2018 Annual Meeting Program November 2-3, 2018

Western Kentucky University

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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!

Friday, November 2, 2018 9:00am - 11:00am
KAS Governing Board Meeting
Downing Student Union 3029

Friday, November 2, 2018 9:30am - 11:30am
Kentucky Organization of Field Stations meeting
Downing Student Union 3004

Friday, November 2, 2018 11:30am - 5:00pm
Registration Open
Third Floor, Downing Student Union
Check-in will also be available at the National Corvette Museum after 6:30pm, during the Reception & Plenary.

Friday, November 2, 2018 12:00pm - 2:30pm
Poster Presenters check-in
Third Floor, Downing Student Union
After checking in at Registration, we ask Poster presenters to check in at the Posters table for further instructions. All posters should be setup by 2:30pm

Friday, November 2, 2018 12:00pm - 1:00pm
Science Policy & Advocacy workshop
Cupola Room (inside Fresh Dining Hall)
What do scientists need to know about public policy? Do you want to advocate for science but aren't sure how to start? This workshop is for everyone – students and faculty - regardless of discipline, who are interested in learning more about the role of science in policy-making and in becoming empowered to be a voice for science. Our colleagues at the American Society for Biochemistry and Molecular Biology will provide practical guidance on how to engage in advocacy initiatives at local, state and national levels.

This event is FULL.

Featured Speakers:
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.
2:15 * - Targeted integration of fluorescent reporters into iPSCs using CRISPR/Cas9

First Author
Chann Han
Berea College

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

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

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

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

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

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

First Author
Nathan Powers
Western Kentucky University

Co-author
Ajay Srivastava
Western Kentucky University

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

First Author
Lesley Golden
Murray State University

Co-author
Gary ZeRuth
Murray State University

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
2:15 - The ThinSat Program: Flight Opportunities and the Future of Small Satellites

First Author
Christopher Coleman
Morehead State University

Co-author
Robert Twiggs
Morehead State University

Co-author
Aaron Zucherman
Morehead State University

Co-author
Jose Garcia
Morehead State University

Co-author
Amin Djamshidpour
Twiggs Space Lab

Co-author
Regan Smith
Virginia Space

Co-author
Hank Voss
Near Space Launch

Co-author
Matt Orvis
Near Space Launch

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

Environmental Science - Oral Presentations

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

2:20 * - 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

First Author  Ed Wilcox  Co-author  Richard Cristan
Kentucky State  Co-author  Kentucky State
University  University

2:45 - Ecosystem Exchange of Carbon Dioxide of a Grazed Pasture in Central Kentucky

First Author  Ian Ries  Co-author  Maheteme
Kentucky State  Co-author  Martin Matisoff
University  University  Kentucky State

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

First Author  Stephen Richter  Co-author  Ken Andries
Eastern Kentucky  Co-author  Martin Matisoff
University  Co-author  Geoffrey Gearnor
University  Co-author  Timothy Hare
University  Co-author  Charles Mason
University  Co-author  Geoffrey Gearnor
University  Co-author  Timothy Hare
University  Co-author  Charles Mason
University

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

Geology - Oral Presentations

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

First Author  Chelsey Kipper  Co-author  Patricia Kambesis
Western Kentucky  Co-author  Jason Polk
University  Western Kentucky  University

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

First Author  Mitchell Grothaus  Co-author  Robert Grigsby
Morehead State  Co-author  Geoffrey Gearnor
University  Co-author  Timothy Hare
University  Co-author  Charles Mason
University

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

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

First Author
Shelby Bowden
Western Kentucky University

Co-author
Nahid Gani
Western Kentucky University

Co-author
Matthijs Van Soest
Arizona State University

Co-author
Royhan Gani
Western Kentucky University

Co-author
Paul O’Sullivan
GeoSeps Services LLC

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

First Author
Michael Arthur
Western Kentucky University

Co-author
M. Royhan Gani
Western Kentucky University

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

First Author
Madison Howard
Morehead State University

Co-author
Marianne Peterson
St. Olaf

Co-author
Prabhakar Misra
Howard University

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

First Author
Patricia Kambesis
Western Kentucky University

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

First Author
Jacob Grigsby
Western Kentucky University

Co-author
Nahid Gani
Institution

Co-author
Shelby Bowden
Institution

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

Microbiology - Oral Presentations

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

First Author
Brittany Boyken
Kentucky Wesleyan College

Co-author
Justin Fraizer
Kentucky Wesleyan

Co-author
Rachel Pritchard
Kentucky Wesleyan

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

Co-author
Joseph Mester Ph.D.
Northern Kentucky

Co-author
Alan Cohen M.D.
Northern Kentucky

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

2:15 - UV Treatment of Environmental Fungi

First Author
Ashley Wentworth
Northern Kentucky University

Co-author
Joseph Mester
Northern Kentucky

Co-author
Colin Hartman
Northern Kentucky

Co-author
Alan Cohen
Northern Kentucky

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

Co-author
Valerie Peters
Eastern Kentucky

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.

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

**Poster Session and Social Hour**

* Asterisk* denotes student research competition

**Downing Student Union,**

Second & Third floors

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

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

**Agricultural Science - Poster Presentations**

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

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WITHDRAWN - Applicability of waste-reared black soldier fly larvae as an ingredient in the diet of Nile tilapia


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4. * - Assessing Soil Quality Indicators in No-Till and Conventional Tillage Systems: Study Case: IL, IN, and KY

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<td>Riley Mabe</td>
<td>Kaeden Mollett</td>
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5. * - Assessing the Rising Plate Meter Method to Determine Forage Production on Organic Dairies

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### 6. * - Comparing Characteristics of Soil under Various Management Conditions in Western Kentucky

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### 7. * - Comparing Soil Properties between Corn and Soybean Conventional Tillage Practices

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

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

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

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

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

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<td>Sarah Forden</td>
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<td>Kyle Hanenberger</td>
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<td>13.</td>
<td>Food Safety Perceptions and Behaviors of Kentucky Farmer Market Consumers</td>
<td>Hanna (John) Khouryieh</td>
<td>Western Kentucky University</td>
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<td>14.</td>
<td>Grafting success of eleven pawpaw cultivars and advanced selections using four grafting methods</td>
<td>Sheri Crabtree</td>
<td>Kentucky State University</td>
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<td>15.</td>
<td>Growth of Pawpaw (Asimina triloba) Seedlings in Two Commercially Available Potting Mixes</td>
<td>Aidan Thompson</td>
<td>Kentucky State University</td>
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<td>16.</td>
<td>Impact of aerobic compost tea on growth of Lactuca sativa</td>
<td>Ella Potts</td>
<td>Murray State University</td>
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<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>Kentucky State University</td>
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<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>
<td>Thomas Webster</td>
<td>Martin Matisoff</td>
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### 20. - Observing Soil Changes Under Common Cropping Practices in Kentucky

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<td>Samantha Peterson</td>
<td>Lin Handayani</td>
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<td>Murray State University</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>
<td>Kirk Pomper</td>
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### 23. - Yield Performance of 'Prime-Ark® 45' and 'Black Magic' Grown Organically in Kentucky

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**Anthropology and Sociology - Poster Presentations**

### 24. - Ethnographic Study of Ohio River Barge Deckhands

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<th>First Author</th>
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</table>
25. - Preliminary Results From 2017 NKU Excavations at the Glacken Site (15BE272), Big Bone Lick State Historic Site

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

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

27. * - Uncovering the Women of Parker Academy

First Author
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Co-author
Lyndsey Mcnabb
Northern Kentucky University

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

Botany - Poster Presentations

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

First Author
Wendy Cecil
Western Kentucky University

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

Cellular and Molecular Biology - Poster Presentations

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

First Author
Anas Gondal
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Co-author
Hasan Salim
Western Kentucky University
Co-author
Ajay Srivastava
Western Kentucky University

30. * - Cerebellar gene expression of cabin1

First Author
<table>
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<tr>
<th>Title</th>
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<th>Co-author</th>
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<tr>
<td>31. * - Characterization of a Basement Membrane Associated Protein</td>
<td>Krista Dunn</td>
<td>Dena Weinberger</td>
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<td>Apoorva Vashist</td>
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<td>Carmen Bandy</td>
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<td>32. - Cloning Lectins for the Detection of Flavivirus Nonstructural Protein 1</td>
<td>Aref Ranjbar</td>
<td>Ajay Srivastava</td>
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<td>33. - Cysteine Thiol Directed Chemical Modification of a KCNE1 Protein N-Terminus</td>
<td>Natalie Mercer</td>
<td>Krystal Hamorsky</td>
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<td>Kentucky Wesleyan College</td>
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<td>34. * - Damage to Danio Rerio’s Developing Neuromuscular Junction Could Lead to Expanded Synaptic Plasticity</td>
<td>Diana Schweitzer</td>
<td>Dena Weinberger</td>
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<tr>
<td>35. * - De Novo Prediction of the Tail and Capsid Structure of Mycobacteriophage MooMoo</td>
<td>Alexander Stewart</td>
<td>Claire Rinehart</td>
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<td>36. - Detection of antibiotic resistance genes using engineered zinc finger proteins immobilized on the silane polymer-coated</td>
<td>Jiyoung Shim</td>
<td>Moon-Soo Kim</td>
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<td>37. * - Effect of HER2 expression on NUPL2 protein in cervical cancer cells</td>
<td>Tristan Haight</td>
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<td>38.</td>
<td>Evaluation of Genes that May Mediate Individualization in Spermatogenesis</td>
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<td>Olivia Honaker</td>
<td>Darren Paris</td>
<td>Douglas Harrison</td>
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<th>39.</th>
<th>Examining how the FGF signaling pathway effects gene expression within the pharynx during embryonic development</th>
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<td>Elizabeth Wilke</td>
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<th>40.</th>
<th>Examining the Role that Iroquois Genes Play During Embryonic Development</th>
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<td>Emily Shifley</td>
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<th>41.</th>
<th>Fishing for fertility: Creating a PAM-1 substrate trap to isolate novel fertility-governing proteins</th>
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<td>Chris Trzepacz</td>
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<th>42.</th>
<th>Generation of a transgenic beta cell line for study of Gli3 using CRISPR/Cas9 technology</th>
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<td>Gary ZeRuth</td>
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<th>43.</th>
<th>Generation of transgenic zebrafish line by CRISPR/Cas9 to evaluate pancreas development and function</th>
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<td>LilyAnne Grieve</td>
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<td>44. * - Integrin β1 Promotes Kras-Mutated Lung Cancer Proliferation Via Mapk-Independent 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>
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<td>46. * - Platinum Leaving Ligand Effects on Mammalian Cells</td>
<td>Emily Nole</td>
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<td>47. * - Potential for the green alga Chlamydomonas reinhardtii to degrade lignin</td>
<td>Meg Dillingham</td>
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<td>48. * - Role of Shear Stress on Endothelial Insulin Sensitivity</td>
<td>Areli Medina Hernandez</td>
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<td>49. - Spinal Cord Injury and its effect on Circadian Rhythm</td>
<td>Charles Thaler</td>
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<td>50. * - The Bioinformatics of Mycobacteriophage Drake94</td>
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<td>51. * - The effect of light pollution on immunoresponse and neurogenesis in zebra finches</td>
<td>Andrea Compton</td>
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<td>52. * - The Effects of Acute Sleep Fragmentation on Microglial Cells</td>
<td>Matthew Knerr</td>
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<td>53. * - The effects of oxidative stress on p75NTR signaling in dopaminergic neurons</td>
<td>Kendall Nelson</td>
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<td>54. - The FGF signaling pathway plays an important role regulating gene expression in developing Xenopus laevis embryos</td>
<td>Kelsey Donahue</td>
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<td>55. - The Role of Polarity Genes in Esophageal Adenocarcinoma Metaplasia</td>
<td>Young Koh</td>
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<td>56. * - Therapeutic and toxicity profile of Pt-Mal-LHRH, a target direct chemotherapeutic for triple negative breast cancer.</td>
<td>Adam Gehlhausen</td>
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### Chemistry: Analytical/Physical - Poster Presentations

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<td>57. * - The Chemical Characterization of Kentucky Honeys</td>
<td>Rebecca Jenkins</td>
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<td>58. * - 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. * - Solid Phase Extraction of Tylosin from Cattle Waste With Determination by Liquid Chromatography Mass Spectrometry</td>
<td>Anne Carlisle</td>
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<td>Eric Conte</td>
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<td>John Loughrin</td>
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<td>60. * - Temporal Trend of Illicit and Neuropsychiatric Drug Consumption</td>
<td>Brittney Nelson</td>
<td>Tara Croft</td>
<td>Bikram Subedi</td>
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<td>61. * - 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>
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<td>Marcus</td>
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<td>62. * - 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. * - Purification and Analysis of LHRH using HPLC</td>
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</table>
64. - Detection of Polyions with Pulsed Chronopotentiometry - Screening Antidotes for the Anticoagulants Low Molecular Heparin

First Author
Sean Greer
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First Author
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65. * - Determination of Ochratoxin A in Kentucky Black Walnuts

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

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

First Author
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Co-author
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68. * - Modeling Molecular Relaxation Dynamics for Diatom Clathrates

First Author
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Co-author
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69. * - Protocols for UHF and UCCSD Potential Energy Curves

First Author
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69.5 * - Unraveling Subtle Intermolecular Interactions in Crystals of a Solar Thermal Fuel.

First Author
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Co-author
Kasey Clear
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Co-author
Sebastian Jezowski
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70. - The Effectiveness of Thin Layer Spin Coating Sodium Acetate

First Author
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71. * - Avidin Functionalized Coverslips for Model Membrane Imaging

First Author
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Co-author
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Co-author
Lindsey Miller
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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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Eric Milner
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Friday, November 2, 2018 3:00pm - 6:00pm

Chemistry: Organic/Inorganic - Poster Presentations

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

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Co-author
Shannon Biros
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University of San Diego
Co-author
Jeff Katz
Colby College
Co-author
Kristine Nolin
University of Richmond
Co-author
Ellen Ellen Yezirski
Miami University

74. - Synthesis of Oxacalixarenes from Silyl Protected Precursors

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

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

First Author
Ban Wang
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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
77. * - Synthesis of metal-organic frameworks mimicking carbonic anhydrase enzyme.

**First Author**
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**Co-author**
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UNIVERSITY

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

**First Author**
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University/University
of Kentucky

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

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

**First Author**
Ben Willis
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80. * - Enantioselective Cross Aldol Reactions of Aldehydes

**First Author**
Samantha Bradley
**Co-author**
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81. * - Investigating the Synthesis of LMA-P2

**First Author**
Sarah Little
82. * - Palladium-Catalyzed Heteroarylation Under Microwave Irradiation

First Author
Adrianna Goodwin
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Co-author
Claire Poling
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83. * - Generation and kinetic studies of porphyrin-manganese(IV)-oxo intermediates

First Author
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Co-author
Mike Winchester
Western Kentucky University

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

First Author
Hannah Brooks
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Co-author
Bangbo Yan
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85. * - The Syntheses of Heteroatom-activated Antibiotics

First Author
Kiah Gledhill
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Co-author
Sydney Goff
Kentucky Wesleyan College

Co-author
Kyle Watson
Kentucky Wesleyan College

86. * - Iron Catalyzed Oxidation of Amines to Imines

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

First Author
Levi Blevins
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Co-author
Ominica Crockett
Berea College

88. * - Phenylethynyloxocalixarenes Synthesis

First Author
Jacolby Gardner
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Co-author
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89. * - Synthesis and Mechanism study of Isocoumarin Analogues
90. * - Annulene-Oxacalixarene Hybrids

First Author
Elizabeth Osifalujo
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Co-author
Andrew Quillen
Lili Ma
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91. * - Synthesis and reactivity of platinum(II) anticancer drug analogs with unsymmetrical ligands

First Author
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Co-author
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92. * - Solid Phase Organic Synthesis of an Antibody Conjugate Linker?

First Author
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Co-author
Levi Blevins
Berea College


First Author
Amanda Hansford
Morehead State University

Co-author
Heba Elgazzar
Morehead State University

94. - Encoding and Decoding Messages in Android Applications

First Author
Richard Pike
Western Kentucky University

95. * - Smart Routing Schemes for Dynamic Spectrum Access Network Architectures

First Author
Brian Luciano
University of Kentucky

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

First Author
### Ecology - Poster Presentations

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

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

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<tr>
<td>Jacob Becraft</td>
<td>Amy Braccia</td>
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<tr>
<td>Eastern Kentucky</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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<td>Emily Jones</td>
<td>Joseph Baecher</td>
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#### 100. - The Effects of Salinity on the Juvenile Freshwater Crayfish Procambarus clarkii

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<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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<td>Ramon Guivas</td>
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#### 102. * - Use of eDNA in detection of multiple salamander species in eastern Kentucky streams

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<td>Angie Flores</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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<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>
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<td>109. - Differences in plant communities at natural and constructed upland-embedded wetlands in the Daniel Boone National Forest</td>
<td>Rachel Fedders</td>
<td>Stephen Richter</td>
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<td>110. - Ecosystem functional consequences of body size variation in an apex predator</td>
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</table>
111. * - Trophic effects of intraspecific body size variation among exploitative and interference competitors

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

First Author
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Co-author
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Co-author
Christopher Frost
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113. * - Do Drip Tips Benefit Leaves in Both the Understory and Canopy of a Neotropical Rainforest?

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

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

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

First Author
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Western Kentucky University

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

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

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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119. - Using NASA’s Land Information System (LIS) for hydrological and land-atmosphere coupling studies and as a lower boundary

First Author  Co-author  Co-author
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University  University  University

Environmental Science - Poster Presentations

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

First Author  Co-author
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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

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

First Author  Co-author
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University  University

123. * - Case Study of the Significant Cold Temperatures February 14th-20th, 2015
124. - Deriving Climate Statistics based on Kentucky Mesonet Observations

First Author
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Patrick Collins
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125. - The Kentucky Forecasting System

First Author
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126. - Evaluation of gluconic acid for the control of Nosema ceranae, a microsporidian infecting honey bees, Apis mellifera

First Author
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Co-author
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Kentucky State University

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

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

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

129. * - Use of a Reduced Sulfur Gas Chromatograph with Custom-made Permeation Tube for Analysis of Sulfur Compounds

First Author
Spencer Toms
130. * - Using remote sensing and GIS to study the development of Harmful Algal Blooms in Lake Erie.

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Geography - Poster Presentations


First Author
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Co-author
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ECTC

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

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Logan Twohey
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Co-author
Jason Naylor
University of Louisville

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

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

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

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

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

First Author
Marie White
Murray State
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139. * - Dye Trace Study of Karst Groundwater Flow at Mystery Spring and Wildcat Culvert in Lexington, Fayette County, Kentucky

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

First Author
Colton Sanders
Murray State
University

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

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

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

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<tr>
<td>Aubrey Melton</td>
<td>Renee Donahue</td>
<td>Marlene Starr</td>
<td>Ahmed Abdel-Latif</td>
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<td>Nutritional Sciences and Pharmacology</td>
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**143. * - Glutamate-Induced Apoptosis on Olfactory Neuroepithelial Progenitors Derived from Bipolar and Non-Bipolar Subjects**

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<td>Kristen Miller</td>
<td>Yonglin Gao</td>
<td>Rifaat El-Mallakh</td>
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**144. * - Relationship between boneless meat yield and the size of Asian carp**

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<tr>
<td>Kaitlyn Sudd</td>
<td>Kentucky State University</td>
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**145. * - Parasite load as an indicator for zoonotic disease prevalence in feral cats versus shelter cats**

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<tr>
<td>Nicole Creeden</td>
<td>Murray State University</td>
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**146. * - Physical Activity and Health Patterns of Berea Trail Town Users**

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

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<td>Changzheng Wang</td>
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### 149. * - Sterilization of Staphylococcus aureus and Pseudomonas aeruginosa using Sanitrol

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<td>Riley James</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>Padma Thimmaiah</td>
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<td>Lindsay Massie</td>
<td>Piya Adris</td>
<td>Sarah Holt</td>
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<td>Darrell Barnes</td>
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### 153. - Survival time distribution of advanced stage metastatic melanoma among Whites and Minority populations in Florida

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<td>NIH, National Cancer Institute</td>
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### 154. * - The Effect of Chronic Sleep Fragmentation and 6-OHDA on Microglia Activation

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155. * - The Health and Economic Impact of the Pinnacle Trails in a Kentucky Trail Town

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156. * - Vitreous Syneresis in the Human Eye

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<td>Meg Glenn</td>
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Mathematics - Poster Presentations

157. - Investigating Tire Tracks to Determine a Vehicles Direction

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<td>Richard Cyrus</td>
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158. - Predictive MLS Soccer Ratings

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<td>Taylor Ray</td>
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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

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<td>Harrison Gover</td>
<td>Claire Rinehart</td>
<td>Anmol Sandhu</td>
<td>Sahil Chhabra</td>
<td>Samuel Chang</td>
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160. * - An Introduction to the Forms and Functions of the A4 Mycobacteriophage Wizard007

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<td>Samuel Chang</td>
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<td>Western Kentucky</td>
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<td>University</td>
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</tbody>
</table>
161. - Characterization of Mycobacteriophage MooMoo

First Author  Co-author
Amanda Staples  Rodney A. King
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162. * - Clostridium isolate growth in a zinc-limited environment

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163. * - Effect of Growth Temperature on Mycoplasma iowae Pathogenicity

First Author  Co-author  Co-author
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164. * - Immunity Repressor Gene Regional Difference May Control Gene Expression of Lytic and Lysogenic Life Cycles

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

First Author  Co-author
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166. * - Ruin Genome

First Author
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167. - The House Sparrow as a Better Model for the Human Gut Microbiome

First Author  Co-author
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KBRIN  KBRIN
<table>
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<tr>
<td>168. *</td>
<td>Contemporaneous Ground-Based Observations of Blazars Observed with NASA's K2 Mission</td>
<td>Zoe Ward</td>
<td>Michael Carini</td>
<td>University Dept. of Physics and Astronomy</td>
<td>Western Kentucky</td>
<td>University Dept. of Physics and Astronomy</td>
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<td>University of Nevada, Las Vegas</td>
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<td>170. *</td>
<td>Electrochemical Desulfurization and Electroactivity of Molybdenum Disulfide (MoS2) Nanocatalysts on Reduced Graphene</td>
<td>Taylor Robinson</td>
<td>Jacob Dobler</td>
<td>Sanju Gupta</td>
<td>Western Kentucky</td>
<td>University</td>
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<td>171. *</td>
<td>Engineered Nanocomposite Materials Properties through Embedding of Smaller Nanoparticles in a Polymer Matrix</td>
<td>Alex Henson</td>
<td>Sanju Gupta</td>
<td>Western Kentucky</td>
<td>University</td>
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<td>173. *</td>
<td>Graphene-Polymer Thin Film Composite Membranes as Efficient and Anti-fouling Membranes for Water Purification</td>
<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  
Western Kentucky University

**Co-author**  
Taylor Robinson  
Western Kentucky University  
Sanju Gupta  
Western Kentucky University

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

**First Author**  
Daniela Olivera Velarde  
Berea College

**Co-author**  
Danielle Schaper  
University of Kentucky  
Christopher Crawford  
University of Kentucky

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

**First Author**  
Heather Thompson  
Berea College

**Co-author**  
Benjamin Wollant  
St. Olaf College  
Kenneth Bader  
University of Chicago

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

**First Author**  
Wyatt Ringo  
Western Kentucky University

**Co-author**  
Sanju Gupta  
Western Kentucky University

### 178. * - Phase transitions in charged black holes

**First Author**  
Emily Frame  
Northern Kentucky University

**Co-author**  
Sharmanthie Fernando  
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

**Co-author**  
Carlos Galindo  
Bellarmine University  
Akhtar Mahmood  
Bellarmine University  
Muhammad Saleem  
Bellarmine University

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

**First Author**  
Carlos Galindo  
Bellarmine University

**Co-author**  
Muhammad Saleem  
Bellarmine University  
Akhtar Mahmood  
Bellarmine University
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<tbody>
<tr>
<td>181. * - Self-Assembly of Spheres on a Cone Surface</td>
<td>Talha Rehman</td>
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</tbody>
</table>
| 182. * - Systematic Study of the Effect of Incorporation of Carbon Nanotubes into GexSe1-x Glass System | John Adamick
Northern Kentucky University | John Rademacher
Northern Kentucky University | Wayne Bresser
Northern Kentucky University | Chari Ramkumar
Northern Kentucky University |
| 183. * - XMM-Newton Observations of the Galactic Supernova Remnants G5.9+3.1 and G32.4+0.1 | Lori Porter
Craft Academy | Thomas Pannuti
Morehead State University |                                  |                                    |
| 184. - Time series analysis of the rapid optical variability observed in Blazars with NASA’s K2 Mission. | Kennedy Pendleton
2001 | Michael Carini
Department of Physics and Astronomy
Western Kentucky University |                                  |                                    |
| 185. - Procedure improvement for FAPbI3 perovskite solar cells        | Valeria Rosa Rocha
Berea College | Somin Park
University of Kentucky |                                  |                                    |
| 186. - Measurements of the entanglement of quantum of lights due to spontaneous parametric down conversion | Eli Prater
Berea College | Martin Veillette
Berea College | Brian Leist
Berea College | Mothi Ghimire
Berea College |

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

**Physiology and Biochemistry - Poster Presentations**

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<th>Title</th>
<th>First Author</th>
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</table>
| 187. * - A functional module for a response to low nutrients in Arabidopsis | Muntathar Alshimary
Berea College | DeQuantarius Speed
University of Chicago | Jean Greenberg
University of Chicago |
<p>| 188. * - Computational and experimental approaches to study the role of protein modifications by urea |                            |                                    |                                    |</p>
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<th>First Author</th>
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<tr>
<td>JT Toebbe</td>
<td>Michael Merchant</td>
<td>Daniel Wilkey</td>
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<td>Murray State University</td>
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189. * - Disruption of cell adhesion, loss of Arp2/3 complex function in macrophages are not sufficient to induce NF-kB activity

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

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

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

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<tr>
<td>Emma Higgins</td>
<td>Allison Lane, University of Kentucky</td>
<td>Alexandra Stanback, University of Kentucky</td>
<td>Maddie Stanback, University of Kentucky</td>
<td>Ross Basham, University of Kentucky</td>
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<td>Co-author</td>
<td>Bernardo Aguzzoli Heberle, University of Kentucky</td>
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<td>Aaron Silverstein, University of Kentucky</td>
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<td>Robin Cooper, University of Kentucky</td>
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193. * - Mechanism of quinolone resistance in Escherichia coli type II topoisomerases

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<td>Nyasha Gombami</td>
<td>Alexandria Oviatt, Vanderbilt University</td>
<td>Neil Osheroff</td>
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<td>Berea College</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University, Medical Center</td>
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194. - P. gingivalis infection debilitates anti-viral immune responses in gingival epithelial cells
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<tr>
<td>195. * - Pharmacological identification of cholinergic receptor subtypes in modulation of neural circuits in D. melanogaster</td>
<td>First Author: Umair Bhutto&lt;br&gt;University of Kentucky</td>
<td>Co-author: Eashwar&lt;br&gt;University of Kentucky</td>
<td>Co-author: Robin Cooper&lt;br&gt;University of Kentucky</td>
<td>Co-author: Jaishir S. Somasundaram&lt;br&gt;University of Kentucky</td>
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<td>196. * - Placental Transfer and Metabolism of FDA-approved Drugs Repurposed for Novel Tocolytic Use</td>
<td>First Author: Allison Harper&lt;br&gt;Berea College</td>
<td>Co-author: Shajila Siricilla&lt;br&gt;Vanderbilt University</td>
<td>Co-author: Raymond Johnson&lt;br&gt;Vanderbilt University</td>
<td>Co-author: Raynet Lambert&lt;br&gt;Vanderbilt University</td>
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<td>197. - Regulation of Programmed Genome Rearrangement in the Sea Lamprey</td>
<td>First Author: Taylor Stewart&lt;br&gt;Centre College</td>
<td>Co-author: Gena Wilson&lt;br&gt;Murray State University</td>
<td>Co-author: Cody Saraceno&lt;br&gt;University of Kentucky</td>
<td>Co-author: Jeramiah Smith&lt;br&gt;University of Kentucky</td>
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<td>200. *</td>
<td>Appraisal: The Effect of Electronic Media on Decision Making</td>
<td>Yabsira Ayele</td>
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<td>201. *</td>
<td>Sustaining Attention: The Effects of Fidgeting and Break type</td>
<td>briana beckler</td>
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<td>Gregory Corso</td>
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<td>203. *</td>
<td>The independence of implicit and explicit sequence learning</td>
<td>Allison Ludwig</td>
<td>Brandi Carey</td>
<td>Gilbert Remillard</td>
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<td>204. *</td>
<td>Amazon Mechanical Turk Responses vs. Student Responses</td>
<td>Emily Lush</td>
<td>Jorden Crowe</td>
<td>Vanessa Jones</td>
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<td>205.</td>
<td>Emphasis and &quot;only&quot; influence sentence interpretation</td>
<td>Victoria Nash</td>
<td>David Potter</td>
<td>Katy Carlson</td>
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### Science Education - Poster Presentations

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

*First Author*
Olivia Santangelo  
*Western Kentucky University*

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

*First Author*
Shelby Diener  
*Northern Kentucky University*

### Zoology - Poster Presentations

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

*First Author*
Cassondra Perkins  
*Kentucky Wesleyan College*

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

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

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

*First Author*
Sydni Anderson  
*Murray State University*

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

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

*First Author*
Maddie Stanback  
*University of Kentucky*

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

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

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

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

*Co-author*
Academic Affairs  
*University of Kentucky*

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

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

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

First Author
Jonathan Eisenhour
Morehead State University
Co-author
Matthew Fossett
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

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

Reception and Plenary at National Corvette Museum
Facilitated by President-Elect Leslie North
Free Shuttles to Corvette Museum begin at 6:30

"Behind the Scenes at the Corvette Cave-In"

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

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

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

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

**Featured Speakers**

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

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

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

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

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

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

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

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

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

### Posters on Display
Saturday, November 3, 2018  7:58am - 4:00pm
Downing Student Union, Second & Third floors

### Oral Presentations - Saturday morning
Saturday, November 3, 2018  7:59am - 12:00pm
Asterisk * denotes student research competition

### Practice Room
Saturday, November 3, 2018  7:59am - 4:00pm
DSU 2081
This room is available for speakers to practice their presentations.

### Practice Room
Saturday, November 3, 2018  7:59am - 4:00pm
DSU 3004
This room is available for speakers to practice their presentations.

### Agricultural Science - Oral Presentations
Saturday, November 3, 2018  8:00am - 11:00am
DSU 3005
Section meeting follows talks at 11:45

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

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>James Adeyemi</td>
<td>Hank Schweickart</td>
<td>Ibukun Ogunade</td>
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<tr>
<td>08:15</td>
<td>A Cyanide Group Reduced Cypermethrin Half-Lives on Cucumber Grown Under Greenhouse Conditions</td>
<td>George Antonious</td>
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<td>08:30</td>
<td>Quantification of tylosin antibiotics and antibiotic resistance genes in cattle waste.</td>
<td>Keerthi Appala</td>
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<tr>
<td>08:45</td>
<td>Evaluation of Stocking Density in a Live Holding Recirculating System for Food-size Largemouth Bass, Micropterus salmoid</td>
<td>Sujan Bhattarai</td>
</tr>
<tr>
<td>09:00</td>
<td>Rove beetles in blackberry plots bordered by native perennials or pasture and treated with biological insecticides.</td>
<td>Sathya Govindasamy</td>
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<tr>
<td>09:15</td>
<td>Parental gender preference as a factor in population sustainability</td>
<td>Elmer Gray</td>
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<tr>
<td>09:30</td>
<td>Yield of zucchini, Cucurbita pepo, grown in various soil amendments</td>
<td>Quinn Heist</td>
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09:45 * - Do Online Shoppers Have Knowledge on Community Supported Agriculture Programs?

First Author: Wyat Lucas
Western Kentucky University, Dept. of Agriculture
Co-author: Dominique Gumirakiza
Western Kentucky University, Dept. of

10:15 * - Evaluation of drug-resistant Enterobacteriaceae on produce from small farms.

First Author: Tavin Marshall
Kentucky State University
Co-author: Shreya Patel
University
Co-author: Avinash Tope
Kentucky State University
Co-author: Avinash Tope
Kentucky State University
Co-author: Avinash Tope
Kentucky State University

10:30 - Optimizing Non-Phytate Phosphorus in Soybean Meal-Based Diets for Largemouth Bass Micropterus salmoides

First Author: Kasondra Miller
1994
Co-author: Gagan Kolimadu
Kentucky State University
Co-author: Habte-Michael Habte-Tsion
Kentucky State University
Co-author: Waldemar Rossi
Kentucky State University

10:45 - Assessing the Use of Biochar for Immobilization of Trace Elements in Sewage Sludge

First Author: Lusekelo Nkuwi
Kentucky State University
Co-author: George Antonious
Kentucky State University
Co-author: Eric Turley
Kentucky State University
Co-author: Quinn Quinn Heist
Kentucky State University
Co-author: Yogendra Yogendra Upadhyaya
Kentucky State University
Co-author: Thomas Trivette
Kentucky State University

11:00 - Efficacy of a fertilization solution created with testes extraction and maceration in largemouth bass

First Author: Amit Sharma
Kentucky State University
Co-author: Kenneth Semmens
Kentucky State University


First Author: Thomas Trivette
Kentucky State University
Co-author: George Antonious
Kentucky State University
Co-author: Eric Turley
Kentucky State University
Co-author: Quinn Heist
Kentucky State University
Co-author: Lusekelo Nkuwi
Kentucky State University
11:30 - Low-Tech hydroponics for beginning and limited resource farmers

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<td>Nanaaishat umar</td>
<td>Siddhartha Dasgupta</td>
<td>Richard Bryant</td>
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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

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<td>Tara Croft</td>
<td>Bikram Subedi</td>
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<td>Murray State University</td>
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08:15 - Investigating caffeine levels in water sources in Morehead, Kentucky

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<tr>
<td>Brandon VanNess</td>
<td>Melanie West</td>
<td>Sarah Little</td>
</tr>
<tr>
<td>Morehead State University</td>
<td>Morehead State University</td>
<td>Morehead State University</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Corbin Arrasmith</td>
<td>Northern Kentucky University</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Adam Martin</td>
<td>Bommanna</td>
<td>Susan Hendricks</td>
</tr>
<tr>
<td>Student</td>
<td>Loganathan</td>
<td>Professor</td>
</tr>
<tr>
<td>Student</td>
<td>Professor</td>
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</tr>
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</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Andrew Ballard</td>
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</tr>
</tbody>
</table>
09:30 * - Identifying Fecal Biomarkers of Obesity in Mouse Model Using Proton Nuclear Magnetic Resonance Metabolomics

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


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

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

First Author
Lovence Ainembabazi
Western Kentucky University

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

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

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

Ecology - Oral Presentations

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

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

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

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Elizabeth Malloy</td>
<td>Stephen Richter</td>
<td>David Brown</td>
<td>Kelly Watson</td>
<td>Michelle Cook</td>
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<tr>
<td>Eastern Kentucky</td>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
<td>Kentucky Division of Water</td>
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</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Hannah Moore</td>
<td>Howard Whiteman</td>
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<tr>
<td>Murray State University</td>
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### 09:00 - Population Dynamics and Foraging Ecology of Copperheads in the Red River Gorge, KY.

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<thead>
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<tr>
<td>Josh Hendricks</td>
<td>Jesse Sockman</td>
<td>Kyle Muennic</td>
<td>Austin Owens</td>
<td>Stephen Richter</td>
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### 09:15 - The Kentucky Arboreal Ant Survey: ant communities among forests and urban greenspaces

<table>
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<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Daniella Prince</td>
<td>Benjamin Adams</td>
<td>Stephen Yanoviak</td>
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<tr>
<td>University of Louisville</td>
<td>Natural History</td>
<td>Department of Biology, University of Louisville</td>
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<td></td>
<td>Museum of Los Angeles County</td>
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</table>

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

<table>
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<tr>
<th>First Author</th>
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<tr>
<td>Sarah Benton</td>
<td>Sarah Emery</td>
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<td>University of Louisville</td>
<td>University</td>
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### 09:45 - Beaver-mediated restoration in a degraded desert ecosystem

<table>
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<th>First Author</th>
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<tr>
<td>Melody Feden</td>
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<td>Murray State</td>
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</table>
10:15 - Varying duration periods of the herbivore-associated cue differentially affect fitness in P. lunatus and C. annuum

First Author
Grace Freundlich
University of Louisville

Co-author
Liana Greenburg
Wageningen University

Co-author
Sarah Bissmeyer
University of Louisville

Co-author
Carly Nunamaker
University of Louisville

Co-author
Chris Frost
University of Louisville

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

First Author
Louis Ross
Kentucky State University

Co-author
Richard Cristan
Kentucky State University

Co-author
Bruce Schulte
Western Kentucky University

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

First Author
R. Lynn Von Hagen
Western Kentucky University

Co-author
Bruce Schulte
Western Kentucky University

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

First Author
Autumn Turner
Western Kentucky University, Crawford Hydrology Laboratory

Co-author
Lee Anne Bledsoe
Western Kentucky University

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

Co-author
Cate Webb
Western Kentucky University

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

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

Co-author
Katie Algeo
Western Kentucky University

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

First Author
Emma Reasoner
### Physics and Astronomy - Oral Presentations

**DSU 3020**  
*Section meeting follows talks at 3:15*

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Institution</th>
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</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Thermoelectric Properties of Graphene-Carbon Nanotube Aerogels as 'Organic' Energy Harvesters</td>
<td>Romney Meek</td>
<td>Sanju Gupta</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>08:15</td>
<td>High Amplitude variable Active Galactic Nuclei</td>
<td>Dirk Grupe</td>
<td></td>
<td>Morehead State University</td>
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<tr>
<td>08:30</td>
<td>Citizen CATE: citizen scientist observations of 2017 total solar eclipse</td>
<td>Richard Gelderman</td>
<td></td>
<td>Western Kentucky University</td>
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</tr>
<tr>
<td>08:45</td>
<td>Nanosecond pulsed laser deposition of Pb thin film on Si (111)</td>
<td>Devon Loomis</td>
<td>Bektur Abdisatarov</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
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<td></td>
<td>Ilhom Saidjafarzoda</td>
<td>Western Kentucky University</td>
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<td>Donald Price</td>
<td>Western Kentucky University</td>
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<td>Ali Er</td>
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<td>Mikhail Khenner</td>
<td>Western Kentucky University</td>
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<tr>
<td>09:00</td>
<td>NGC 1566: A Temperamental Changing Look AGN</td>
<td>Rebecca Mikula</td>
<td>Dirk Grupe</td>
<td>Morehead State University</td>
<td></td>
</tr>
<tr>
<td>09:15</td>
<td>Fabrication of Aluminum Nanoparticles via Pulsed Laser Ablation for Bacterial Deactivation</td>
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<tr>
<td>09:30</td>
<td>Computer Simulation of Atomic-Scale Defects in Intermetallic Compounds</td>
<td>Christopher Weaver</td>
<td>Matthew Zacate</td>
<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>09:45</td>
<td>Effects of Plastic Deformation and Tensile Strain on Polycrystalline Solids</td>
<td>Jesse Tapp</td>
<td>Dylan Weaver</td>
<td>Murray State University</td>
<td>Murray State University</td>
</tr>
<tr>
<td>10:15</td>
<td>Dependence of Helium Atmospheric Pressure Plasma Jet-Induced DNA Damage on Voltage Pulse Frequency and Irradiation Time.</td>
<td>Kemo Jammeh</td>
<td>Sylwia Ptasinska</td>
<td>Berea College</td>
<td>University of Notre Dame</td>
</tr>
<tr>
<td>10:30</td>
<td>Blue Light and UV Blocking Lenses</td>
<td>Marissa Walls</td>
<td>Jennifer Birriel</td>
<td>Morehead State University</td>
<td>Morehead State University</td>
</tr>
<tr>
<td>10:45</td>
<td>Investigating the Anode Heel Effect at 75kV and 140kV</td>
<td>Casey Christian</td>
<td>Ignacio Birriel</td>
<td>Morehead State University</td>
<td>Morehead State University</td>
</tr>
<tr>
<td>11:00</td>
<td>Modular Bootstrap Bounds at Finite Central Charge</td>
<td>Casey Christian</td>
<td>Joshua Qualls</td>
<td>Morehead State University</td>
<td>Morehead State University</td>
</tr>
<tr>
<td>11:15</td>
<td>Energy Determination in the ISS-CREAM Instrument Using Simulations</td>
<td>Tyler LaBree</td>
<td></td>
<td>Northern Kentucky University</td>
<td></td>
</tr>
</tbody>
</table>
11:30 - Analyses of Jet measurements in Relativistic Heavy Ion Collisions

**First Author**
Ricardo Santos

**Berea College**

**Co-author**
Christine Nattrass

**University of Tennessee**

**Co-author**
Soren Sorensen

**University of Tennessee**

**Co-author**
Redmer Bertens

**University of Tennessee**

**Co-author**
James Neuhaus

**University of Tennessee**

11:45 - Nylon or Steel?

**First Author**
Tanner Tackett

**Morehead State University**

**Co-author**
Ignacio Birriel

**Morehead State University**

13:15 - X-ray Diffractometry and Compression of Materials

**First Author**
Hayden Johnson

**Murray State University**

**Co-author**
Jacob Hall

**Murray State University**

13:30 - TESS: Initial Results and Follow-Up Work at the University of Louisville

**First Author**
Garrison Turner

**Big Sandy Community and Technical College**

13:45 - A look at Swift observations of the highly variable Active Galactic Nucleus RX J0148-2758

**First Author**
Parker Poulos

**Morehead State University**

**Co-author**
Dirk Grupe

**Morehead State University**

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

**First Author**
Alanna Cavins

**Morehead State University**

14:15 - An XMM-Newton Observation of the Galactic Supernova Remnant CTB 1 (G116.9+0.2)

**First Author**
Thomas Pannuti

**Morehead State University**
14:30 - Night Sky Quality at Mammoth Cave National Park

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

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

First Author: Wesley Ryle
Thomas More College
Co-author: Stephen Williams
United States Naval 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 Unihehedron Sky Quality Meter

First Author: Zachary Pater
Morehead State University
Co-author: Jennifer Birriel
Morehead State University
Co-author: University

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

Physiology and Biochemistry - Oral Presentations

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

First Author: Daisy DiVita
Northern Kentucky University
Co-author: Michael Guy
Northern Kentucky University

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

First Author: Issac Domenech
Berea College
Co-author: Mark Krasnow
Stanford University
Co-author: Yin Liu
Stanford University

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

First Author: Dat Thinh Ha
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

Co-author
James Deddens
University of Cincinnati

Co-author
Larry Douglass
Wood Hudson Cancer Research Laboratory

Co-author
Julia H. 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
### Zoology and Botany - Oral Presentations

**DSU 2113**  
Section meetings follow talks at 11:15

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Seasonal variation in the communication system of the field cricket Gryllus rubens (Orthoptera: Gryllinae)</td>
<td>Caleb Sedlak</td>
<td>places/</td>
<td>WKU</td>
</tr>
<tr>
<td>08:15</td>
<td>The kinematics of envenomation by the yellow stingray, Urobatis jamaicensis</td>
<td>Oliver Beckers</td>
<td>Nicholas Norman</td>
<td>Murray State University</td>
</tr>
<tr>
<td>08:30</td>
<td>Effect of sleep loss on cognitive function and baseline plasma corticosterone levels in an arctic-breeding songbird</td>
<td>Steve Huskey</td>
<td>Ruth Hughes</td>
<td>University of Notre Dame</td>
</tr>
<tr>
<td>08:45</td>
<td>New Discoveries of Relationships in Spider Beetles and Related Families Using Molecular Phylogenetics</td>
<td>Olivia Gearner</td>
<td>Keith Philips</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>09:00</td>
<td>Heritable Behavioral Tendencies of the African Lion</td>
<td>Natalie Mercer</td>
<td>Milan Lstibárek</td>
<td>Czech University of Life Sciences Prague</td>
</tr>
<tr>
<td>09:15</td>
<td>Courtship behavior, communication, and copulation in Tigrosa annixa</td>
<td>Samuel White</td>
<td></td>
<td></td>
</tr>
</tbody>
</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>
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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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<td>Northern Kentucky</td>
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<td>Richard Durstche</td>
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### 10:15 - Growth and Reproduction of the Bigeye Shiner, Notropis boops

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<tbody>
<tr>
<td>Matthew Fossett</td>
<td>Jon Eisenhour</td>
<td>David Eisenhour</td>
<td>David Eisenhour</td>
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<td>Morehead State</td>
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### 10:30 - Canopy Conditions and Light Availability as Predictors of Running Buffalo Clover Population Trajectories

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

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<tbody>
<tr>
<td>Maggie Whitson</td>
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<td>Northern Kentucky</td>
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<td>University</td>
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Saturday, November 3, 2018  9:00am - 3:00pm
**Exhibitors Tables**

Third Floor, Downing Student Union

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

---

**Statistics consultations**

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:


---

**Student Competition Awards**

Third Floor, Downing Student Union

All day Saturday we'll be announcing student competition winners. Come check the screen by the registration desk to see winners. Student winners, we'll be taking your photos to post on our website.

---

**Past Presidents Lunch & Annual Business Meeting**

Cupola Room (inside Fresh Dining Hall)

All KAS members are welcome to this meeting. At this time there are no more lunch tickets available but we are making arrangements for anyone to attend the meeting who wishes to join us.

---

**Oral Presentations - Saturday Afternoon**

Asterisk * denotes student research competition

---

**Chemistry: Organic/Inorganic - Oral Presentations**

DSU 3007 Section meeting follows talks at 3:00

First Author
Junhao Huang
Western Kentucky University

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

First Author
Quynh Nguyen
Northern Kentucky University

Co-author
William Renzenbrink
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

Co-author
William Renzenbrink
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

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

First Author
Ayanav Roy
Northern Kentucky University

Co-author
Matthew Neiser
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Andrew Quillen
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

Co-author
Ayanov Roy
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

Co-author
Stephen Ramirez
Northern Kentucky University

Co-author
Andrew Quillen
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

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

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

First Author
Cristina Throckmorton
Western Kentucky University

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

First Author
Stephen Ramirez
Northern Kentucky University

Co-author
Quynh Nguyen
Northern Kentucky University

Co-author
Alexander Rosen
Northern Kentucky University

Co-author
Matthew Neiser
Northern Kentucky University

Co-author
Ayanov Roy
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

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

First Author
Michael James
Berea College

Co-author
Levi Blevins
Berea College

Co-author
Ominica Crockett
Berea College

Co-author
Elizabeth Thomas
University of Pikeville
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15</td>
<td>Inadvertent local climate modification at a regional university in Kentucky, USA</td>
<td>First Author: Donald Yow, Co-author: Matthew Ruggless, Eastern Kentucky University</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>First Author: Tori Farrow, Co-author: Jeremy Sandifer, Kentucky State University</td>
</tr>
<tr>
<td>13:45</td>
<td>Analyzing sanitary sewer overflow event response to storm frequency</td>
<td>First Author: Christopher Andrew Day, 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>First Author: Aman Bhatta, Co-author: Buddhi Gyawali, Kentucky State University</td>
</tr>
<tr>
<td>14:15</td>
<td>Land cover classification and change detection using remote sensing imagery in Morgan County, Kentucky</td>
<td>First Author: Saaruj Khadka, Co-author: Buddhi Gyawali, Kentucky State University, Co-author: Tilak Shrestha, Kentucky State University</td>
</tr>
<tr>
<td>14:30</td>
<td>How economic geography might have saved the Mammoth Cave Mushroom Company</td>
<td>First Author: 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>
15:00 - Mapping Opioid Epidemic in Kentucky’s Counties

First Author
Charlie Zhang
University of Louisville

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

Co-author
Michael Smith
14:15 - Effects of alpha & beta-adrenergic receptor blockade upon inflammatory responses & microglia activation to sleep loss.

First Author: Nicholas Wheeler
Co-author: Noah Ashley
Western Kentucky University

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

Mathematics - Oral Presentations

13:15 * - A Study of Non-Linearity in a Simple Pendulum

First Author: Ethan Caudill
Co-author: Jennifer Birriel
Morehead State University

13:30 * - Using Topology to find Copyright Infringement

First Author: Jeremiah Halter
1997

13:45 - From the Hardwood to the Spreadsheet

First Author: Christopher Napier
Morehead State University

14:00 - Dr. Strangelog or: How I Learned to Stop Worrying and Love the Slide Rule

First Author: Dwight Smith
Kentucky Community and Technical College System

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

First Author
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30</td>
<td>Rational Points on Circles and the Birch and Swinnerton-Dyer Conjecture</td>
<td>Andy Martin</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>14:45</td>
<td>Applying the Hastings-Metropolis algorithm to chessboard placement problems</td>
<td>Doug Chatham</td>
<td>Morehead State University</td>
</tr>
<tr>
<td>15:00</td>
<td>An Examination of Discrete Least Squares Approximation Techniques</td>
<td>Mark Robinson</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>15:15</td>
<td>Random Operators and Dynamical Localization</td>
<td>Kyle Besing</td>
<td>Kentucky Wesleyan College</td>
</tr>
<tr>
<td>15:30</td>
<td>PDE Model for Solid-State Dewetting of a Binary Alloy Thin Film</td>
<td>Mikhail Khenner</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>15:45</td>
<td>A Deeper Look into Open Coverings of the Rationals that do not Cover the Reals</td>
<td>Justin Trulen</td>
<td>Kentucky Wesleyan College</td>
</tr>
</tbody>
</table>
13:30 - Why do students leave quantitative STEM majors?

First Author
Hannah Brewer
Morehead State University

Co-author
Wilson Gonzalez-Espada
Morehead State University

Co-author
Robert Boram
Morehead State University

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

First Author
Bharath Kumar
Midway University

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

First Author
Kevin Revell
Murray State University

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

First Author
Karen Hlinka
Kentucky Community and Technical College System

14:30 - Middle School Investigation of Global Climate Change

First Author
Shira Rabin
University of Louisville

Co-author
Bennet Kolb
Jefferson County Public Schools

Co-author
Bronwyn Williams
University of Louisville

Co-author
Adam Stieglitz
University of Louisville

Co-author
Mary Brydon-Miller
University of Louisville

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

Social Sciences: Anthropology/Sociology/Psychology
DSU 2113
Section meetings to follow talks
13:15 * - Haptic Distance Ratios: The Geometry of Space within the Hands

First Author
Sydney Wheeler
Western Kentucky University

Co-author
Farley Norman
Western Kentucky University

Co-author
Lauren Pederson
Western Kentucky University

Co-author
Catherine Dowell
Western Kentucky University

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

First Author
Amanda Lilly
Northern Kentucky University

1:45 - Five minute presentations

First Author
Poster Presenters

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

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

This workshop is open to any registered KAS meeting participant.

Quick links

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