

   **Co-author**  
   Brian Parr  
   University

   **Co-author**  
   Murray State University

   **Co-author**  
   University

5. * - Assessing the Rising Plate Meter Method to Determine Forage Production on Organic Dairies

   **First Author**
<table>
<thead>
<tr>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>6. * - Comparing Characteristics of Soil under Various Management</td>
<td>River Dowell</td>
<td>Iin Handayani</td>
<td>Murray State</td>
<td>University</td>
<td>University</td>
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<tr>
<td>Conditions in Western Kentucky</td>
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<tr>
<td>7. * - Comparing Soil Properties between Corn and Soybean Conventional</td>
<td>Jake Owen</td>
<td>River Dowell</td>
<td>Alex Fichter</td>
<td>Murray State</td>
<td>Ashley Robert</td>
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<tr>
<td>Tillage Practices</td>
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<tr>
<td>8. * - Economic Viability of Municipal Compost and Equine Stall Waste</td>
<td>Ashley Robert</td>
<td>Alyx Shultz</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
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<td>as Media Amendments in an In-Ground Pot-in-Pot Production</td>
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<td>diversity of beef cattle</td>
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<tr>
<td>10. * - Effects of live yeast supplementation on rumen fluid</td>
<td>Megan Mccoun</td>
<td>Kyle Cannon</td>
<td>Hank Schweickart</td>
<td>Kentucky State</td>
<td>Ibukun Ogunade</td>
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<td>metabolome of beef cattle</td>
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<td>11. - Effects of water soluble fertilizers on growth performance of</td>
<td>Changzheng Wang</td>
<td>Changzheng Wang</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
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<td>lotus plants in containers</td>
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<td>12. * - Evaluation of Soil Response to the Applications of Ammonium</td>
<td>Sarah Forden</td>
<td>Iin Handayani</td>
<td>Kyle Hanenberger</td>
<td>Ethan Knolhoff</td>
<td>Jeffery Record</td>
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<tr>
<td>Nitrate and Horse Manures</td>
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* Indicates the significant contributions to the research.
<table>
<thead>
<tr>
<th>Paper Number</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>Grafting success of eleven pawpaw cultivars and advanced selections using four grafting methods</td>
<td>Sheri Crabtree</td>
<td>Jeremy Lowe</td>
<td>Kirk Pomper</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>15.</td>
<td>Growth of Pawpaw (Asimina triloba) Seedlings in Two Commercially Available Potting Mixes</td>
<td>Aidan Thompson</td>
<td>Jessica Stoner</td>
<td>lin Handayani</td>
<td>Alyx Shultz</td>
</tr>
<tr>
<td>16.</td>
<td>Impact of aerobic compost tea on growth of Lactuca sativa</td>
<td>Ella Potts</td>
<td>Murray State University</td>
<td>Kentucky State University</td>
<td>University</td>
</tr>
<tr>
<td>17.</td>
<td>Impact of integrated crop-livestock rotation including small ruminants on nitrate and phosphorus concentrations in water</td>
<td>Ellyn Anthony</td>
<td>Shawn Lucas</td>
<td>Derek Law</td>
<td>Tony Silvernail</td>
</tr>
<tr>
<td>18.</td>
<td>Investigating the Impact of Soil Amendments on Eggplant Production</td>
<td>Yogendra Upadhyaya</td>
<td>Kentucky State University</td>
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19. - Longitudinal Histological Study of Nosema ceranae in Honey Bees

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<td>Katherine Kamminga</td>
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<td>Martin Matisoff</td>
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<td>Samantha Peterson</td>
<td>Lin Handayani</td>
<td>Alix Shultz</td>
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21. - The Effect of Sulfur and Copper Fungicides on June Drop of Pawpaw Fruit.

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<td>Sijan Pandit</td>
<td>Jeremiah Lowe</td>
<td>Sheri B Crabtree</td>
<td>Kirk William Pomper</td>
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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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<td>HARRY MOMO</td>
<td>Jeremiah Lowe</td>
<td>Sheri Crabtree</td>
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23. - Yield Performance of 'Prime-Ark® 45' and 'Black Magic' Grown Organically in Kentucky

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<td>Jeremiah Lowe</td>
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Anthropology and Sociology - Poster Presentations

24. - Ethnographic Study of Ohio River Barge Deckhands

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

Dee Broomhead
Northern Kentucky University

First Author
Alessa Rulli
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26. * - Multidisciplinary Approaches to Research and Abolitionism Through the Parker Academy

Andrea Shiverdecker
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First Author
Samantha Hamilton
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Co-author
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27. * - Uncovering the Women of Parker Academy

Delaney Gilliam
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Botany - Poster Presentations

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

Wendy Cecil
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First Author

Cellular and Molecular Biology - Poster Presentations

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

Anas Gondal
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First Author
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30. * - Cerebellar gene expression of cabin1

First Author
31. * - Characterization of a Basement Membrane Associated Protein

**First Author**
Aref Ranjbar

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**Co-author**
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**Western Kentucky University**

32. - Cloning Lectins for the Detection of Flavivirus Nonstructural Protein 1

**First Author**
Natalie Mercer

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**Co-author**
Krystal Hamorsky

**Kentucky Wesleyan College**

33. - Cysteine Thiol Directed Chemical Modification of a KCNE1 Protein N-Terminus

**First Author**
Sharman N Sugumaran

**Berea College**

**Co-author**
Keenan Taylor

**Vanderbilt University**

34. * - Damage to Danio Rerio’s Developing Neuromuscular Junction Could Lead to Expanded Synaptic Plasticity

**First Author**
Diana Schweitzer

**Murray State University**

**Co-author**
Dena Weinberger

**Murray State University**

35. * - De Novo Prediction of the Tail and Capsid Structure of Mycobacteriophage MooMoo

**First Author**
Alexander Stewart

**Western Kentucky University**

**Co-author**
Claire Rinehart

**Western Kentucky University**

36. - Detection of antibiotic resistance genes using engineered zinc finger proteins immobilized on the silane polymer-coated

**First Author**
Jiyoung Shim

**Western Kentucky University**

**Co-author**
Moon-Soo Kim

**Western Kentucky University**

37. * - Effect of HER2 expression on NUPL2 protein in cervical cancer cells

**First Author**
Tristan Haight
38. - Evaluation of Genes that May Mediate Individualization in Spermatogenesis

First Author
Olivia Honaker
Centre College

Co-author
Darren Paris
Murray State
University

Co-author
Douglas Harrison
University of Kentucky

39. * - Examining how the FGF signaling pathway effects gene expression within the pharynx during embryonic development

First Author
Elizabeth Wilke
Northern Kentucky University

Co-author
Emily Shifley
Northern Kentucky University

40. * - Examining the Role that Iroquois Genes Play During Embryonic Development

First Author
Maria Stewart
Northern Kentucky University

Co-author
Emily Shifley
Northern Kentucky University

41. * - Fishing for fertility: Creating a PAM-1 substrate trap to isolate novel fertility-governing proteins

First Author
Autumn Graves
Murray State University

Co-author
Chris Trzepacz
Murray State University

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

First Author
NancyAnn Webster
Murray State University

Co-author
Gary ZeRuth
Murray State University

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

First Author
LilyAnne Grieve
Murray State University

Co-author
Gary ZeRuth
Murray State University
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<tr>
<td>44. * - Integrin β1 Promotes Kras-Mutated Lung Cancer Proliferation Via Mapk-Indepependent Mechanism</td>
<td>Kateryna Nabukhotna</td>
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<td>45. * - Investigating a transient expression system in Nicotiana Benthamiana for the production of Novel TALE Proteins</td>
<td>Colleen Jackson</td>
<td>Wendy Cecil</td>
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<td>46. * - Platinum Leaving Ligand Effects on Mammalian Cells</td>
<td>Emily Nole</td>
<td>Jessica Schlabach</td>
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<td>47. * - Potential for the green alga Chlamydomonas reinhardtii to degrade lignin</td>
<td>Meg Dillingham</td>
<td>Cydne Kitchens</td>
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<td>48. * - Role of Shear Stress on Endothelial Insulin Sensitivity</td>
<td>Areli Medina Hernandez</td>
<td>Lauren Walsh</td>
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<td>University of Missouri</td>
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<td>Thaysa Ghiarone</td>
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<td>Luis Martinez-Lemus</td>
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<td>Jaume Padilla</td>
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<td>49. - Spinal Cord Injury and its effect on Circadian Rhythm</td>
<td>Charles Thaler</td>
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<td>KBRIN</td>
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<td>50. * - The Bioinformatics of Mycobacteriophage Drake94</td>
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</table>
51. * - The effect of light pollution on immunoresponse and neurogenesis in zebra finches
First Author
Matthew Knerr
Western Kentucky University

52. * - The Effects of Acute Sleep Fragmentation on Microglial Cells
First Author
Anna Strunjas
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Co-author
Ila Mishra
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Co-author
Noah Ashley
Western Kentucky University

53. * - The effects of oxidative stress on p75NTR signaling in dopaminergic neurons.
First Author
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Eastern Kentucky University
Co-author
Cassandra Escobedo
Eastern Kentucky University
Co-author
Carter Waugh
Eastern Kentucky University
Co-author
Alborz Kalantar
Eastern Kentucky University
Co-author
Bradley Kraemer
Eastern Kentucky University

54. - The FGF signaling pathway plays an important role regulating gene expression in developing Xenopus laevis embryos
First Author
Kelsey Donahue
Northern Kentucky University
Co-author
Emily Shifley
Northern Kentucky University

55. - The Role of Polarity Genes in Esophageal Adenocarcinoma Metaplasia
First Author
Young Koh
Asbury University
Co-author
Pei Guo Ding
University of Texas Southwestern
Co-author
David Wang
University of Texas Southwestern
Co-author
Malinda Stull
Asbury University

56. * - Therapeutic and toxicity profile of Pt-Mal-LHRH, a target direct chemotherapeutic for triple negative breast cancer.
First Author
Adam Gehlhausen
EKU
Co-author
Emily McCord
EKU
Co-author
Lindsay Calderon
EKU
Co-author
Margaret Ndinguri
EKU
### Chemistry: Analytical/Physical - Poster Presentations

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<tr>
<td>57.</td>
<td>The Chemical Characterization of Kentucky Honeys</td>
<td>Rebecca Jenkins</td>
<td>Chelsea Fitzpatrick</td>
<td>Brandon Van Ness</td>
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<td>58.</td>
<td>Profiling whiskey fungus using the gas chromatography/mass spectrometry and laboratory serial dilutions methods</td>
<td>Amber Persons</td>
<td>Kentucky State University</td>
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<td>59.</td>
<td>Solid Phase Extraction of Tylosin from Cattle Waste With Determination by Liquid Chromatography Mass Spectrometry</td>
<td>Anne Carlisle</td>
<td>Keerthi Appala</td>
<td>Eric Conte</td>
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<td>60.</td>
<td>Temporal Trend of Illicit and Neuropsychiatric Drug Consumption</td>
<td>Brittney Nelson</td>
<td>Tara Croft</td>
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<td>61.</td>
<td>Using the Liquid Sampling-Atmospheric Pressure Glow Discharge with Capillary Channeled Polymer Fibers for Analysis of Pr</td>
<td>Daisy Sullivan</td>
<td>Dr. R. Kenneth</td>
<td>Marcus</td>
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<td>Application of an Analytical Assay for Quantification of Polyphosphate Using Silicon Photonic Microring Resonators</td>
<td>Beau Schweitzer</td>
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<td>63.</td>
<td>Purification and Analysis of LHRH using HPLC</td>
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<td>Sean Greer</td>
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64. - Detection of Polyions with Pulsed Chronopotentiometry - Screening Antidotes for the Anticoagulants Low Molecular Heparin

65. * - Determination of Ochratoxin A in Kentucky Black Walnuts

66. * - Investigating the Diffusion Behavior of Analytes subjected Peak Parking Capillary Electrophoresis

67. * - Predicted Protein Structure and Function of the Bacteriophage: Mithril

68. * - Modeling Molecular Relaxation Dynamics for Diatom Clathrates

69. * - Protocols for UHF and UCCSD Potential Energy Curves

69.5 * - Unraveling Subtle Intermolecular Interactions in Crystals of a Solar Thermal Fuel.
70. - The Effectiveness of Thin Layer Spin Coating Sodium Acetate

First Author
Corey Mattic, Jr.
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71. * - Avidin Functionalized Coverslips for Model Membrane Imaging

First Author
Sergio Perez Cruz
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Co-author
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Co-author
Lindsey Miller
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72. * - Effects of Various Buffers and Parameters on the Structure and Behavior of Stimuli-Responsive Polymers

First Author
Madisyn Hayes
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Co-author
Eric Milner
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73. - A Dispersed REU Program on Theoretically Interesting Molecules (TIM)

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74. - Synthesis of Oxalixarenes from Silyl Protected Precursors

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

First Author
Ban Wang
Western Kentucky University

Co-author
Isaac Howard
Western Kentucky University

76. - Interaction of a platinum tri-amine complex having a seven-membered chelate ring with 5’-GMP and N-AcMet
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<td>Synthesis of metal-organic frameworks mimicking carbonic anhydrase enzyme.</td>
<td>Simrat Kaur</td>
<td>BANGBO YAN</td>
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<td>An in vitro Study on Skin Protection Across the UV Spectra</td>
<td>Cheyenne Boone</td>
<td>Kentucky State</td>
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<td>Phosphonium-containing Poly(ionic liquid) Networks Prepared From Thiol-ene 'Click' Photopolymerization</td>
<td>Samantha Sims</td>
<td>Rachel Whittaker</td>
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<td>Highly efficient and selective oxidation of sulfides catalyzed by manganese corroles with iodo benzene diacetate</td>
<td>Ben Willis</td>
<td>Davis Ranburger</td>
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<td>Enantioselective Cross Aldol Reactions of Aldehydes</td>
<td>Samantha Bradley</td>
<td>Chase Slone</td>
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<td>Investigating the Synthesis of LMA-P2</td>
<td>Sarah Little</td>
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</table>
82. * - Palladium-Catalyzed Heteroarylation Under Microwave Irradiation

First Author
Adrianna Goodwin
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Co-author
Claire Poling
Northern Kentucky University

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

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

First Author
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85. * - The Syntheses of Heteroatom-activated Antibiotics

First Author
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86. * - Iron Catalyzed Oxidation of Amines to Imines

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

First Author
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Co-author
Ominica Crockett
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88. * - Phenylethynyloxacalixarenes Synthesis

First Author
Jacolby Gardner
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Co-author
KC Russell
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89. * - Synthesis and Mechanism study of Isocoumarin Analogues
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<td>Annulene-Oxacalixarene Hybrids</td>
<td>Elizabeth Osifalujo</td>
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<td>91</td>
<td>Synthesis and reactivity of platinum(II) anticancer drug analogs with unsymmetrical ligands</td>
<td>Emily Brown</td>
<td>Nicholas Spark</td>
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<td>Solid Phase Organic Synthesis of an Antibody Conjugate Linker?</td>
<td>Ominica Crockett</td>
<td>Levi Blevins</td>
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<td>93</td>
<td>Machine Learning in Breast Cancer Detection</td>
<td>Amanda Hansford</td>
<td>Heba Elgazzar</td>
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<td>Encoding and Decoding Messages in Android Applications</td>
<td>Richard Pike</td>
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<td>Smart Routing Schemes for Dynamic Spectrum Access Network Architectures</td>
<td>Brian Luciano</td>
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<td>96</td>
<td>Neighborhood Graphs for Cities in Kentucky: comparison for two distance measures</td>
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## Ecology - Poster Presentations

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

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<tr>
<td>Ieisha Hopwood</td>
<td>Kazi Javed</td>
<td>Tamara Sluss</td>
<td>Li Lu</td>
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### 98. - Litter Breakdown and Invertebrate Detritivores from a Hydrologically Restored Stream

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Jacob Becraft</td>
<td>Amy Braccia</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Graduate Advisor</td>
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### 99. * - Influence of Salamanders on Leaf Litter Decomposition in Appalachian Headwater Streams

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<th>First Author</th>
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<tr>
<td>Emily Jones</td>
<td>Joseph Baecher</td>
<td>Amy Braccia</td>
<td>Stephen Richter</td>
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<tr>
<td>Eastern Kentucky University</td>
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### 100. - The Effects of Salinity on the Juvenile Freshwater Crayfish Procambarus clarkii

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<th>First Author</th>
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<tr>
<td>Alexandra Ghinn</td>
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<td>Bellarmine University</td>
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### 101. * - Evaluation of biomass and filtration method on eDNA detection of fantail darters (Etheostoma flabellare)

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<tr>
<th>First Author</th>
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<tr>
<td>Ramon Guivas</td>
<td>Kyle Laufenburger</td>
<td>Ben Brammell</td>
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<td>Asbury University</td>
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### 102. * - Use of eDNA in detection of multiple salamander species in eastern Kentucky streams

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<tr>
<td>Angie Flores</td>
<td>Florene Bell</td>
<td>Kenton Sena</td>
<td>Thomas Maigret</td>
<td>Chi Jing Leow</td>
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<td>University of Kentucky</td>
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### 103. * - Detection of species using eDNA in high elevation habitats in the Sierra Nevada in Sequoia-
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<tr>
<td>104. - Effect of Plastic Microbeads in Two Face Washes on Zebrafish Reproductive Success</td>
<td>Autumn Holley</td>
<td>Indigo Thoman</td>
<td>Tracy Livingston</td>
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<td>105. - Accessing the Direct Toxicity of the Plant Volatile Indole on Herbivores</td>
<td>Rakhi Patel</td>
<td>Abhinav Maurya</td>
<td>Christopher Frost</td>
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<td>106. * - Honeysuckle leaf blight increases leaf loss in Amur honeysuckle</td>
<td>Natalie Holsclaw</td>
<td>Allison Jones</td>
<td>Richard Boyce</td>
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<td>107. - Ecosystem functional consequences of top predator amphibian mortality due to the invasive shrub, Lonicera maackii</td>
<td>Josey Berta</td>
<td>Cy Mott</td>
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<tr>
<td>108. * - Elevated Resistance to AITC in Wild Bacterial Endophytes of Arabidopsis thaliana</td>
<td>Yohannes Amsalu</td>
<td>Matalyn Shealy</td>
<td>Esther Abiara</td>
<td>Brian Traw</td>
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<tr>
<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>
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</table>
111. * - Trophic effects of intraspecific body size variation among exploitative and interference competitors

First Author
Renae Steinberger
Eastern Kentucky University

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

First Author
Maria Shields
Co-author
Grace Freundlich
Co-author
Christopher Frost
University of Louisville
University of Louisville
University of Louisville

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

First Author
Makenna Thibodeaux
Co-author
Chris Frost
University of Louisville
University of Louisville

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

First Author
Austin Farson
Co-author
Cy Mott
Co-author
Howard Whiteman
Eastern Kentucky University
Eastern Kentucky University
Murray State University

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

First Author
Alex Woolen
Co-author
Howard Whiteman
Murray State University
Murray State University

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

First Author
Jedidiah Nixon
Co-author
Keith Philips
Western Kentucky University
Western Kentucky University

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

First Author
Indigo Thoman
### Engineering - Poster Presentations

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

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

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<td>Charles O'Connell</td>
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### Environmental Science - Poster Presentations

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

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

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

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

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### 125. - The Kentucky Forecasting System

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<td>Eric Rappin</td>
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### 126. - Evaluation of gluconic acid for the control of Nosema ceranae, a microsporidian infecting honey bees, *Apis mellifera*

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

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

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

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

First Author
Steven Collett
Murray State University

Co-author
Philip Silva
USDA-ARS

Co-author
Anna Wilkin
USDA-ARS

---

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

**Geography - Poster Presentations**


First Author
Josh Durkee
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Co-author
Tori Murley
ECTC

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

First Author
Logan Twohey
University of Louisville

Co-author
Jason Naylor
University of Louisville

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

First Author
Caitlin Mullins
Kentucky State University


First Author
Jarod Jones
Kentucky State University

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

First Author
Megan Paule
Murray State University

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

First Author
Ariel Smith
Kentucky State University

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

First Author
Marie White
Murray State University

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

First Author
Constance Brown
Northern Kentucky University

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

First Author
Colton Sanders
Murray State University

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

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

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

**First Author**  
Aubrey Melton  
*Berea College*

**Co-author**  
Renee Donahue  
*University of Kentucky*

**Co-author**  
Marlene Starr  
*University of Kentucky*

**Co-author**  
Ahmed Abdel-Latif  
*University of Kentucky*

**University**  
*Western Kentucky University*

**Research Center**  
*Saha Cardiovascular Research Center*

**Program Area**  
*Nutritional Sciences and Pharmacology*

### 143. * - Glutamate-Induced Apoptosis on Olfactory Neuroepithelial Progenitors Derived from Bipolar and Non-Bipolar Subjects

**First Author**  
Kristen Miller  
*Western Kentucky University*

**Co-author**  
Yonglin Gao  
*University of Louisville*

**Co-author**  
Rifaat El-Mallakh  
*University of Louisville*

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*University of Kentucky*

**School of Medicine**  
*School of Medicine*

### 144. * - Relationship between boneless meat yield and the size of Asian carp

**First Author**  
Kaitlyn Sudd  
*Kentucky State University*

### 145. * - Parasite load as an indicator for zoonotic disease prevalence in feral cats versus shelter cats

**First Author**  
Nicole Creeden  
*Murray State University*

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

**First Author**  
Jaden Johnson  
*Berea College*

**Co-author**  
Louisa Summers  
*Berea College*

**Co-author**  
Glendy Pineda  
*Berea College*

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

**First Author**  
Changzheng Wang  
*Kentucky State University*

**Co-author**  
Lingyu Huang  
*Kentucky State University*
## 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

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<th>First Author</th>
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<tr>
<td>Riley James</td>
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<td>Jonathan Schneider</td>
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<td>Rem Brands</td>
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150. * - L-Serine Reduces Reactive Oxygen Species Yield in Cisplatin Treated Zebrafish Utricles

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

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

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

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<td>Frederick Bebe</td>
<td>Shasa Hu</td>
<td>Tony Brown</td>
<td>Orien Tulp</td>
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<td>Kentucky State University</td>
<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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</table>
155. * - The Health and Economic Impact of the Pinnacle Trails in a Kentucky Trail Town

First Author  
Glendy Pineda  
Berea College

Co-author  
Louisa Summers  
Berea College

Co-author  
Jaden Johnson  
Berea College

156. * - Vitreous Syneresis in the Human Eye

First Author  
Meg Glenn  
KBRIN (UofL)

Co-author  
Douglas Borchman  
University of Louisville

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

Mathematics - Poster Presentations

157. - Investigating Tire Tracks to Determine a Vehicles Direction

First Author  
Richard Cyrus  
Morehead State

University

158. - Predictive MLS Soccer Ratings

First Author  
Taylor Ray  
Morehead State

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

Microbiology - Poster Presentations

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

First Author  
Harrison Gover  
Western Kentucky

University

Co-author  
Claire Rinehart  
Western Kentucky

University

Co-author  
Anmol Sandhu  
Western Kentucky

University

Co-author  
Sahil Chhabra  
Western Kentucky

University

Co-author  
Samuel Chang  
Western Kentucky

University

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

First Author  
Samuel Chang  
Western Kentucky

University
<table>
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<tr>
<th>Topic</th>
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<th>institutions</th>
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<tr>
<td>161. - Characterization of Mycobacteriophage MooMoo</td>
<td>Amanda Staples, Rodney A. King</td>
<td>Western Kentucky University, Western Kentucky University</td>
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<tr>
<td>162. * - Clostridium isolate growth in a zinc-limited environment</td>
<td>Kamila Nurmakova, Christopher Lopez, Eric Skaar</td>
<td>Berea College, Vanderbilt University, Vanderbilt University Medical Center</td>
</tr>
<tr>
<td>163. * - Effect of Growth Temperature on Mycoplasma iowae Pathogenicity</td>
<td>Christopher Frazier, Brittany Boyken, Rachel Pritchard</td>
<td>Kentucky Wesleyan College, Kentucky Wesleyan College</td>
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<td>164. * - Immunity Repressor Gene Regional Difference May Control Gene Expression of Lytic and Lysogenic Life Cycles</td>
<td>Sahil Chhabra, Harrison Gover, Samuel Chang, Anmol Sandhu, Claire Rinehart</td>
<td>Western Kentucky University, Western Kentucky University, Western Kentucky University</td>
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<td>165. - Role of tRNA modifications in the regulation of pseudohyphal growth in yeast</td>
<td>Kaylee Fox, John Carmen</td>
<td>Northern Kentucky University, Northern Kentucky University</td>
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<td>166. * - Ruin Genome</td>
<td>Anmol Sandhu</td>
<td>WKU</td>
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<td>167. - The House Sparrow as a Better Model for the Human Gut Microbiome</td>
<td>Joshua Nowacki, Jordan Stacy</td>
<td>KBRIN</td>
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<td><strong>168. * - Contemporaneous Ground-Based Observations of Blazars Observed with NASA's K2 Mission</strong></td>
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<td><strong>First Author</strong></td>
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<td>Zoe Ward</td>
<td>Michael Carini</td>
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<td>Physics and Astronomy</td>
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<td><strong>169. * - Development of a LabView Controlled Rotational Support System for the Dual Radiation Rotating Scattering Mask</strong></td>
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<td>Devon Loomis</td>
<td>Alexander Barzilov</td>
<td>Lawrence Madriaga</td>
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<td>Western Kentucky</td>
<td>University of Nevada, Las Vegas</td>
<td>Western Kentucky University</td>
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<td><strong>170. * - Electrochemical Desulfurization and Electroactivity of Molybdenum Disulfide (MoS2) Nanocatalysts on Reduced Graphene</strong></td>
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<td>Taylor Robinson</td>
<td>Jacob Dobler</td>
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<td><strong>171. * - Engineered Nanocomposite Materials Properties through Embedding of Smaller Nanoparticles in a Polymer Matrix</strong></td>
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<td>Alex Henson</td>
<td>Sanju Gupta</td>
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<td>Alexander Banaszak</td>
<td>Sanju Gupta</td>
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<td><strong>173. * - Graphene-Polymer Thin Film Composite Membranes as Efficient and Anti-fouling Membranes for Water Purification</strong></td>
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<td><strong>First Author</strong></td>
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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

First Author: Jacob Dobler
Co-author: Taylor Robinson
Western Kentucky University: Western Kentucky University

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

First Author: Daniela Olivera Velarde
Co-author: Danielle Schaper
University of Kentucky: University of Kentucky

176. * - Investigating the Efficacy of Histotripsy on Drug Delivery

First Author: Heather Thompson
Berea College: St. Olaf College

177. * - Microstructure and Properties of Layered Transition Metal Carbides (Ti3C2Tx) MXenes Phases

First Author: Wyatt Ringo
Western Kentucky University: Western Kentucky University

178. * - Phase transitions in charged black holes

First Author: Emily Frame
Northern Kentucky University: Northern Kentucky University

179. * - Photon Simulation Studies for the Dark Energy Science Collaboration (DESC) at LSST (Large Synoptic Survey Telescope)

First Author: Sean Lawless
Bellarmine University: Bellarmine University

180. * - Robotics with Humanoid Robot NAO and Hexapod (Robotic Spider)

First Author: Carlos Galindo
Bellarmine University: Bellarmine University
181. * - Self-Assembly of Spheres on a Cone Surface
First Author
Talha Rehman
Berea College

182. * - Systematic Study of the Effect of Incorporation of Carbon Nanotubes into GexSe1-x Glass System
First Author
John Adamick
Northern Kentucky University
Co-author
John Rademacher
Northern Kentucky University
Co-author
Wayne Bresser
Northern Kentucky University
Co-author
Chari Ramkumar
Northern Kentucky University

183. * - XMM-Newton Observations of the Galactic Supernova Remnants G5.9+3.1 and G32.4+0.1
First Author
Lori Porter
Craft Academy
Co-author
Thomas Pannuti
Morehead State University

184. - Time series analysis of the rapid optical variability observed in Blazars with NASA’s K2 Mission.
First Author
Kennedy Pendleton
2001
Co-author
Michael Carini
Department of Physics and Astronomy
Western Kentucky University

185. - Procedure improvement for FAPbI3 perovskite solar cells
First Author
Valeria Rosa Rocha
Berea College
Co-author
Somin Park
University of Kentucky

186. - Measurements of the entanglement of quantum of lights due to spontaneous parametric down conversion
First Author
Eli Prater
Berea College
Co-author
Martin Veillette
Berea College
Co-author
Brian Leist
Berea College
Co-author
Mothi Ghimire
Berea College

Friday, November 2, 2018 3:00pm - 6:00pm
Physiology and Biochemistry - Poster Presentations

187. * - A functional module for a response to low nutrients in Arabidopsis
First Author
Muntathar Alshimary
Berea College
Co-author
DeQuantarius Speed
University of Chicago
Co-author
Jean Greenberg
University of Chicago

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

First Author: Imelda Saintilma
Co-author: Jeremy Rotty
Berea College: Uniformed Services University of the Health Sciences

190. * - Disruption of choline acetyltransferase (ChAT) by congenital mutations: Screening potential therapeutic leads

First Author: Abigail Whitaker
Co-author: David Rodgers
Berea College: University of Kentucky

191. * - Dose-dependent induction of circulating SAA, and pulmonary inflammation after ozone exposure: Alzheimer' Disease Link

First Author: Helina Asrat
Co-author: Michelle Erickson
Berea College: US Department of Veterans Affairs

192. * - Effects of TEA and 4-AP on Firing Frequency of Proprioceptive Neurons in Crustaceans

First Author: Emma Higgins
University of Kentucky: Allison Lane, Alexandra Stanback, Maddie Stanback, Bernardo Aguzzoli, Robin Cooper
University of Kentucky: University of Kentucky

193. * - Mechanism of quinolone resistance in Escherichia coli type II topoisomerases

First Author: Nyasha Gombami
Berea College: Alexandria Oviatt, Aaron Silverstein, Bennett Collis, Bharath Chithrala
Vanderbilt University: Vanderbilt University, Medical Center

194. - P. gingivalis infection debilitates anti-viral immune responses in gingival epithelial cells
195. * - Pharmacological identification of cholinergic receptor subtypes in modulation of neural circuits in D. melanogaster

First Author
Ashley Cravens
Bellarmine University

Co-author
Diane Price
University of Louisville

Co-author
Juhi Bagaitkar
University of Louisville

Co-author
Richard Lamont
University of Louisville

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

First Author
Umair Bhutto
University of Kentucky

Co-author
Eashwar Somasundaram
University of Kentucky

Co-author
Robin Cooper
University of Kentucky

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
<table>
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<tr>
<th>Poster Number</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author(s)</th>
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<tbody>
<tr>
<td>200. *</td>
<td>Appraisal: The Effect of Electronic Media on Decision Making</td>
<td>Yabsira Ayele</td>
<td>Berea College</td>
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<td>201. *</td>
<td>Sustaining Attention: The Effects of Fidgeting and Break type</td>
<td>briana beckler</td>
<td>Berea College</td>
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<td>202. *</td>
<td>User Acceptance of Automated Vehicles</td>
<td>Vanessa Jones</td>
<td>Morehead State University</td>
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<td>Co-author: Emily Lush</td>
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<td>Co-author: Gregory Corso</td>
<td>Morehead State University</td>
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<td>203. *</td>
<td>The independence of implicit and explicit sequence learning</td>
<td>Allison Ludwig</td>
<td>Morehead State University</td>
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<td>Co-author: Brandi Carey</td>
<td>Morehead State University</td>
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<td>Co-author: Gilbert Remillard</td>
<td>Morehead State University</td>
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<td>204. *</td>
<td>Amazon Mechanical Turk Responses vs. Student Responses</td>
<td>Emily Lush</td>
<td>Morehead State University</td>
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<td>Co-author: Gregory Corso</td>
<td>Morehead State University</td>
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<td>205.</td>
<td>Emphasis and &quot;only&quot; influence sentence interpretation</td>
<td>Victoria Nash</td>
<td>Morehead State University</td>
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<td>Co-author: David Potter</td>
<td>Morehead State University</td>
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<td>Co-author: Katy Carlson</td>
<td>Morehead State University</td>
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</tbody>
</table>
**Science Education - Poster Presentations**

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

*First Author*
Olivia Santangelo
*Western Kentucky University*

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

*First Author*
Shelby Diener
*Northern Kentucky University*

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**Zoology - Poster Presentations**

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

*First Author*
Cassondra Perkins
*Kentucky Wesleyan College*

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

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

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

*First Author*
Sydni Anderson
*Murray State University*

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

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

*First Author*
Maddie Stanback
*University of Kentucky*

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

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

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

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

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

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

*Co-author*
Heberle
*University of Kentucky*

*Co-author*
Allison Lane
*University of Kentucky*

*Co-author*
Bennett Collis
*University of Kentucky*

*Co-author*
Bhavita Srinivas
*University of Kentucky*

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

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

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

First Author
Jonathan Eisenhour
Morehead State
University

Co-author
Matthew Fossett
Morehead State
University

Co-author
David Eisenhour
Morehead State
University

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

First Author
Paul Cupp Jr
Eastern Kentucky
University

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

First Author
Jordan Danflous
Kentucky Wesleyan
College

Co-author
Shannon Finerty
Kentucky Wesleyan
College

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

First Author
Sarah Tabor
Berea College

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

Free Shuttles to Corvette Museum begin at 6:30

"Behind the Scenes at the Corvette Cave-In"

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

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

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

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

Featured Speakers

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

Katie Ellison
Marketing & Communications Manager
National Corvette Museum & NCM Motorsports Park

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

Ric Federico, PG, CHMM, HEM
EnSafe Business Lead and Branch Manager

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

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

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

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

Mr. Smith is a Geotechnical Engineer with more than 20 years of experience receiving both his B.S. and M.S. degrees from the University of Tennessee Knoxville in 1992 and 1994 respectively.
Saturday, November 3, 2018  7:00am - 4:00pm

**Registration Open**

Third Floor, Downing Student Union

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

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

First Author
George Antonious
Kentucky State University

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

First Author
Keerthi Appala
Western Kentucky University

Co-author
Eric Conte
Western Kentucky University

Co-author
John Kasumba
Western Kentucky University

Co-author
Getahun Agga
USDA

Co-author
John H Loughrin
USDA

Co-author
Anne Carlisle
Western Kentucky University

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

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
Jill Fisk
Kentucky State University

Co-author
Krystin Moody
Kentucky State University

Co-author
Katherine Buckler
Kentucky State University

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

First Author
Elmer Gray
Western Kentucky University

Co-author
Sai Pavan Adigarla
Western Kentucky University

Co-author
Sravya Patil Bagli
Western Kentucky University

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

First Author
Quinn Heist
Kentucky State University

Co-author
George Antonious
Kentucky State University

Co-author
Eric Turley
Kentucky State University
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<th>Time</th>
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<tr>
<td>09:45</td>
<td>Do Online Shoppers Have Knowledge on Community Supported Agriculture Programs?</td>
<td>Wyatt Lucas</td>
<td>Western Kentucky</td>
<td>University, Dept. of Agriculture</td>
<td></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>Kentucky State</td>
<td>University</td>
<td>Avinash Tope</td>
<td>Kentucky State</td>
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<tr>
<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>Kentucky State</td>
<td>University</td>
<td>Kentucky State</td>
<td>University</td>
<td>Kentucky State</td>
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<tr>
<td>10:45</td>
<td>Assessing the Use of Biochar for Immobilization of Trace Elements in Sewage Sludge</td>
<td>Lusekelo Nkuwi</td>
<td>Kentucky State</td>
<td>University</td>
<td>George Antonious</td>
<td>Eric Turley</td>
<td>Quinn Quinn Heist</td>
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<tr>
<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>Kentucky State</td>
<td>University</td>
<td>Kenneth Semmens</td>
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Kentucky State University
Co-author
Yogendra Upadhyaya
Kentucky State University

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

First Author
Nanaaishat umar
Kentucky State University
Co-author
Siddhartha Dasgupta
Kentucky State University
Co-author
Richard Bryant
Kentucky State University

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

Chemistry: Analytical/Physical - Oral Presentations
DSU 3007
Section meeting follows talks at 10:30

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

First Author
Tara Croft
Murray State University
Co-author
Bikram Subedi
Murray State University

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

First Author
Brandon VanNess
Morehead State University
Co-author
Melanie West
Morehead State University
Co-author
Sarah Little
Morehead State University
Co-author
Sarah Little
Morehead State University

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

First Author
Corbin Arrasmith
Northern Kentucky University

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

First Author
Adam Martin
Student
Northern Kentucky University
Co-author
Bommanna
Professor
Northern Kentucky University
Co-author
Loganathan
Professor
Northern Kentucky University
Co-author
Susan Hendricks
Professor
Northern Kentucky University

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

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

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


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

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

First Author
Lovence Ainembabazi
Western Kentucky University

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

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

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

Ecology - Oral Presentations

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

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

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

First Author
Jason Bried
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<tr>
<td>08:30</td>
<td>Verification of a Vegetation Index of Biotic Integrity (KY-VIBI) and a Rapid Wetland Assessment (KY-WRAM) in western KY</td>
<td>Elizabeth Malloy</td>
<td>Stephen Richter</td>
<td>David Brown</td>
<td>Kelly Watson</td>
<td>Eastern Kentucky Division of Water</td>
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<td>08:45</td>
<td>Does increasing food-web stability mediate the effects of cattle grazing in aquatic ecosystems?</td>
<td>Hannah Moore</td>
<td>Howard Whiteman</td>
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<td>09:00</td>
<td>Population Dynamics and Foraging Ecology of Copperheads in the Red River Gorge, KY.</td>
<td>Josh Hendricks</td>
<td>Jesse Sockman</td>
<td>Kyle Muennoch</td>
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<td>09:15</td>
<td>The Kentucky Arboreal Ant Survey: ant communities among forests and urban greenspaces</td>
<td>Daniella Prince</td>
<td>Benjamin Adams</td>
<td>Stephen Yanoviak</td>
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<td>Natural History Museum of Los Angeles County</td>
<td>Department of Biology, University of Louisville</td>
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<td>Soil function assessment of urban prairie restoration.</td>
<td>Sarah Benton</td>
<td>Sarah Emery</td>
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<td>Beaver-mediated restoration in a degraded desert ecosystem</td>
<td>Melody Feden</td>
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<td>10:15</td>
<td>Varying duration periods of the herbivore-associated cue differentially affect fitness in P. lunatus and C. annuum</td>
<td>Grace Freundlich</td>
<td>Liana Greenburg</td>
<td>Sarah Bissmeyer</td>
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<td>10:30</td>
<td>Assessment of Native Pollinator Habitat Planting Densities and Site Preparation Treatments on Abandoned Agriculture Land</td>
<td>Louis Ross</td>
<td>Richard Cristan</td>
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<td>New methods utilized to deter elephant (Loxodonta Africa) from crop raiding in the Kasigau Wildlife Corridor, Kenya</td>
<td>R. Lynn Von Hagen</td>
<td>Bruce Schulte</td>
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<td>11:00</td>
<td>2018 State of the Resource: Mammoth Cave National Park</td>
<td>Autumn Turner</td>
<td>Lee Anne Bledsoe</td>
<td>Chris Groves</td>
<td>Cate Webb</td>
<td>Rickard Toomey III</td>
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<td>11:15</td>
<td>Impact of season, game fencing, moon phase, and vegetation on activity overlap of ungulate species in Namibia</td>
<td>Emma Reasoner</td>
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<td>08:00</td>
<td>Thermoelectric Properties of Graphene-Carbon Nanotube Aerogels as 'Organic' Energy Harvesters</td>
<td>Romney Meek</td>
<td>Sanju Gupta</td>
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<td>08:15</td>
<td>High Amplitude variable Active Galactic Nuclei</td>
<td>Dirk Grupe</td>
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<td>08:30</td>
<td>Citizen CATE: citizen scientist observations of 2017 total solar eclipse</td>
<td>Richard Gelderman</td>
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<td>Nanosecond pulsed laser deposition of Pb thin film on Si (111)</td>
<td>Devon Loomis</td>
<td>Bektur Abdisatarov</td>
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<td>Mikhail Khenner</td>
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<td>09:00</td>
<td>NGC 1566: A Temperamental Changing Look AGN</td>
<td>Rebecca Mikula</td>
<td>Dirk Grupe</td>
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<td>09:15</td>
<td>Fabrication of Aluminum Nanoparticles via Pulsed Laser Ablation for Bacterial Deactivation</td>
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</table>
09:30 * - Computer Simulation of Atomic-Scale Defects in Intermetallic Compounds

First Author
Christopher Weaver
Northern Kentucky University

Co-author
Matthew Zacate
Northern Kentucky University

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

First Author
Jesse Tapp
Murray State University

Co-author
Dylan Weaver
Murray State University

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

First Author
Kemo Jammeh
Berea College

Co-author
Sylwia Ptasinska
University of Notre Dame

10:30 * - Blue Light and UV Blocking Lenses

First Author
Marissa Walls
Morehead State University

Co-author
Jennifer Birriel
Morehead State University

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

First Author
Casey Christian
Morehead State University

Co-author
Ignacio Birriel
Morehead State University

Co-author
Michael Gossman
Tri-State Regional Cancer Center

11:00 - Modular Bootstrap Bounds at Finite Central Charge

First Author
Casey Christian
Morehead State University

Co-author
Joshua Qualls
Morehead State University

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

First Author
Tyler LaBree
Northern Kentucky
### 11:30 * - Analyses of Jet measurements in Relativistic Heavy Ion Collisions

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<td>Ricardo Santos</td>
<td>Christine Nattrass</td>
<td>Soren Sorensen</td>
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<td>James Neuhaus</td>
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<td>Austin Schmier</td>
<td>Jerrica Wilson</td>
<td>Mariah McCreary</td>
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### 11:45 * - Nylon or Steel?

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<td>Tanner Tackett</td>
<td>Ignacio Birriel</td>
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### 13:15 * - X-ray Diffractometry and Compression of Materials

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<td>Hayden Johnson</td>
<td>Jacob Hall</td>
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### 13:30 - TESS: Initial Results and Follow-Up Work at the University of Louisville

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<td>Garrison Turner</td>
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### 13:45 - A look at Swift observations of the highly variable Active Galactic Nucleus RX J0148-2758

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### 14:00 - Long term X-Ray and UV monitoring of the Narrow Line Seyfert 1 Galaxy, RXJ2217.9-5941

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<td>Alanna Cavins</td>
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### 14:15 - An XMM-Newton Observation of the Galactic Supernova Remnant CTB 1 (G116.9+0.2)

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<td>Thomas Pannuti</td>
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14:30 - Night Sky Quality at Mammoth Cave National Park

First Author: Chris Groves
Co-author: Bobby Carson
Western Kentucky University

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 Observatory

Co-author: Terri Perrino
Thomas More College

Co-author: Sierra O'Bryan
Thomas More College

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

First Author: Zachary Pater
Morehead State University

Co-author: Jennifer Birriel
Morehead State University

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

Physiology and Biochemistry - Oral Presentations
DSU 2123 Section meeting follows talks at 10:00

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

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
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

Co-author
Julia Carter
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
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<td>08:00</td>
<td>Seasonal variation in the communication system of the field cricket</td>
<td>Oliver Beckers</td>
<td>Nicholas Norman</td>
<td>Jacob Pease</td>
<td>Kai Murphey</td>
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<td>Gryllus rubens (Orthoptera: Gryllinae)</td>
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<td>08:15</td>
<td>The kinematics of envenomation by the yellow stingray, Urobatis</td>
<td>Steve Huskey</td>
<td>Ruth Hughes</td>
<td>Kristen Pedersen</td>
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<td>08:30</td>
<td>Effect of sleep loss on cognitive function and baseline plasma</td>
<td>Brett Hodinka</td>
<td>Noah Ashley</td>
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<td></td>
<td>corticosterone levels in an arctic-breeding songbird</td>
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<td>Western Kentucky</td>
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<td>University</td>
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<tr>
<td>08:45</td>
<td>New Discoveries of Relationships in Spider Beetles and Related</td>
<td>Olivia Gearner</td>
<td>Keith Philips</td>
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<td>Families Using Molecular Phylogenetics</td>
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<td>Western Kentucky</td>
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<td>University</td>
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<tr>
<td>09:00</td>
<td>Heritable Behavioral Tendencies of the African Lion</td>
<td>Natalie Mercer</td>
<td>Milan Lstibářek</td>
<td>Jan Stejskal</td>
<td>Shannon Finerty</td>
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<td>Czech University of Life</td>
<td>Czech University</td>
<td>Kentucky Wesleyan</td>
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<td>Sciences Prague</td>
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<td>College</td>
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<tr>
<td>09:15</td>
<td>Courtship behavior, communication, and copulation in Tigrosa</td>
<td>Samuel White</td>
<td></td>
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<tr>
<td></td>
<td>annexa</td>
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</table>
WITHDRAWN - Genealogical history and admixture proportion of tiger salamanders in Black Lake, Mono County, California.

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

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

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

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

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<th>First Author</th>
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<tbody>
<tr>
<td>Kiana Mattingly</td>
<td>Robert Day</td>
<td>Joann Lau</td>
<td>David Robinson</td>
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<td>Bellarmine University</td>
<td>Bellarmine University</td>
<td>TLH</td>
<td>Bellarmine University</td>
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</table>

11:00 - A Statistical Approach to Defining the Typical Herbarium

<table>
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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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</table>

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

**DSU 3018**

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](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

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### Chemistry: Organic/Inorganic - Oral Presentations

DSU 3007 Section meeting follows talks at 3:00
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
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</thead>
<tbody>
<tr>
<td>13:15</td>
<td>Synthesis of iron-nickel heterodinuclear metal-organic coordination polymers.</td>
<td>Junhao Huang</td>
<td>Western Kentucky University</td>
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<tr>
<td>13:30</td>
<td>Heteroaryl Isocoumarins as Potential Aromatase Inhibitors: Substrate Scope Investigation</td>
<td>Quynh Nguyen</td>
<td>Northern Kentucky University</td>
<td>William Renzenbrink</td>
<td>Northern Kentucky University</td>
<td>Stephen Ramirez</td>
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<td>Northern Kentucky University</td>
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<td>13:45</td>
<td>Discovery of New Heteroaryl Aromatase Inhibitors through Computer Modeling</td>
<td>Ayanav Roy</td>
<td>Northern Kentucky University</td>
<td>Matthew Neiser</td>
<td>Northern Kentucky University</td>
<td>Andrew Quillen</td>
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<td>WITHDRAWN - Pyridine N-Oxide Assisted Activation of Alkynes by Visible Light Photo-Redox Catalysis</td>
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<tr>
<td>14:15</td>
<td>Synthesis and structures of a 3D porous metal-organic framework [Fe(bpc)]</td>
<td>Cristina Throckmorton</td>
<td>Western Kentucky University</td>
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<tr>
<td>14:30</td>
<td>Synthesis and Biological Evaluation of Heteroaryl Ketones</td>
<td>Stephen Ramirez</td>
<td>Northern Kentucky University</td>
<td>Quynh Nguyen</td>
<td>Northern Kentucky University</td>
<td>Alexander Rosen</td>
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<td>Matthew Neiser</td>
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<tr>
<td>14:45</td>
<td>Synthesizing Cleavable Antibody Drug Conjugates via Solid Phase Organic Synthesis</td>
<td>Michael James</td>
<td>Berea College</td>
<td>Levi Blevins</td>
<td>Berea College</td>
<td>Ominica Crockett</td>
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<td>Elizabeth Thomas</td>
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<td>University of Pikeville</td>
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</table>
### Geography - Oral Presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>13:15</td>
<td>Inadvertent local climate modification at a regional university in Kentucky, USA</td>
<td>Donald Yow, Matthew Ruggless</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>Tori Farrow, Jeremy Sandifer</td>
</tr>
<tr>
<td>13:45</td>
<td>Analyzing sanitary sewer overflow event response to storm frequency</td>
<td>Christopher Andrew, 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, Buddhi Gyawali</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, Buddhi Gyawali, Tilak Shrestha</td>
</tr>
<tr>
<td>14:30</td>
<td>How economic geography might have saved the Mammoth Cave Mushroom Company</td>
<td>Katie Algeo, Western Kentucky University</td>
</tr>
<tr>
<td>14:45</td>
<td>Observing Boundary Layer Heights over Mountainous Terrain Using Aircraft Vertical Profiles</td>
<td>First Author</td>
</tr>
</tbody>
</table>
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  
DSU 3005  
Section meeting follows talks at 2:30

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

First Author  
Ermek Belekov  
Western Kentucky University Physics and Astronomy Department

Co-author  
Lauren Cooper  
Western Kentucky University Physics and Astronomy Department

Co-author  
Khomidkhodzha Kholikov  
Western Kentucky University Physics and Astronomy Department

Co-author  
Ilhom Saidjafarzoda  
Western Kentucky University Physics and Astronomy Department
14:15 - Effects of alpha & beta-adrenergic receptor blockade upon inflammatory responses & microglia activation to sleep loss.

First Author
Nicholas Wheeler
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

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

First Author

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
Western Kentucky University

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
DSU 3006
Section meeting follows talks at 2:45

13:15 - Death Knell for le Grand K.
13:30 - Why do students leave quantitative STEM majors?

First Author
Hannah Brewer
Morehead State University

Co-author
Wilson Gonzalez-Espada
Morehead State University

Co-author
Robert Boram
Morehead State University

13:45 - Evaluating the effectiveness of a concept-map oriented curriculum in a flipped chemistry classroom

First Author
Bharath Kumar
Midway University

14:00 - PowerPoint Reimagined: Enhancing Lessons to Guide Reasoning, Foster Collaboration, and Promote Active Learning

First Author
Kevin Revell
Murray State University

14:15 - Science Seminar Series of WKCTC: Going Strong for 33 Years

First Author
Karen Hlinka
Kentucky Community and Technical College System

14:30 - Middle School Investigation of Global Climate Change

First Author
Shira Rabin
University of Louisville

Co-author
Bennet Kolb
Jefferson County Public Schools

Co-author
Bronwyn Williams
University of Louisville

Co-author
Adam Stieglitz
University of Louisville

Co-author
Mary Brydon-Miller
University of Louisville

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

Social Sciences: Anthropology/Sociology/Psychology
DSU 2113
Section meetings to follow talks
<table>
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<tbody>
<tr>
<td>13:15</td>
<td>Haptic Distance Ratios: The Geometry of Space within the Hands</td>
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<tr>
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<td>First Author: Sydney Wheeler</td>
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<td>Co-author: Farley Norman</td>
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<td>Co-author: Lauren Pederson</td>
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<td>Co-author: Catherine Dowell</td>
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<tbody>
<tr>
<td>13:30</td>
<td>Water Deposits Connection to Decreased Evidence of Burial Practices in Iron Age Britain and Ireland.</td>
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<tr>
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<td>First Author: Amanda Lilly</td>
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<tr>
<td></td>
<td>Co-author: Farley Norman</td>
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<td>Co-author: Lauren Pederson</td>
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<td>Co-author: Catherine Dowell</td>
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<td>Northern Kentucky University</td>
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<th>Time</th>
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<tbody>
<tr>
<td>1:45</td>
<td>Five minute presentations</td>
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<td>First Author: Poster Presenters</td>
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</table>

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

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

Ogden College Hall Room 1007

This workshop is open to any registered KAS meeting participant.

**Quick links**

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