2018 Annual Meeting Program
November 2-3, 2018

Western Kentucky University

Thank you to our Platinum Sponsor
Thank you to our Bronze Sponsor

ECMBiosciences

Thank you to our In-Kind partners

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
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.

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

Oral Presentations- Friday Afternoon
Asterisk * denotes student research competition

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

Cellular and Molecular Biology - Oral Presentations

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

DSU 3007  
Section meeting follows talks at 3:00
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
Michael Murray
University of Kentucky

Co-author
Sherali Zeadally
University of Kentucky

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

First Author
Michael Murray
University of Kentucky

Co-author
Kelsey Cole
University of Kentucky

Co-author
Jerzy Jaromczyk
University of Kentucky

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

First Author
Stephen Goins
Bellarmine University

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

Engineering - Oral Presentations

DSU 2123
Section meeting follows talks at 2:30pm

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

First Author
Jean-Pierre Amoakon
Georgetown College

Co-author
Farhan Kamili
Georgia Institute of Technology

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

First Author
Jacob Schabert
Morehead State University

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

First Author
Katerina Winters
Morehead State University

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

First Author
Christopher Coleman
Morehead State University

Co-author
Robert Twiggs
Morehead State University

Co-author
Aaron Zucherman
Morehead State University

Co-author
Jose Garcia
Morehead State University

Co-author
Matt Craft
Twiggs Space Lab

Co-author
Amin Djamshidpour
Twiggs Space Lab

Co-author
Regan Smith
Virginia Space

Co-author
Hank Voss
Near Space Launch

Co-author
Jeff Dailey
Near Space Launch

Co-author
Matt Orvis
Near Space Launch

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

Environmental Science - Oral Presentations

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

WITHDRAWN - American Chestnut Reintroduction in Kentucky: a GIS Approach

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

First Author
Jason Fox
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Sydney Herndon
Western Kentucky University

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

First Author
Evan Hendrickson
Western Kentucky University

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

First Author
Brandon Preece
Kentucky State University

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

First Author
Ed Wilcox
Kentucky State University

Co-author
Richard Cristan
Kentucky State University

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

First Author
Ian Ries
Kentucky State University

Co-author
Maheteme Gebremedhin
Kentucky State University

Co-author
Martin Matisoff
Kentucky State University

Co-author
Ken Andries
Kentucky State University

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

First Author
Stephen Richter
Eastern Kentucky University

Geology - Oral Presentations

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

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

First Author
Chelsey Kipper
Western Kentucky University

Co-author
Patricia Kambesis
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

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

First Author
Mitchell Grothaus
Morehead State University

Co-author
Elizabeth Hereford
Morehead State University

Co-author
Robert Grigsby
Morehead State University

Co-author
Geoffrey Gearner
Morehead State University

Co-author
Timothy Hare
Morehead State University

Co-author
Charles Mason
Morehead State University

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

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

First Author: Shelby Bowden  
Co-author: Nahid Gani  
Co-author: Matthijs Van Soest  
Co-author: Royhan Gani  
Co-author: Paul O’Sullivan

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

First Author: Michael Arthur  
Co-author: M. Royhan Gani  

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

First Author: Madison Howard  
Co-author: Marianne Peterson  
Co-author: Prabhakar Misra

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

First Author: Patricia Kambesis  

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

First Author: Jacob Grigsby  
Co-author: Shelby Bowden
### 1:15 * - Effect of Growth Temperature on Mycoplasma iowae Pathogenicity

**First Author**
Brittany Boyken  
**Co-author**
Kentucky Wesleyan  
**College**
Kentucky Wesleyan College  
**Co-author**
Rachel Pritchard  

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

**First Author**
Alexander Lai  
**Kentucky State University**

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

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

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

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

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

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

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

**First Author**
William Fenske  
**Co-author**
William Staddon  
**Co-author**
Valerie Peters  
**Eastern Kentucky University**
### Practice Room

**DSU 3004**

This room is available for speakers to practice their presentations.

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### 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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### Agricultural Science - Poster Presentations

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

<table>
<thead>
<tr>
<th>1.</th>
<th>Accumulation of Heavy Metals in Fruits of Plants Grown in Recycled Sewage Sludge</th>
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<tbody>
<tr>
<td><strong>First Author</strong></td>
<td>Co-author&lt;br&gt;ERIC TURLEY&lt;br&gt;Kentucky State University</td>
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<td><strong>Co-author</strong></td>
<td>George Antonious&lt;br&gt;Kentucky State University</td>
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**Withdrawn**


| **First Author** | Co-author<br>Nathan Folz<br>Murray State University |
| **Co-author** | Iin Handayani<br>Murray State University |
| **Co-author** | Brian Parr<br>Murray State University |
| **Co-author** | University<br>University |

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

| **First Author** | Co-author<br>Riley Mabe<br>Murray State University |
| **Co-author** | Kaeden Mollett<br>Murray State University |
| **Co-author** | Riley Mabe<br>Murray State University |
| **Co-author** | I. P. Handayani<br>Murray State University |
| **Co-author** | Brian Parr<br>Murray State University |
| **Co-author** | University<br>University |

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

| **First Author** | Co-author<br>Riley Mabe<br>Murray State University |
| **Co-author** | University<br>University |
| **Co-author** | University<br>University |
| **Co-author** | University<br>University |
| **Co-author** | University<br>University |
| **Co-author** | University<br>University |
6. * - Comparing Characteristics of Soil under Various Management Conditions in Western Kentucky

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

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<td>Kyle Cannon</td>
<td>Megan Mccoun</td>
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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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<td>Changzheng Wang</td>
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<td>Lingyu Huang</td>
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12. * - Evaluation of Soil Response to the Applications of Ammonium Nitrate and Horse Manures

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<tr>
<td>Sarah Forden</td>
<td>Iin Handayani</td>
<td>Kyle Hanenberger</td>
<td>Ethan Knolhoff</td>
<td>Jeffery Record</td>
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<td>13. - Food Safety Perceptions and Behaviors of Kentucky Farmer Market Consumers</td>
<td>Hanna(John) Khouryieh</td>
<td>Marlain Khouryieh</td>
<td>Western Kentucky University</td>
<td></td>
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<tr>
<td>14. - Grafting success of eleven pawpaw cultivars and advanced selections using four grafting methods</td>
<td>Sheri Crabtree</td>
<td>Jeremy Lowe</td>
<td>Kirk Pomper</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>15. * - Growth of Pawpaw (Asimina triloba) Seedlings in Two Commercially Available Potting Mixes</td>
<td>Aidan Thompson</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
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<tr>
<td>16. - Impact of aerobic compost tea on growth of Lactuca sativa</td>
<td>Ella Potts</td>
<td>Jessica Stoner</td>
<td>lin Handayani</td>
<td>Murray State University</td>
</tr>
<tr>
<td>17. - 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>
<td>Kentucky State University</td>
<td>Beyond the Bridge Organic Farm University</td>
</tr>
<tr>
<td>18. - Investigating the Impact of Soil Amendments on Eggplant Production</td>
<td>Yogendra Upadhyaya</td>
<td>Kentucky State University</td>
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</tbody>
</table>
19. - Longitudinal Histological Study of Nosema ceranae in Honey Bees

**First Author**
Katherine Kamminga  
Kentucky State University

**Co-author**
Thomas Webster  
Kentucky State University

**Co-author**
Martin Matisoff  
Kentucky State University


**First Author**
Samantha Peterson  
Murray State University

**Co-author**
Lin Handayani  
Murray State University

**Co-author**
Alix Shultz  
Murray State University

**Co-author**
Brian Parr  
Murray State University

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

**First Author**
Sijan Pandit  
Kentucky State University

**Co-author**
Jeremiah Lowe  
Kentucky State University

**Co-author**
Sheri B Crabtree  
Kentucky State University

**Co-author**
Kirk William Pomper  
Kentucky State University

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

**First Author**
HARRY MOMO  
Kentucky State University

**Co-author**
Jeremiah Lowe  
Kentucky State University

**Co-author**
Sheri Crabtree  
Kentucky State University

**Co-author**
Kirk Pomper  
Kentucky State University

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

**First Author**
Jeremiah Lowe  
Kentucky State University

**Co-author**
Kirk Pomper  
Kentucky State University

**Co-author**
Sheri Crabtree  
Kentucky State University

24. - Ethnographic Study of Ohio River Barge Deckhands

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

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

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Co-author
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27. * - Uncovering the Women of Parker Academy

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

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

First Author
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Co-author
Ajay Srivastava
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30. * - Cerebellar gene expression of cabin1

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<td>Krista Dunn</td>
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<td>Carmen Bandy</td>
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<td>Aref Ranjbar</td>
<td>Ajay Srivastava</td>
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<td>33. - Cysteine Thiol Directed Chemical Modification of a KCNE1</td>
<td>Natalie Mercer</td>
<td>Krystal Hamorsky</td>
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<td>34. * - Damage to Danio Rerio’s Developing Neuromuscular Junction</td>
<td>Sharman N</td>
<td>Keenan Taylor</td>
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<td>Alexander Stewart</td>
<td>Claire Rinehart</td>
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<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</td>
<td>Tristan Haight</td>
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<td>38. - 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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<td>Murray State</td>
<td>University of Kentucky</td>
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| 39. * - Examining how the FGF signaling pathway effects gene expression within the pharynx during embryonic development |
|---------------------------------------------------------------|---------------------------------------------------------------|
| **First Author**                                             | **Co-author**                                                 |
| Elizabeth Wilke                                              | Emily Shifley                                                 |
| Northern Kentucky University                                  | Northern Kentucky University                                   |

| 40. * - Examining the Role that Iroquois Genes Play During Embryonic Development |
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| **First Author**                | **Co-author**                   |
| Maria Stewart                   | Emily Shifley                   |
| Northern Kentucky University    | Northern Kentucky University    |

| 41. * - Fishing for fertility: Creating a PAM-1 substrate trap to isolate novel fertility-governing proteins |
|---------------------------------------------------------------|---------------------------------------------------------------|
| **First Author**                                             | **Co-author**                                                 |
| Autumn Graves                                                | Chris Trzepacz                                                |
| Murray State University                                      | Murray State University                                      |

| 42. * - Generation of a transgenic beta cell line for study of Glis3 using CRISPR/Cas9 technology |
|---------------------------------------------------------------|---------------------------------------------------------------|
| **First Author**                                             | **Co-author**                                                 |
| NancyAnn Webster                                             | Gary ZeRuth                                                   |
| Murray State University                                      | Murray State University                                      |

| 43. * - Generation of transgenic zebrafish line by CRISPR/Cas9 to evaluate pancreas development and function |
|---------------------------------------------------------------|---------------------------------------------------------------|
| **First Author**                                             | **Co-author**                                                 |
| LilyAnne Grieve                                              | Gary ZeRuth                                                   |
| Murray State University                                      | Murray State University                                      |
44. * - Integrin β1 Promotes Kras-Mutated Lung Cancer Proliferation Via Mapk-Indepedendent 
Mechanism

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

First Author
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46. * - Platinum Leaving Ligand Effects on Mammalian Cells

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47. * - Potential for the green alga Chlamydomonas reinhardtii to degrade lignin

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

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Thaya Ghiarone
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Jaume Padilla
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49. - Spinal Cord Injury and its effect on Circadian Rhythm

First Author
Charles Thaler
KBRIN

50. * - The Bioinformatics of Mycobacteriophage Drake94

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<td>51. * - The effect of light pollution on immunoresponse and neurogenesis in zebra finches</td>
<td>Andrea Compton</td>
<td>Jennifer Doyle</td>
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<td>52. * - The Effects of Acute Sleep Fragmentation on Microglial Cells</td>
<td>Matthew Knerr</td>
<td>Anna Strunjas</td>
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<td>53. * - The effects of oxidative stress on p75NTR signaling in dopaminergic neurons.</td>
<td>Kendall Nelson</td>
<td>Montana Schemanski</td>
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<td>Cassandra Escobedo</td>
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<td>Bradley Kraemer</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>
<td>Pei Guo Ding</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>
<td>Emily McCord</td>
<td>EKU</td>
<td>Lindsay Calderon</td>
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57. * - The Chemical Characterization of Kentucky Honeys

First Author
Rebecca Jenkins

Co-author
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Co-author
Brandon Van Ness

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58. * - Profiling whiskey fungus using the gas chromatography/mass spectrometry and laboratory serial dilutions methods

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59. * - Solid Phase Extraction of Tylosin from Cattle Waste With Determination by Liquid Chromatography Mass Spectrometry

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60. * - Temporal Trend of Illicit and Neuropsychiatric Drug Consumption

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Bikram Subedi

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

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Dr. R. Kenneth

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

First Author
Beau Schweitzer

University of Michigan

63. * - Purification and Analysis of LHRH using HPLC
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<th>Co-author</th>
<th>University</th>
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<td>Sean Greer Eastern Kentucky University</td>
<td>Kyle Rowe Kebede Gemene Northern Kentucky University</td>
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<td>65. * - Determination of Ochratoxin A in Kentucky Black Walnuts</td>
<td>Bryce Forry Asbury University</td>
<td>Bruce Branan</td>
<td>Asbury University</td>
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<td>Moria Magre Spalding University</td>
<td>John Burden</td>
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<td>Levi Curtis Western Kentucky University</td>
<td>Jeremy Maddox</td>
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<td>Elizabeth Hedrick Western Kentucky University</td>
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<td>Alexander Thome Murray State University</td>
<td>Erin Calvert Kasey Clear Murray State University</td>
<td>Sebastian Jezowski Murray State University</td>
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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

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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

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Chemistry: Organic/Inorganic - Poster Presentations

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

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Kristine Nolin
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Ellen Ellen Yezirski
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74. - Synthesis of Oxacalixarenes from Silyl Protected Precursors

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Co-author
Bailey Hardey
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Co-author
Rachel Holland
Northern Kentucky University

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

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

76. - Interaction of a platinum tri-amine complex having a seven-membered chelate ring with 5'-GMP and N-AcMet
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<th><strong>Institution</strong></th>
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<td>Jae Ko</td>
<td>Kevin Williams</td>
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<td>Simrat Kaur</td>
<td>BANGBO YAN</td>
<td>WESTERN KENTUCKY UNIVERSITY</td>
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<td>Cheyenne Boone</td>
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<td>Samantha Sims</td>
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<td>Samantha Bradley</td>
<td>Chase Slone</td>
<td>Morehead State University</td>
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<td>Sarah Little</td>
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77. * - Synthesis of metal-organic frameworks mimicking carbonic anhydrase enzyme.

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

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

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

80. * - Enantioselective Cross Aldol Reactions of Aldehydes

81. * - Investigating the Synthesis of LMA-P2
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<td>Mike Winchester</td>
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<td>Bangbo Yan</td>
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<td>85. * - The Syntheses of Heteroatom-activated Antibiotics</td>
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<td>Sydney Goff</td>
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<td>86. * - Iron Catalyzed Oxidation of Amines to Imines</td>
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<td>Rachel Whittaker</td>
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<td>Levi Blevins</td>
<td>Ominica Crockett</td>
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<td>88. * - Phenylethynyloxacalixarenes Synthesis</td>
<td>Jacolby Gardner</td>
<td>KC Russell</td>
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<td>89. * - Synthesis and Mechanism study of Isocoumarin Analogues</td>
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<td>90. *</td>
<td>Annulene-Oxacalixarene Hybrids</td>
<td>Elizabeth Osifalujo</td>
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<td>91. *</td>
<td>Synthesis and reactivity of platinum(II) anticancer drug analogs with unsymmetrical ligands</td>
<td>Emily Brown</td>
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**Computer & Informational Sciences - Poster Presentations**

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<td>94.</td>
<td>Encoding and Decoding Messages in Android Applications</td>
<td>Richard Pike</td>
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<td>95. *</td>
<td>Smart Routing Schemes for Dynamic Spectrum Access Network Architectures</td>
<td>Brian Luciano</td>
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<td>96. *</td>
<td>Neighborhood Graphs for Cities in Kentucky: comparison for two distance measures</td>
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#### 97. * - Nutrient Export of the Kentucky River to Detect Possible Eutrophication

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

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

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

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<td>Angie Flores</td>
<td>Florene Bell</td>
<td>Kenton Sena</td>
<td>Thomas Maigret</td>
<td>Chi Jing Leow</td>
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<td>Asbury University</td>
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<td>University of Kentucky</td>
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#### 103. * - Detection of species using eDNA in high elevation habitats in the Sierra Nevada in Sequoia-
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<tr>
<td>104. - Effect of Plastic Microbeads in Two Face Washes on Zebrafish Reproductive Success</td>
<td>Autumn Holley</td>
<td>Indigo Thoman</td>
<td>Tracy Livingston</td>
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<td>105. - Accessing the Direct Toxicity of the Plant Volatile Indole on Herbivores</td>
<td>Rakhi Patel</td>
<td>Abhinav Maurya</td>
<td>Christopher Frost</td>
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<td>106. * - Honeysuckle leaf blight increases leaf loss in Amur honeysuckle</td>
<td>Natalie Holsclaw</td>
<td>Allison Jones</td>
<td>Richard Boyce</td>
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<tr>
<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>
<td>Eastern Kentucky University</td>
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<tr>
<td>108. * - Elevated Resistance to AITC in Wild Bacterial Endophytes of Arabidopsis thaliana</td>
<td>Yohannes Amsalu</td>
<td>Matalynn Shealy</td>
<td>Esther Abiara</td>
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<tr>
<td>109. - Differences in plant communities at natural and constructed upland-embedded wetlands in the Daniel Boone National Forest</td>
<td>Rachel Fedders</td>
<td>Stephen Richter</td>
<td>Eastern Kentucky University</td>
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<tr>
<td>110. - Ecosystem functional consequences of body size variation in an apex predator</td>
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</table>
111. * - Trophic effects of intraspecific body size variation among exploitative and interference competitors

First Author
Renae Steinberger
Eastern Kentucky University

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

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

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

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

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

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

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

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

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

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

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

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

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<tr>
<td>Charles O’Connell</td>
<td>Eric Rappin</td>
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Friday, November 2, 2018  3:00pm - 6:00pm

**Environmental Science - Poster Presentations**

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

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

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

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

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<td>Eric Rappin</td>
<td>Stuart Foster</td>
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<td>Andrew Quilligan</td>
<td>Patrick Collins</td>
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125. - The Kentucky Forecasting System

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

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<td>Jacob Vincent</td>
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127. * - Mercury Bioaccumulation in Bats from Mammoth Cave National Park

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

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

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

First Author
Steven Collett
Murray State University

Co-author
Philip Silva
USDA-ARS


First Author
Josh Durkee
Western Kentucky University

Co-author
Tori Murley
ECTC

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

First Author
Logan Twohey
University of Louisville

Co-author
Jason Naylor
University of Louisville

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

First Author
Caitlin Mullins
Kentucky State University

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

First Author
Jarod Jones
Kentucky State University

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

First Author
Megan Paule
Murray State University

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

First Author
Ariel Smith
Kentucky State University

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

First Author
Marie White
Murray State University
Co-author
Michelle Casey
Murray State University

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

First Author
Constance Brown
Northern Kentucky University
Co-author
Daniel Martin
Northern Kentucky University
Co-author
Trende (Trent) Marc Garrison
Northern Kentucky University
Co-author
Benjamin Currens
University of Kentucky

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
### 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>Saha Cardiovascular Research Center</td>
<td>Nutritional Sciences and Pharmacology</td>
<td>Saha Cardiovascular Research Center</td>
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**143. * - Glutamate-Induced Apoptosis on Olfactory Neuroepithelial Progenitors Derived from Bipolar and Non-Bipolar Subjects**

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<tr>
<td>Kristen Miller</td>
<td>Yonglin Gao</td>
<td>Rifaat El-Mallakh</td>
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<td>Western Kentucky University</td>
<td>University of Louisville</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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<tr>
<td>Jaden Johnson</td>
<td>Louisa Summers</td>
<td>Glendy Pineda</td>
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<td>Berea College</td>
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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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<tr>
<td>Changzheng Wang</td>
<td>Lingyu Huang</td>
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<tr>
<td>Kentucky State University</td>
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WITHDRAWN - Assessment of learning styles and learning retention among the elderly population in Frankfort, Kentucky

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<tr>
<td>Riley James</td>
<td>Joseph Mester</td>
<td>Jonathan Schneider</td>
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<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
<td>Rem Brands</td>
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149. * - Sterilization of Staphylococcus aureus and Pseudomonas aeruginosa using Sanitrol

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<td>Elvin Irihamye</td>
<td>Satya Moolani</td>
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<td>Western Kentucky University</td>
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150. * - L-Serine Reduces Reactive Oxygen Species Yield in Cisplatin Treated Zebrafish Utricles

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<tr>
<td>Evy Perler-Tomboly</td>
<td>University</td>
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151. * - Role of Gonadal Hormones in Cognitive Impairment Due to Hypovolemic Dehydration

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<td>K.N. Thimmaiah</td>
<td>Mark Montgomery</td>
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<tr>
<td>Northwest MS Community College</td>
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152. - Loss of plasmid in plasmid-carrying strains of Escherichia coli treated with phenoxazines

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<tr>
<td>Frederick Bebe</td>
<td>Shasa Hu</td>
<td>Tony Brown</td>
<td>Orien Tulp</td>
<td>University of Science, Arts and Technology</td>
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<tr>
<td>Kentucky State University</td>
<td>University of Miami, Miller College of Medicine</td>
<td>NIH, National Cancer Institute</td>
<td>University of Science, Arts and Technology</td>
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153. - Survival time distribution of advanced stage metastatic melanoma among Whites and Minority populations in Florida

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<tr>
<td>Kristen Eads</td>
<td>Ila Mishra</td>
<td>Noah Ashley</td>
<td>Western Kentucky University</td>
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<td>Western Kentucky University</td>
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154. * - The Effect of Chronic Sleep Fragmentation and 6-OHDA on Microglia Activation
155. * - The Health and Economic Impact of the Pinnacle Trails in a Kentucky Trail Town

First Author  Co-author  Co-author
Glendy Pineda  Louisa Summers  Jaden Johnson
Berea College  Berea College  Berea College

156. * - Vitreous Syneresis in the Human Eye

First Author  Co-author
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KBRIN (UofL)  University of Louisville

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Mathematics - Poster Presentations

157. - Investigating Tire Tracks to Determine a Vehicles Direction

First Author
Richard Cyrus
Morehead State University

158. - Predictive MLS Soccer Ratings

First Author
Taylor Ray
Morehead State

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

Microbiology - Poster Presentations

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

First Author  Co-author  Co-author  Co-author  Co-author
Harrison Gover  Claire Rinehart  Anmol Sandhu  Sahil Chhabra  Samuel Chang
Western Kentucky University  Western Kentucky University  Western Kentucky University  Western Kentucky University  Western Kentucky University

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

First Author
Samuel Chang
Western Kentucky University
161. - Characterization of Mycobacteriophage MooMoo

First Author  Co-author
Amanda Staples  Rodney A. King
Western Kentucky  Western Kentucky University

162. * - Clostridium isolate growth in a zinc-limited environment

First Author  Co-author  Co-author
Kamila Nurmakova  Christopher Lopez  Eric Skaar
Berea College  Vanderbilt University  Vanderbilt University Medical Center  Medical Center

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

First Author  Co-author  Co-author
Christopher Frazier  Brittany Boyken  Rachel Pritchard
Kentucky Wesleyan College  Kentucky Wesleyan College  Kentucky Wesleyan College

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

First Author  Co-author  Co-author  Co-author  Co-author
Sahil Chhabra  Harrison Gover  Samuel Chang  Anmol Sandhu  Claire Rinehart
Western Kentucky University  Western Kentucky University  Western Kentucky University  Western Kentucky University  Western Kentucky University

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

First Author  Co-author
Kaylee Fox  John Carmen
Northern Kentucky University  Northern Kentucky University

166. * - Ruin Genome

First Author
Anmol Sandhu
WKU

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

First Author  Co-author
Joshua Nowacki  Jordan Stacy
KBRIN  KBRIN
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<th>Poster Number</th>
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<th>First Author</th>
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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>Western Kentucky</td>
<td>University Dept. of Physics and Astronomy</td>
<td>Western Kentucky</td>
<td>University Dept. of Astronomy</td>
<td>Western Kentucky</td>
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<td>169. *</td>
<td>Development of a LabView Controlled Rotational Support System for the Dual Radiation Rotating Scattering Mask</td>
<td>Devon Loomis</td>
<td>Alexander Barzilov</td>
<td>Lawrence Madriaga</td>
<td>Ivan Novikov</td>
<td>Western Kentucky</td>
<td>University</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>
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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>
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<td>172. *</td>
<td>Graphene-mediated Surface Enhanced Raman Spectroscopy for Detection of Biomolecules and Monitoring DNA Hybridization</td>
<td>Alexander Banaszak</td>
<td>Sanju Gupta</td>
<td>Western Kentucky</td>
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<tr>
<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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</tbody>
</table>
174. * - Hydrothermally Synthesis and Properties of Mesoporous Molybdenum Disulfide (MoS2) ? Reduced Graphene Oxide Composites

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

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

First Author: Daniela Olivera Velarde
Co-author: Danielle Schaper
Co-author: Christopher Crawford
Berea College

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

First Author: Heather Thompson
Co-author: Benjamin Wollant
Co-author: Kenneth Bader
Berea College

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

First Author: Wyatt Ringo
Co-author: Sanju Gupta
Western Kentucky University

178. * - Phase transitions in charged black holes

First Author: Emily Frame
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
Co-author: Carlos Galiano
Co-author: Akhtar Mahmood
Co-author: Muhammad Saleem
Bellarmine University

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

First Author: Carlos Galiano
Co-author: Muhammad Saleem
Co-author: Akhtar Mahmood
Bellarmine University
181. * - Self-Assembly of Spheres on a Cone Surface

First Author
Talha Rehman
Berea College

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

First Author
John Adamick
Northern Kentucky University

Co-author
John Rademacher
Northern Kentucky University

Co-author
Wayne Bresser
Northern Kentucky University

Co-author
Chari Ramkumar
Northern Kentucky University

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

First Author
Lori Porter
Craft Academy

Co-author
Thomas Pannuti
Morehead State University

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

First Author
Kennedy Pendleton
2001

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

185. - Procedure improvement for FAPbI3 perovskite solar cells

First Author
Valeria Rosa Rocha
Berea College

Co-author
Somin Park
University of Kentucky

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

First Author
Eli Prater
Berea College

Co-author
Martin Veillette
Berea College

Co-author
Brian Leist
Berea College

Co-author
Mothi Ghimire
Berea College

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

Physiology and Biochemistry - Poster Presentations

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

First Author
Muntathar Alshimary
Berea College

Co-author
DeQuantarius Speed
University of Chicago

Co-author
Jean Greenberg
University of Chicago

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

First Author Imelda Saintilma
Berea College

Co-authored by Jeremy Rotty
Uniformed Services University of the Health Sciences

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

First Author Abigail Whitaker
Berea College

Co-authored by David Rodgers
University of Kentucky

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

First Author Helina Asrat
Berea College

Co-authored by Michelle Erickson
US Department of Veterans Affairs

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

First Author Emma Higgins
University of Kentucky

Co-authored by Allison Lane
University of Kentucky

Alexandra Stanback
University of Kentucky

Maddie Stanback
University of Kentucky

Ross Basham
University of Kentucky

Bernardo Aguzzoli
Heberle University of Kentucky

Aaron Silverstein
University of Kentucky

Bennett Collis
University of Kentucky

Bharath Chithrala
University of Kentucky

Co-authored by Robin Cooper
University of Kentucky

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

First Author Nyasha Gombami
Berea College

Co-authored by Alexandria Oviatt
Vanderbilt University

Neil Osheroff
Vanderbilt University Medial Center

194. * - P. gingivalis infection debilitates anti-viral immune responses in gingival epithelial cells
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<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>195. * - Pharmacological identification of cholinergic receptor subtypes in modulation of neural circuits in D. melanogaster</td>
<td>Umair Bhutto</td>
<td>Eashwar</td>
<td>Robin Cooper</td>
<td>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>Allison Harper</td>
<td>Shajila Siricilla</td>
<td>Raymond Johnson</td>
<td>Lauren Lambert</td>
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<td>197. - Regulation of Programmed Genome Rearrangement in the Sea Lamprey</td>
<td>Taylor Stewart</td>
<td>Gena Wilson</td>
<td>Cody Saraceno</td>
<td>Jeremiah Smith</td>
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<td>198. - TBF-B Pathway in relation to down regulation of PTTG gene expression</td>
<td>Alanis Morgan</td>
<td>Kentucky Biomedical Research</td>
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<td>199. * - The Role of Reactive Oxygen Species in Regulating TRPV4 Responses to Stimuli</td>
<td>Zackery Hill</td>
<td>Karthik Suresh</td>
<td>Xin Yan</td>
<td>Laura Servinsky</td>
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<td>University of Pikeville</td>
<td>Johns Hopkins Div of Pulmonary and Critical Medicine</td>
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**Psychology - Poster Presentations**

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

*First Author*
Yabsira Ayele  
*Berea College*

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

*First Author*
briana beckler  
berea college

### 202. * - User Acceptance of Automated Vehicles

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<th>First Author</th>
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<td>Vanessa Jones</td>
<td>Emily Lush</td>
<td>Jorden Crowe</td>
<td>Abigail Mohr</td>
<td>Sydney Young</td>
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### 203. * - The independence of implicit and explicit sequence learning

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<td>Allison Ludwig</td>
<td>Brandi Carey</td>
<td>Gilbert Remillard</td>
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### 204. * - Amazon Mechanical Turk Responses vs. Student Responses

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### 205. - Emphasis and "only" influence sentence interpretation

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<th>First Author</th>
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<td>Victoria Nash</td>
<td>David Potter</td>
<td>Katy Carlson</td>
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<td>Institution</td>
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<td>206. - An Interactive Earth: Augmented Reality and Hands-On Earth Science Inquiry in Schools</td>
<td>Olivia Santangelo</td>
<td>Western Kentucky University</td>
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<td>207. * - Impact of Problem Based Team Learning on Underserved Students in Introductory Biology and Genetics Courses</td>
<td>Shelby Diener</td>
<td>Northern Kentucky University</td>
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<td>208 * - Effects of Foraging Enrichment Predictability on the Behavior and Space Use of Zoo-housed Elephants</td>
<td>Cassandra Perkins</td>
<td>Kentucky Wesleyan College</td>
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<td>209. - Zebrafish Spawning Conditions and Their Effects on Egg Success and Clutch Size</td>
<td>Sydni Anderson</td>
<td>Murray State University</td>
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<td>210. * - The Influence of Endotoxic LPS on Primary Sensory Neurons in Crustaceans</td>
<td>Maddie Stanback</td>
<td>University of Kentucky</td>
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<tr>
<td>211. - Do Males Adjust Courtship Displays According to Female Feedback?</td>
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First Author
Jonathan Eisenhour
Morehead State
University

Co-author
Matthew Fossett
Morehead State
University

Co-author
David Eisenhour
Morehead State
University

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

First Author
Paul Cupp Jr
Eastern Kentucky
University

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

First Author
Jordan Danflous
Kentucky Wesleyan
College

Co-author
Shannon Finerty
Kentucky Wesleyan
College

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

First Author
Sarah Tabor
Berea College

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

"Behind the Scenes at the Corvette Cave-In"

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

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

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

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

**Featured Speakers**

**Jason S. Polk, Ph.D.**
Associate Professor of Geography and Geology
Western Kentucky University

He also is the Director of the Center for Human-GeoEnvironmental Studies (CHNGES) and 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.
Saturday, November 3, 2018  7:00am - 4:00pm
Registration Open
Third Floor, Downing Student Union

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

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

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

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

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

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

First Author  Co-author  Co-author
James Adeyemi   Hank Schweickart   Ibukun Ogunade
Kentucky State  Kentucky State  Kentucky State
University   University   University
08:15 - A Cyanide Group Reduced Cypermethrin Half-Lives on Cucumber Grown Under Greenhouse Conditions

First Author
George Antonious
Kentucky State University

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

First Author
Keerthi Appala
Western Kentucky University
Co-author
Eric Conte
Western Kentucky University
Co-author
John Kasumba
Western Kentucky University
Co-author
Getahun Agga
USDA
Co-author
John H Loughrin
USDA
Co-author
Anne Carlisle
Western Kentucky University

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

First Author
Sujan Bhattarai
Kentucky State University
Co-author
Kenneth Semmens
Kentucky State University

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

First Author
Sathya Govindasamy
Kentucky State University
Co-author
John Sedlacek
Kentucky State University
Co-author
Karen Friley
Kentucky State University
Co-author
Mamata Bashyal
Kentucky State University
Co-author
Megan McCoun
Kentucky State University
Co-author
Jill Fisk
Kentucky State University
Co-author
Krystin Moody
Kentucky State University
Co-author
Katherine Buckler
Kentucky State University

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

First Author
Elmer Gray
Western Kentucky University
Co-author
Sai Pavan Adigarla
Western Kentucky University
Co-author
Sravya Patil Bagli
Western Kentucky University

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

First Author
Quinn Heist
Kentucky State University
Co-author
George Antonious
Kentucky State University
Co-author
Eric Turley
Kentucky State University
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>University, Dept. of Agriculture</th>
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<tbody>
<tr>
<td>09:45</td>
<td>Do Online Shoppers Have Knowledge on Community Supported Agriculture Programs?</td>
<td>Wyatt Lucas</td>
<td>Dominique Gumirakiza</td>
<td>Western Kentucky</td>
</tr>
<tr>
<td>10:15</td>
<td>Evaluation of drug-resistant Enterobacteriaceae on produce from small farms.</td>
<td>Tavin Marshall</td>
<td>Shreya Patel</td>
<td>Kentucky State</td>
</tr>
<tr>
<td>10:30</td>
<td>Optimizing Non-Phytate Phosphorus in Soybean Meal-Based Diets for Largemouth Bass Micropterus salmoides</td>
<td>Kasondra Miller 1994</td>
<td>Gagan Kolimadu</td>
<td>Kentucky State</td>
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<td>10:45</td>
<td>Assessing the Use of Biochar for Immobilization of Trace Elements in Sewage Sludge</td>
<td>Lusekelo Nkuwi Kentucky State University</td>
<td>George Antonious</td>
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<td>Yogendra Yogendra Upadhyaya</td>
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<td>11:00</td>
<td>Efficacy of a fertilization solution created with testes extraction and maceration in largemouth bass</td>
<td>Amit Sharma Kentucky State University</td>
<td>Kenneth Semmens</td>
<td>Kentucky State</td>
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<td>Lusekelo Nkuwi</td>
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</table>
11:30 - Low-Tech hydroponics for beginning and limited resource farmers

First Author
Nanaaishat umar
Kentucky State University

Co-author
Siddhartha Dasgupta
Kentucky State University

Co-author
Richard Bryant
Kentucky State University

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

Chemistry: Analytical/Physical - Oral Presentations

DSU 3007

Section meeting follows talks at 10:30

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

First Author
Tara Croft
Murray State University

Co-author
Bikram Subedi
Murray State University

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

First Author
Brandon VanNess
Morehead State University

Co-author
Melanie West
Morehead State University

Co-author
Sarah Little
Morehead State University

Co-author
Sarah Little
Morehead State University

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

First Author
Corbin Arrasmith
Northern Kentucky University

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

First Author
Adam Martin
Student
Northern Kentucky University

Co-author
Bommanna
Loganathan
Professor

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

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

First Author
Yacine Choutri
Berea College

Co-author
Paul Voziyan
Vanderbilt University
Medical Center

Co-author
Donald Stec
Vanderbilt University
Institute of Chemical Biology


First Author
Ryan Lamb
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

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

First Author
Lovence Ainembabazi
Western Kentucky University

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

First Author
Krista Riggins
Eastern Kentucky University

Co-author
Radhika Dasari
Eastern Kentucky University

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

Ecology - Oral Presentations

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

First Author
Suneeti Jog
Murray State University

Co-author
Jason Bried
Murray State University

Co-author
Tommi Fouts
Northeastern State University

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

First Author
Jason Bried
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
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<tbody>
<tr>
<td>08:30</td>
<td>Verification of a Vegetation Index of Biotic Integrity (KY-VIBI) and a Rapid Wetland Assessment (KY-WRAM) in western KY</td>
<td>Elizabeth Malloy</td>
<td>Stephen Richter</td>
<td>David Brown</td>
<td>Kelly Watson</td>
<td>Michelle Cook</td>
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<td>Eastern Kentucky University</td>
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<td>Kentucky Division of Water</td>
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<tr>
<td>08:45</td>
<td>Does increasing food-web stability mediate the effects of cattle grazing in aquatic ecosystems?</td>
<td>Hannah Moore</td>
<td>Howard Whiteman</td>
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<td>Murray State University</td>
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<td>09:00</td>
<td>Population Dynamics and Foraging Ecology of Copperheads in the Red River Gorge, KY.</td>
<td>Josh Hendricks</td>
<td>Jesse Sockman</td>
<td>Kyle Muenich</td>
<td>Austin Owens</td>
<td>Stephen Richter</td>
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<td>09:15</td>
<td>The Kentucky Arboreal Ant Survey: ant communities among forests and urban greenspaces</td>
<td>Daniella Prince</td>
<td>Benjamin Adams</td>
<td>Stephen Yanoviak</td>
<td>Department of Biology, University of Louisville</td>
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<td>University of Louisville</td>
<td>Natural History</td>
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<td>Museum of Los Angeles County</td>
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<td>09:30</td>
<td>Soil function assessment of urban prairie restoration.</td>
<td>Sarah Benton</td>
<td>Sarah Emery</td>
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<td>University of Louisville</td>
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<tr>
<td>09:45</td>
<td>Beaver-mediated restoration in a degraded desert ecosystem</td>
<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*

<table>
<thead>
<tr>
<th>First Author</th>
<th>University of Louisville</th>
<th>Co-author</th>
<th>Wageningen University</th>
<th>Co-author</th>
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<tr>
<td>Grace Freundlich</td>
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<td>Liana Greenburg</td>
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<td>Sarah Bissmeyer</td>
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<td>Carly Nunamaker</td>
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<td>Chris Frost</td>
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### 10:30 - Assessment of Native Pollinator Habitat Planting Densities and Site Preparation Treatments on Abandoned Agriculture Land

<table>
<thead>
<tr>
<th>First Author</th>
<th>Kentucky State University</th>
<th>Co-author</th>
<th>Kentucky State University</th>
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<tr>
<td>Louis Ross</td>
<td>Kentucky State University</td>
<td>Richard Cristan</td>
<td>Kentucky State University</td>
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</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Western Kentucky University</th>
<th>Co-author</th>
<th>Western Kentucky University</th>
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<tr>
<td>R. Lynn Von Hagen</td>
<td>Western Kentucky University</td>
<td>Bruce Schulte</td>
<td>Western Kentucky University</td>
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### 11:00 - 2018 State of the Resource: Mammoth Cave National Park

<table>
<thead>
<tr>
<th>First Author</th>
<th>Western Kentucky University, Crawford Hydrology Laboratory</th>
<th>Co-author</th>
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<th>Western Kentucky University, Crawford Hydrology Laboratory</th>
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<td>Autumn Turner</td>
<td>Western Kentucky University, Crawford Hydrology Laboratory</td>
<td>Lee Anne Bledsoe</td>
<td>Western Kentucky University, Crawford Hydrology Laboratory</td>
<td>Chris Groves</td>
<td>Western Kentucky University, Crawford Hydrology Laboratory</td>
<td>Cate Webb</td>
<td>Western Kentucky University, Crawford Hydrology Laboratory</td>
<td>Rickard Toomey III</td>
<td>National Park Service, Mammoth Cave National Park</td>
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<tr>
<td>Bobby Carson</td>
<td>National Park Service, Mammoth Cave National Park</td>
<td>Katie Algeo</td>
<td>Western Kentucky University, Crawford Hydrology Laboratory</td>
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### 11:15 * - Impact of season, game fencing, moon phase, and vegetation on activity overlap of ungulate species in Namibia

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<th>First Author</th>
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<td>Emma Reasoner</td>
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<tr>
<td>08:00</td>
<td>Thermoelectric Properties of Graphene-Carbon Nanotube Aerogels as 'Organic' Energy Harvesters</td>
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<td>08:15</td>
<td>High Amplitude variable Active Galactic Nuclei</td>
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<td>08:30</td>
<td>Citizen CATE: citizen scientist observations of 2017 total solar eclipse</td>
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<td>08:45</td>
<td>Nanosecond pulsed laser deposition of Pb thin film on Si (111)</td>
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<td>09:00</td>
<td>NGC 1566: A Temperamental Changing Look AGN</td>
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<td>09:15</td>
<td>Fabrication of Aluminum Nanoparticles via Pulsed Laser Ablation for Bacterial Deactivation</td>
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<td>09:30</td>
<td>Computer Simulation of Atomic-Scale Defects in Intermetallic Compounds</td>
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<td>09:45</td>
<td>Effects of Plastic Deformation and Tensile Strain on Polycrystalline Solids</td>
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<tr>
<td>10:15</td>
<td>Dependence of Helium Atmospheric Pressure Plasma Jet-Induced DNA Damage on Voltage Pulse Frequency and Irradiation Time.</td>
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<td>10:30</td>
<td>Blue Light and UV Blocking Lenses</td>
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<td>10:45</td>
<td>Investigating the Anode Heel Effect at 75kV and 140kV</td>
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<tr>
<td>11:00</td>
<td>Modular Bootstrap Bounds at Finite Central Charge</td>
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<tr>
<td>11:15</td>
<td>Energy Determination in the ISS-CREAM Instrument Using Simulations</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

Co-author  
Austin Schmier  
University of Tennessee

Co-author  
Jerrica Wilson  
University of Tennessee

Co-author  
Mariah McCreary  
University of Tennessee

11:45 * - Nylon or Steel?

First Author  
Tanner Tackett  
Morehead State University

Co-author  
Ignacio Birriel  
Morehead State University

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

First Author  
Hayden Johnson  
Murray State University

Co-author  
Jacob Hall  
Murray State University

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

First Author  
Garrison Turner  
Big Sandy Community and Technical College

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

First Author  
Parker Poulos  
Morehead State University

Co-author  
Dirk Grupe  
Morehead State University

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

First Author  
Alanna Cavins  
Morehead State University

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

First Author  
Thomas Pannuti  
Morehead State
14:30 - Night Sky Quality at Mammoth Cave National Park

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

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

First Author  Co-author  Co-author  Co-author  Co-author
Wesley Ryle  Stephen Williams  Terri Perrino  Sierra O'Bryan
Thomas More College  United States Naval Observatory  Thomas More College  Thomas More College

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

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

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

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

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

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

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

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

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<td>David Kelley</td>
<td>Kyle Damen</td>
<td>James Deddens</td>
<td>Larry Douglass</td>
<td>Leila Valanejad</td>
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<td>Thomas More College</td>
<td>Wood Hudson Cancer Research Laboratory</td>
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<td>Julia Carter</td>
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### 09:00 * - Expression of Cathepsin L, HSP-90, and MAP kinase pathway proteins in bladder cancer characterized by physiology

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<td>Ryan Moore</td>
<td>Kyle Damon</td>
<td>Zachary Taylor</td>
<td>Julia Carter</td>
<td>Zachary Taylor</td>
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### 09:15 * - Mapping the Binding Sites of FATTY ACID SYNTHASE on Chikungunya Viral RNA

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<tr>
<td>Clara Reasoner</td>
<td>Yuqi Bian</td>
<td>Jeffrey Jian</td>
<td>Katherine Rothamel</td>
<td>Byungil Kim</td>
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### 09:30 * - Expression of translation initiation factor eIF4E and phospho eIF4E is increased in human ovarian cancer.

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<td>Larry Douglass</td>
<td>Julia H. Carter</td>
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<td>Wood Hudson Cancer Research Laboratory</td>
<td>University of Cincinnati</td>
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### 09:45 * - Developing engineered zinc finger proteins immobilized on acrylamide gel surface as diagnostic probes for detecting path
## Zoology and Botany - Oral Presentations

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

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

First Author
Rachel Prokopius
Northern Kentucky University

Co-author
John Piccolo
Karlstad Universitet

Co-author
Eva Bergman
Karlstad Universitet

Co-author
Larry Greenberg
Karlstad Universitet

Co-author
Denis Lafage
Karlstad Universitet

Co-author
Richard Durstche
Northern Kentucky University

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

First Author
Matthew Fossett
Morehead State University

Co-author
Jon Eisenhour
Morehead State University

Co-author
David Eisenhour
Morehead State University

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

First Author
Jessica King
Eastern Kentucky University

Co-author
Jennifer Koslow
Eastern Kentucky University

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

First Author
Kiana Mattingly
Bellarmine University

Co-author
Robert Day
Bellarmine University

Co-author
Joann Lau
Bellarmine University

Co-author
David Robinson
Bellarmine University

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

First Author
Maggie Whitson
Northern Kentucky University

Saturday, November 3, 2018  9:00am - 3:00pm
### Exhibitors Tables

Third Floor, Downing Student Union

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

---

### Statistics consultations

**DSU 3018**

Calling all researchers! Take advantage of the experts at UK's Applied Statistics Lab, courtesy of KBRIN! If you have data you're working with now, or if you're still designing a project, let the statistics experts help you sort out your data analysis. Find out more and make an appointment in advance: [https://www.kyscience.org/statistics_consults_at_kas.php](https://www.kyscience.org/statistics_consults_at_kas.php)

---

### Student Competition Awards

Third Floor, Downing Student Union

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

---

### Past Presidents Lunch & Annual Business Meeting

Cupola Room (inside Fresh Dining Hall)

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

---

### Oral Presentations - Saturday Afternoon

**Asterisk * denotes student research competition**

---

### 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
Stephen Ramirez
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

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
Stephen Ramirez
Northern Kentucky University

Co-author
Ayanov Roy
Northern Kentucky University

Co-author
Lili Ma
Northern Kentucky University

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

WITHDRAWN - Pyridine N-Oxide Assisted Activation of Alkynes by Visible Light Photo-Redox Catalysis
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15</td>
<td>Inadvertent local climate modification at a regional university in Kentucky, USA</td>
<td>Donald Yow, Eastern Kentucky University</td>
<td>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>Tori Farrow, Kentucky State University</td>
<td>Jeremy Sandifer, Kentucky State University</td>
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<tr>
<td>13:45</td>
<td>Analyzing sanitary sewer overflow event response to storm frequency</td>
<td>Christopher Andrew, University of Louisville</td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>Comparing Sediment Yield of Selected Forest Ecosystems Using SWAT in Bell Watershed, Kentucky</td>
<td>Aman Bhatta, Kentucky State University</td>
<td>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>Saaruj Khadka, Kentucky State University</td>
<td>Buddhi Gyawali, Kentucky State University</td>
</tr>
<tr>
<td>14:30</td>
<td>How economic geography might have saved the Mammoth Cave Mushroom Company</td>
<td>Katie Algeo, Western Kentucky University</td>
<td></td>
</tr>
<tr>
<td>14:45</td>
<td>Observing Boundary Layer Heights over Mountainous Terrain Using Aircraft Vertical Profiles</td>
<td>-</td>
<td>First Author</td>
</tr>
</tbody>
</table>
15:00 - Mapping Opioid Epidemic in Kentucky’s Counties

First Author
Charlie Zhang
University of Louisville

Health Science - Oral Presentations

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

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: â€¢ Changing Trends and Future Burden â€¢

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
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:15</td>
<td>Effects of alpha &amp; beta-adrenergic receptor blockade upon inflammatory responses &amp; microglia activation to sleep loss.</td>
<td>First Author: Nicholas Wheeler, Co-author: Noah Ashley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author: Dave Monroe, Omer San, Ali Er</td>
</tr>
</tbody>
</table>

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

**Mathematics - Oral Presentations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15</td>
<td>A Study of Non-Linearity in a Simple Pendulum</td>
<td>First Author: Ethan Caudill, Co-author: Jennifer Birriel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author: Morehead State University</td>
</tr>
<tr>
<td>13:30</td>
<td>Using Topology to find Copyright Infringement</td>
<td>First Author: Jeremiah Halter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author: Morehead State University</td>
</tr>
<tr>
<td>13:45</td>
<td>From the Hardwood to the Spreadsheet</td>
<td>First Author: Christopher Napier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author: Morehead State University</td>
</tr>
<tr>
<td>14:00</td>
<td>Dr. Strangelog or: How I Learned to Stop Worrying and Love the Slide Rule</td>
<td>First Author: Dwight Smith, Kentucky Community and Technical College System</td>
</tr>
<tr>
<td>14:15</td>
<td>Additive 3-Choosability of Planar Graphs with Girth 20</td>
<td>First Author:</td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>First Author</td>
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<tr>
<td>14:30</td>
<td>Rational Points on Circles and the Birch and Swinnerton-Dyer Conjecture</td>
<td>Andy Martin</td>
</tr>
<tr>
<td>14:45</td>
<td>Applying the Hastings-Metropolis algorithm to chessboard placement problems</td>
<td>Doug Chatham</td>
</tr>
<tr>
<td>15:00</td>
<td>An Examination of Discrete Least Squares Approximation Techniques</td>
<td>Mark Robinson</td>
</tr>
<tr>
<td>15:15</td>
<td>Random Operators and Dynamical Localization</td>
<td>Kyle Besing</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>
</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>
</tr>
</tbody>
</table>

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

**Science Education - Oral Presentations**

**DSU 3006**

**Section meeting follows talks at 2:45**

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

- **First Author**
  - Andy Martin
  - Kentucky State University

- **Co-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
Annual Meeting Overview
WKU Info
Registration & Abstracts
Friday Plenary & Reception
Parking & Maps
Food options
Hotel Accommodations
Photo contest
Exhibitors
Sponsors
Student Competitions
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