2017 Annual Meeting Program
November 3-4, 2017

Murray State University

Thank you to our Platinum Sponsor

Thank you to our Break Sponsors
Thank you to our Silver Sponsors
Online Program, October 30, 2017
Poster presentations are all on Friday
Oral Presentations are all on Saturday

<table>
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<tr>
<th>Event</th>
<th>Time</th>
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<tbody>
<tr>
<td>KAS Governing Board meeting</td>
<td>Friday, November 3, 2017 1:00pm - 3:00pm</td>
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<tr>
<td>Commonwealth Suite</td>
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<td>Open to all KAS members</td>
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<th>Event</th>
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<tr>
<td>Meeting for Section Leaders and Judges</td>
<td>Friday, November 3, 2017 3:00pm - 4:00pm</td>
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<tr>
<td>The Stables, Curris Center</td>
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<td>1st floor</td>
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<td>If you are serving as a Judge or Section leader, please attend this meeting for a brief orientation to the student competition process and to pick up materials.</td>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017 3:00pm - 9:30pm</td>
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<td>Tennessee Room, Curris Center</td>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017 3:00pm - 9:30pm</td>
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<td>Cumberland Room, Curris Center</td>
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<tr>
<td>Tour - Hancock Biological Station</td>
<td>Friday, November 3, 2017 3:00pm - 5:00pm</td>
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<tr>
<td>Meet in front of Curris Center</td>
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<td>for van pickup</td>
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<td>2 hour round trip</td>
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**Hancock Biological Station** - The Hancock Biological Station (HBS), located on Kentucky Lake less than 20 minutes from the campus, is a year-round teaching and research ecosystem facility where students have unique opportunities to interact with faculty and visiting scientists. A variety of field courses are taught each summer at the
**KAS Business meeting**

**Mississippi Room, Curris Center**

President: Darrin Smith

Open to all KAS members. We will announce results of Board Elections, hear an update about the Raymond and Marcia Athey funds that endow our research grants, and provide other updates about KAS activities. Refreshments provided.

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**Poster presenters Check-In**

**3rd floor of Curris Center**

Chair: Kevin Revell          Co-chair: ANGELA GUYTON

Poster presenters, please check in to verify your poster placement.
If you are participating in a student competition you will also receive further instructions here.

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**Tour - Biology Building**

**Meet in the lobby**

*The Biology Building* was completed in 2008. It houses 7 teaching labs, several lecture spaces, 12 research labs, office space, the Herbarium, Animal Collection, Animal Care Facility and a Molecular Biology Facility. Additional Biology teaching and research spaces are located in Jones Hall (Chemistry) and the new Engineering Physics Buildings.

[Campus map](#)

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**Tour - Chemistry Building**

**Meet in the lobby**

In May 2009, the Department of Chemistry moved into the newly constructed Jesse D. Jones Hall. In our main entryway we feature a Living Periodic Table, built by Mr Jim Barnett, displaying many samples of actual elements. The Chemical Services Laboratory provides state of the art chemical analytical services and expertise in the areas of Environmental Analysis, Organic Synthesis, Inorganic Substance Analysis, Controlled Substance Analysis, Bio assay & Bio-analytical Techniques and much more! The Polymer and Materials Characterization Laboratory houses our Dynamic Mechanical Analyzer (DMA), which was purchased after the Chemistry Department was awarded a highly competitive Major Research Instrumentation grant from the National Science Foundation. In addition to our differential scanning calorimeter, a thermogravimetric analyzer, a gel permeation chromatography system, a density
The Chemistry Department provides access to the most advanced instrumentation including a JEOL 400-MHz Nuclear Magnetic Resonance Spectrometer, and major equipment in the areas of chromatography, thermal analysis, and inert atmosphere systems. Much of our instrumentation was purchased through a generous gift from Dr. Jesse D. Jones (Chemistry '64) and is housed in the Jones/Ross Research Center.

Friday, November 3, 2017  4:00pm - 5:00pm

Tour - Mapping Applications and Resource Center (MARC)
Meet outside of Blackburn

**MARC/Geosciences** - The tour will bring conference attendees to the Mapping Applications and Resource Center (MARC) on the 4th floor of the Blackburn Science Building. We will show our computer classrooms, large-format scanners and printers, and GPS equipment for geospatial technologies. The participants will visit our Terrain Modeling Lab that houses a stream table, an augmented reality sandbox, and a 3D printer. They will also visit our Environmental Monitoring and Modeling lab.

Campus map

Friday, November 3, 2017  4:00pm - 5:00pm

Tour - New Institute of Engineering facility
Meet in the lobby

The Engineering and Physics building was completed in 2017 and houses the Institute of Engineering – mainly programs in Engineering Physics (Mechanical Engineering, Electrical Engineering, Biomedical Instrumentation and Aerospace Engineering) and Physics. Student laboratory spaces associated with these programs include: Physics electricity and magnetism, Physics mechanics, circuits, fluid mechanics, standards/measurement, senior design, rapid prototype, optics, astronomy, and the high-bay research and development lab. In addition, there are lab and research spaces for Biology and Chemistry. Engineering and Physics faculty have dedicated research labs to include: solid state Physics, advanced Physics, astrophysics, swarm systems, automated manufacturing, non-destructive testing, thermos-fluid energy devices, power systems, and laser and photonics.

Campus map

Friday, November 3, 2017  5:00pm - 3:00pm

Judges conference room
Commonwealth Suite, Curris Center

This room is available if judges wish to use it for conference.

Friday, November 3, 2017  5:00pm - 8:00pm

Posters: Agricultural Sciences
Curris Center
effects of excess dietary branched chain amino acids (leucine and isoleucine) on growth and health of Nile tilapi

61.

First Author: Cora Teets
Co-author: Waldemar Rossi
Co-author: Vikas Kumar
Kentucky State University

A Comparison of the Characteristics of Kentucky and Illinois Soils Under Various Land Cover

62.

First Author: Bernedette Chadwick
Co-author: Michael Mercer
Co-author: Bailey Webster
Co-author: Brandon Clark
Co-author: Iin Handayani
Murray State University

Co-author: Bailey Webster
Murray State University

Co-author: Brandon Clark
Murray State University

Co-author: Iin Handayani
Murray State University

Co-author: Brian Parr
Murray State University

Dehydration of autumn olive berries for human consumption

63.

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

Co-author: Cecil Butler
Kentucky State University

Developing cold-hardy perennial ornamentals for Kentucky

64.

First Author: Hideka Kobayashi
Kentucky State University

Distinguishing Differences of Soil Physical Properties in Irrigated and Non-Irrigated Corn-soybean Rotation and Pastur

65.

First Author: Harry Franklin
Murray State University

Co-author: Duncan Thomas
Murray State University

Co-author: Connor Raymond
Murray State University

Co-author: Jacob Flemming
Murray State University

Co-author: Iin Handayani
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Co-author: Brian Parr
Murray State University
<table>
<thead>
<tr>
<th>Title</th>
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<tbody>
<tr>
<td>Effects of fertilization on growth performance of lotus plants in containers</td>
<td>Changzheng Wang</td>
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<tr>
<td>Impact of Soil-Set®, Grain-Set®, and Liqui-Plex® Formulations on Hot Pepper Yield</td>
<td>GEORGE ANTONIOUS KENTUCKY STATE UNIVERSITY</td>
<td>Kirk Pomper</td>
<td>Eric Turley</td>
<td>Quinn Heist</td>
<td>Thomas Trivette</td>
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<tr>
<td>Online Shoppers; Who Attends Farmers' Markets, Who Does Not, and Why?</td>
<td>Jean Dominique Gumirakiza Western Kentucky University</td>
<td>Thomas Kingery</td>
<td>Stephen King</td>
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<tr>
<td>Soil Distinguishing Factors in Pasture and Irrigated Soils in Tennessee, Kentucky, and Illinois</td>
<td>Spencer Fulkerson Murray State University</td>
<td>joel reddick</td>
<td>Landon Williams</td>
<td>Blake Remmert</td>
<td>iin Handayani</td>
</tr>
<tr>
<td>Soil Properties in Varying Crop and Non-Crop Areas of Calloway County, Kentucky</td>
<td>Zack Eells Murray State University</td>
<td>Canaan Wring</td>
<td>Clay Smotherman</td>
<td>Connor Moore</td>
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<td>The Impact of Cropping Systems on Soil properties in Fredonia and Princeton Kentucky</td>
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Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil

Analyzing Quality and Quantity of Binary and Pure Stands of Low Lignin and Standard Alfalfa

Is there an association between sex ratio and the level of sex expression among plant populations?

Detection of Cryptic Interspecific Hybridization Between Morus rubra and M. alba Using Molecular Markers

Is wintercreeper’s (Euonymus fortunei) success as an invader due to avoidance of herbivory?
Building an interactive tree map for the Bellarmine University campus.

77.

First Author
David Robinson
Bellarmine University

Co-author
Kaitlyn Yates
Bellarmine University

Assessing the role of the gene, pebbled, in D. melanogaster ASP Invasive Behavior

78.

First Author
Hasan Salim
WKU

Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye

79.

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KBRIN

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Rebecca Petersen
University of Kentucky

Co-author
Wen Wen
University of Kentucky

Co-author
Ann Morris
University of Kentucky

Characterizing the role of CP1 in Drosophila melanogaster and its effects on basement membrane degradation and signaling

80.

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Examining Gene Expression during Xenopus Embryonic Development

81.

First Author
Maria Stewart
Northern Kentucky University

Co-author
Emily Shifley
Northern Kentucky University

Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster

82.
<table>
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<td>Lee Kendall</td>
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<td>Amber Follin</td>
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<td>Sarah Kunkler</td>
<td>Emily Shifley</td>
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<td>Katelyn Dunn</td>
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<td>Nicholas Brinkman</td>
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<td>Henry Kwan</td>
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<td>Kendall Collins</td>
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<td>Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos</td>
<td>Conner Hounshell</td>
<td>Courtney Waterbury</td>
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<td>Jeremiah Smith</td>
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<td>Sex Specific Gene Control of Cardiac Fibrosis</td>
<td>Bruce Northington</td>
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<td>Annotation of Spock and Inky Mycobacteriophages</td>
<td>Brittany Farnsley</td>
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<td>Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins</td>
<td>Jiyoung Shim</td>
<td>Barnabas Kim</td>
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<td>Functional and genetic studies of the tRNA modification protein Trm732 in yeast</td>
<td>Hannah Sizemore</td>
<td>Daisy DiVita</td>
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<td>Julia Ziebro</td>
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<td>Exploring Small Molecule Drugs Binding To Ribosomal Protein L11</td>
<td>Swetaben Patel</td>
<td>Michal Hetman</td>
<td>University of Louisville</td>
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<td>Lukasz Slomnicki</td>
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<td>University of Louisville</td>
<td>University of Louisville</td>
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<td>IDENTITY OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY</td>
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</table>
RELATIONSHIP
94.
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NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells
95.
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SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis
96.
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Thomas Case
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Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days
97.
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Identification of the enzyme responsible for the acp3U modification in bacteria
98.
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Justen Mamaril
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Michael Guy
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University

Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces
cerevisiae
99.
First Author
Analysis of Protein Conformations Using Computer Simulations

1.
First Author
Jonnah McManus
Western Kentucky University Chemistry / Gatton Academy

GC-MS analysis of Volatile Organic Compounds in Metastatic and Non-Metastatic Breast Cancer Cells

2.
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Clara Reasoner
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Co-author
Amanda Siegel
Indiana University

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Anaerobic Degradation of Tetracyclines in Agricultural Manure

3.
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Brandon Couch
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John Kasumba
Western Kentucky University

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John Loughrin
usda

Co-author
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Community Usage of Select Illicit and Prescribed Drugs and their Occurrence in the Clarks River

4.
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Allie Skees
Department of Chemistry, Murray State University

Co-author
Katelyn Foppe
Department of Chemistry, Murray State University

Co-author
Bikram Subedi
Department of Chemistry, Murray State University

Towards the creation of turn-on fluorescent Schiff base probes for hydrogen sulfide detection

5.
First Author
Maxwell Conte
Polyunsaturated Fatty Acid Profile in Hemp-Fed Chicken Egg

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Cole Hulen
Murray State University

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Department of Agriculture Science, Hutson School of Agriculture, Murray State University

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Department of Chemistry, Murray State University

Co-author
Bikram Subedi
Department of Chemistry, Murray State University

From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation

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Kevin Pierce
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Alex Thome
Murray State University

Co-author
Jill Cao
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Sebastian Jezowski
Murray State University

The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index

First Author
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Eastern Kentucky University

Co-author
Lori Wilson
Eastern Kentucky University

Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA

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Tomas Flores
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Berea College

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Sara Garner
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Sedimentation Fractionation

First Author
Michael Greiving
KYSU
Salt-Assisted Ultrasonicated De-aggregation and Advanced Electrochemistry of Detonation Nanodiamond.

11.

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Western Kentucky University

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Alex Henson
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Sanju Gupta
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Comparison of Inorganic Elemental Concentrations in Water Samples and Occurrence of Zebra Mussels in Kentucky Lake, USA

12.

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David White
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ZrO2-?-Cyclodextrin (CD) catalyzed synthesis of 2,4,5-trisubstituted imidazoles and 1,2-disubstituted benzimidazoles

13.

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Paul Grisham
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Co-author
Lindsay Massie
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Water Purification using Magnetic Biochar

14.

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Anne Carlisle
Western Kentucky University

A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms

16.
Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification
190.

First Author
Demetrius Davis
Kentucky State University
University of Kentucky

Application of metal-organic framework materials in dye-sensitized solar cells
17.

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Bangbo Yan
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Effect of Iron charge state on P450 BM3 stability
18.

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Edith Glazer
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Fluorescence properties of metal-organic frameworks containing ruthenium and copper ions.
19.

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Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors
20.

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Rachel Allenbaugh
Murray State University
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

21.

First Author
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Western Kentucky University

Light Activated Ruthenium Peptide Hybrids

22.

First Author
Lydia Millard
Kentucky State University

N-Heterocyclic Carbene Complexes

23.

First Author
Mario Chavarria
Berea College
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Cheyenne Haynes
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Optimization of lipid extraction from Scenedesmus acutus via in-situ transesterification

24.

First Author
Vincent Kelly
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Co-author
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University of Kentucky

Photocatalytic reduction of carbon dioxide by metal-organic framework materials.

25.

First Author
Hannah Brooks
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Co-author
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Promotional Effect of Platinum on Nickel Catalysts in the Conversion of Lipids to Hydrocarbons in Diesel Range

26.

First Author
Kelsey Huff
Kentucky State University
Co-author
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University of Kentucky's Center for Applied Energy Research
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University of Kentucky's Center for Applied Energy Research
Co-author
Mark Crocker
University of Kentucky's Center for Applied Energy Research
### Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Knöller-type Catalyst

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<th>First Author</th>
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<tr>
<td>Alexandra Redden</td>
<td>Rachel Whittaker</td>
<td>Kane Ferguson</td>
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<td>Murray State University</td>
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### Selective C–O bond reductions in carbohydrate derivatives using boron based reagents

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<tr>
<td>Luis Gonzalez Anguiar</td>
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<td>Berea College</td>
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### Solid-Phase Synthesis of Heteroatom-Activated Antibiotics

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<td>Morgan Uebelacker</td>
<td>Jacob Nanney</td>
<td>Kyle Watson</td>
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### Storage of Solar Energy in Strained Bis-Anthracene Cycloadducts and Release as Heat by Mechanical Grinding

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<td>Erin Calvert</td>
<td>Kasey Clear</td>
<td>Sebastian Jezowski</td>
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### Synthesis and catalytic studies of metalloporphyrin complexes as biomimetic models for cytochrome P450 enzymes

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<td>Benjamin Kash</td>
<td>Haiyan Liu</td>
<td>Rui Zhang</td>
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<td>Gatton Academy, Western Kentucky University</td>
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### Synthesis and Properties of a Ruthenium Polypyridyl Complex

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<td>Hannah Cope</td>
<td>Bangbo Yan</td>
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<td>University</td>
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</table>
Synthesis of Cleavable Acetal Antibody Drug Conjugate

First Author
Luis Salazar Guzman
Berea College

Synthesis of Platinum-Malonate-Luteinizing Hormone Releasing Hormone (Pt-Mal-LHRH), an Anti-Cancer Agent

First Author
Charles Greif
Eastern Kentucky University

Synthesis of Poly(4-hydroxystyrene) by Living Anionic Polymerization for Block Copolymer Lithography

First Author
Beau Schweitzer
Berea College

Synthesizing Cleavable Acetal Antibody Drug Conjugates

First Author
Michael James
Co-author
Sarah Tabor
Co-author
Elizabeth Thomas
Berea College

Friday, November 3, 2017  5:00pm - 8:00pm

Posters: Computer and Informational Sciences
Curris Center

Chair: Jerzy Jaromczyk
Secretary: Muzaffar Ali

Incorporating WeBWorK in a Mathematics Classroom

First Author
Haley Replogle
Co-author
Kyle Besing
Kentucky Wesleyan College

Open Science Grid (OSG) Tier2 Grid Site at Bellarmine University for the LSST (Large Synoptic Survey Telescope) Project.

First Author
### American Chestnut restoration in Daniel Boone National Forest: a GIS approach

100.

**First Author**  
Jacob Pease  
*Murray State University*

### Comparative Analysis of Soil Elemental Composition Using Portable X-Ray Fluorescence In Multiple Land Use Practices

101.

**First Author**  
Ellyn Anthony  
*Kentucky State University*

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*Kentucky State University*

**Co-author**  
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### Ant communities of temperate tree canopies along an urban-rural gradient

102.

**First Author**  
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**Co-author**  
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**Co-author**  
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### Is it enough? Passive Restoration in a Western Colorado Stream

103.

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

**Co-author**  
Howard Whitemand  
*Murray State University*
The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils

First Author
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Leaf Toughness in Tropical Rainforest Plants Depends on Leaf Age in Dicots but Not Monocots

First Author
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Co-author
Christopher Frost
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Examining the Relationship Between Temperature and Vegetation Phenology: Is Soil a Better Predictor than Air?

First Author
Kevin "Austin" Johnessee
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Effect of Slope and Packing Ratio on the Behavior of Matchsticks Burnings

First Author
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Sunil Karna
Sunil Karna
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Sunil Karna
Union College

Site selection by the Jefferson's and spotted salamanders based on substrate pH

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Assessing the effects of urban air pollution on lichens

First Author
Austin Adam
Bellarmine University
Co-author
Roberta Challener
Bellarmine University

The Effects of Stream Degradation on Food Web Stability

First Author
Hannah Moore
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<table>
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<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
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<tbody>
<tr>
<td>Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.</td>
<td>Spencer Phillips</td>
<td>Nathan Tillotson</td>
<td>Ben Tumolo</td>
<td>Michael Flinn</td>
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<td>Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status</td>
<td>Alishea Brown</td>
<td>Farida Olden</td>
<td>Stephen Yanoviak</td>
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<td>Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees</td>
<td>Maria Shields</td>
<td>Christopher Frost</td>
<td>Stephen Yanoviak</td>
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<td>Driver bias in intentional wildlife-vehicle collisions</td>
<td>Mary Wilkinson</td>
<td>Terry Derting</td>
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<td>Using Hardiness Zones to Determine Phenological Variation</td>
<td>Whitney Buechler</td>
<td>Bassil El Masri</td>
<td>Paul Gagnon</td>
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<tr>
<td>Assessing Stormwater Impacts and Hydrogeological Influences on Water Quality in an Urban Karst Lake</td>
<td>Rachel Kaiser</td>
<td>James Shelley</td>
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</tr>
</tbody>
</table>

Is aboveground pathogen load influenced by belowground pathogen presence, plant community
Insect Pollinator Diversity in Gardens Across an Urban-to-Suburban Gradient

First Author
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Co-author
Margaret Carreiro
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Co-author
Lindsay Nason
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Co-author
Perri Eason
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Co-author
Amy Cherry
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Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.

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Susan Hendricks
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Co-author
Mindy Armstead
Marshall University
Co-author
Bill Ford
University of Kentucky
Co-author
Jimmy Fox
University of Kentucky

Improving Detection and of a Threatened Anuran Species (Lithobates areolatus) in Western Kentucky

First Author
Michaela Lambert
University of Kentucky

Exploring the impact of body size variation on trophic cascades using mole salamanders (Ambystoma talpoideum)

First Author
Robin Baker
Murray State University
Co-author
Cy Mott
Eastern Kentucky University
Co-author
Katelyn May
Murray State University
Co-author
Howard Whiteman
Murray State University

Ability of Bald Cypress (Taxodium distichum) to enhance aquatic structure in backwater embayments of reservoirs

First Author
Christy Soldo
### Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes

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<td>Sarah Bissmeyer</td>
<td>Chris Frost</td>
<td>Grace Freundlich</td>
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### Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

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<tr>
<td>Andrew Nesselroade</td>
<td>Ronald Sams</td>
<td>Cierla McGuire</td>
<td>Sumathi Sankaran-Walters</td>
<td>Mike McGrann</td>
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<td>Malinda Stull</td>
<td>Ben Brammell</td>
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<td>Perri Eason</td>
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### Caterpillar Predation Rates Across an Urban-Suburban Gradient

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<td>Amy Cherry</td>
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### Proliferation of Zebra Mussels (Dreissena polymorpha) in Kentucky Lake during 2017

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<tr>
<td>Michael Flinn</td>
<td>Melody Feden</td>
<td>Ben Ferguson</td>
<td>Bradley Hartman</td>
<td>Kayleen Parker</td>
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<td></td>
<td>Spencer Phillips</td>
<td>Ivan Roe</td>
<td>Christy Soldo</td>
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<td>Susan Hendricks</td>
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</tbody>
</table>
### Detection of Percopsis omiscomaycus (trout-perch) using eDNA in eastern Kentucky streams.

**First Author**
Andrew Nesselroade
**Co-author**
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**Co-author**
David Eisenhour
**Co-author**
Brooke Washburn
**Co-author**
Lynn Eisenhour

**Co-author**
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### Ant tarsal adhesion on oak leaves differing in trichome density

**First Author**
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**Co-author**
Steve Yanoviak

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**Co-author**
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**University of Louisville**

### Body Size of Leaf-Carrying and Hitchhiking Leafcutter Ants in a Tropical Forest

**First Author**
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**Co-author**
Chris Nunamaker
**Co-author**
Steve Yanoviak

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**University of Louisville**

### Assessing the diet of Perimyotis subflavus and Nycticeius humeralis bats before and after the occurrence of WNS

**First Author**
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**Co-author**
Amie Towery
**Co-author**
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**Murray State University**

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### Health of the Lee Branch on the Midway University Campus: Biological stream assessments and stream habitat assessments

**First Author**
John Delfino
**Co-author**
Guipsy Lopez
**Co-author**
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**Midway University**

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**University**

### Relationship between fish biomass and eDNA in central Kentucky streams.

**First Author**
Ramon Guivas
**Co-author**
Kyle Laufenburger
**Co-author**
Ben Brammell

**Asbury University**

**Co-author**
Asbury University
**Asbury University**
## Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.

<table>
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<td>Kayleen Parker</td>
<td>Claire Fuller</td>
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## Assessing Mussel Condition and Potential Dam Impact on the Green River, KY

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<td>Lauren Mayton</td>
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<td>Campbellsville</td>
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## Herbivory rates of Amazonian melastomes are unaffected by the presence of domatia-inhabiting ants

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<td>Jeffrey Fox</td>
<td>Chris Frost</td>
<td>Steve Yanoviak</td>
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<td>University of Louisville</td>
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## Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

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<td>Onyinye Uwolloh</td>
<td>Sarah Farrar</td>
<td>Kimberly Wolfe</td>
<td>Steven Castellano</td>
<td>Richard Boyce</td>
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### Posters: Engineering

**Curris Center**

- **Chair:** Aaron Daley
- **Secretary:** shen liu

#### Green Roofs: Synergistic Benefits to Energy and Environmental Building Design

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<td>Emery Ginger</td>
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#### Automated Control System For Photo-bioreactor
**Biomass Stove Design Project: Automated Fuel Feeder System**

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<tr>
<td>Chance Davice</td>
<td>Mark Mahoney</td>
<td>Constantine Botimer</td>
<td>Chris True</td>
<td>Jedidiah Radosevich</td>
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**Integrated Computational Design of Tunable 3D CNT/Graphene Hybrid Nanomaterials**

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<tr>
<td>Tyler Stoffel</td>
<td>Jordan Garcia</td>
<td>Charles Lu</td>
<td>Johnson Joseph</td>
</tr>
<tr>
<td>University of Kentucky</td>
<td>University of Kentucky</td>
<td>University of Kentucky</td>
<td>Fiat Chrysler Automobiles</td>
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</table>

**Quantification of Cast Aluminum Pores using MATLAB (by Rayens, N., Cai, P., and Zhai, T.)**

<table>
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<tr>
<td>Nathan Rayens</td>
<td>Tongguang Zhai</td>
<td>Pei Cai</td>
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<tr>
<td>University of Kentucky</td>
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**Friday, November 3, 2017  5:00pm - 8:00pm**

**Posters: Geography**

**Curris Center**

Chair: Buddhi Gyawali  
Secretary: Christopher Day

Comparing Vegetation Index and Classification methods for detecting agriculture conservation practice using Landsat imag

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<td>Kenneth Hancock</td>
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Unmarked Burial Identification at the Frankfort, KY Cemetery using Ground Penetrating Radar and LIDAR data

<table>
<thead>
<tr>
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</table>
Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

First Author
Aman Bhatta
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Co-author
Saaruj Khadka
KYSU

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Variability of Soil Organic Carbon Storage in Alluvial Landforms: A Case Study from Western Kentucky

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Gary Stinchcomb
Murray State University: Department of Geosciences

LATE HOLOCENE PALEOFLOOD DEPOSITIONAL SEQUENCES: MIDDLE TENNESSEE RIVER VALLEY, USA

49.
SITE FORMATION OF THE MIDDLE PLEISTOCENE FARRE ARCHAEOLOGICAL SITE, NORTHERN KENYA

50.

First Author
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Co-author
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Murray State
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INVESTIGATION OF OMNIVORY IN THE DRILLING GASTROPOD, UROSALPINX CINEREA, USING STABLE ISOTOPE ANALYSIS

51.

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Friday, November 3, 2017 5:00pm - 8:00pm

Posters: Health Sciences
Curris Center

Chair: Bruce Branan
Secretary: Avinash Tope

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137.

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Demographic/occupational/tumor characteristics & extent of metastasis melanoma patients diagnosed in Florida, 1996-2010

138.

First Author
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University of Miami, Miller College of Medicine

Co-author
Tony Brown
USAT College of Medicine & graduate School

Co-author
Orien Tulip
USAT College of Medicine & graduate School

Effect of select phytochemicals on salivary and urinary pH

139.
Effects of salt on the textural characteristics of fish meatballs prepared from deboned Asian carp meat

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Health Impact of a Shared Use Path in Rural Appalachia: A Pilot Study

Immunogenicity of Novel Vaccines for Hepatitis C Virus

Measurement of Influenza Severity in Tennessee Hospitalized Patients, 2016-2017

Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptiv
The Relationship Between Maternal Physical Activity and Infant Motor Development

146.

First Author
Nikitha Rajendran
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Co-author
Rachel Tinius
Western Kentucky University

Urinary 8-OHdG as a Non-Invasive Biomarker of Oxidative Stress in Metabolic Syndrome (MetS)

147.

First Author
Bisola Asaolu
Kentucky State University

Co-author
Avinash Tope
Kentucky State University

Using engineered zinc finger proteins to detect pathogen-specific DNA

148.

First Author
Caleb Sedlak
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Zinc, Dietary Fat, and Sex have Interacting Influences on BTBR Mice in the Open Field Test

149.

First Author
Kandis Arlinghaus
Bellarmine University

Co-author
Nicholas Mellen
University of Louisville

Posters: Microbiology

Friday, November 3, 2017  5:00pm - 8:00pm

Inactivation of Fungal Spores with Heat and UVC

150.

First Author
Colin Hartman
Northern Kentucky University

Co-author
Sarah Goodrich
Northern Kentucky University

Co-author
Mitchel Lange
Northern Kentucky University

Co-author
Zadah Coy
Northern Kentucky University

Co-author
Joseph Mester
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Mycobacteriophages: Inky and Spock</td>
<td>Moria Magre</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
<td>Spalding University</td>
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<tr>
<td>Antifungal Endophytes as a Source of Novel Bioactive Compounds</td>
<td>Katie Sawvell</td>
<td>John Carmen</td>
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<td>Northern Kentucky University</td>
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<td>Production of hydrogen peroxide as a virulence factor by Mycoplasma mycoides subspecies capri</td>
<td>Zackery Newton</td>
<td>Rachel Pritchard</td>
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<td>The Prevalence of Bacteria Resistant to Vancomycin and Colistin in Waters Around Louisville</td>
<td>Rachel Mahbubani</td>
<td>Amy Priest</td>
<td>Annie Koenig</td>
<td>Easton Ford</td>
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<td>Isolation and Characterization of the Mycobacteriophage Acquire49</td>
<td>Charles Mosley</td>
<td>Tyler Burton</td>
<td>John Starnes</td>
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<td>Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates</td>
<td>Zaria Elery</td>
<td>John Carmen</td>
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<td>SURVEY OF VANCOMYCIN- AND COLISTIN-RESISTANT BACTERIA IN ENVIRONMENTAL WATER SAMPLES ACROSS LOUISVILLE</td>
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Non-pathogenic Neisseria sicca ATCC 29256 undergoes natural transformation

The Toxic Effects of Chemically Synthesized and Biologically Fabricated Gold Nanoparticles on Caenorhabditis elegans Fit

Targeting Proteolytic Activity using protease inhibitors as natural therapeutics for human metapneumovirus (HMPV)

Friday, November 3, 2017 5:00pm - 8:00pm

Posters: Physics and Astronomy

Comparison of Period Finding Techniques to Identify RR Lyrae Stars
Electromagnetic Wave Motion Around a Black Hole

First Author: Amanda Manning
Northern Kentucky University
Co-author: Sharmanthie Fernando
Northern Kentucky University

Analyzing Color Relations for RR Lyrae in KELT

First Author: Logan Hicks
Northern Kentucky University
Co-authors: Connor Edwards, Tyler Labree, Matthew Buelsing, Nathan De Lee
Northern Kentucky University

Gold and Silver Nanoparticles Decorated Graphene as ‘smart’ Surface Enhanced Raman Scattering (SERS) Platforms

First Author: Alexander Banaszak
Western Kentucky University
Co-authors: Tyler Smith, Sanju Gupta
Western Kentucky University

Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination

First Author: Alex Henson
WKU Department of Physics and Astronomy
Co-authors: Brendan Evans, Sanju Gupta
WKU Department of Physics and Astronomy

Nanoparticles-grafted functionalized graphene coated with nanostructured polyaniline layered nanocomposites as high-perf

First Author: Romney Meek
Western Kentucky University
Co-author: Sanju Gupta
Western Kentucky University

Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistry
Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GexSe1-x Glass System

The Study of Light Paths Around Black Holes

An improved, 'green' tetramethylbenzidine-based assay for the quantification of hemoglobin

Developing TALE proteins as a sensor for detecting pathogens

Examining the role of muscarinic acetylcholine receptors in regulation of larval Drosophila melanogaster feeding and locomotion
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling</td>
<td>Emily Altman</td>
<td>JoBeth Bingham</td>
<td>Dr. Lewis Watson</td>
<td>Georgetown College</td>
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<td>University of Pikeville</td>
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<td>Inhibition of PDE4 fails to reverse behavioural deficits induced by muscarinic receptor blockage</td>
<td>Samuel Case</td>
<td>Ilsun White</td>
<td>Morehead State</td>
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<td>Investigating Potential Mechanisms of Clove Oil (Eugenol) in Model Systems</td>
<td>Elizabeth Grau</td>
<td>Alec Bradley</td>
<td>Danielle Cantrell</td>
<td>University of Kentucky</td>
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<td>Kaylee Hall</td>
<td>Claire Kinmon</td>
<td>University of Kentucky</td>
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<td>Robin Cooper</td>
<td>M. A. Cooper</td>
<td>University of Kentucky</td>
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<td>Investigating the Synergistic Effects of Two Curcuminoids and Cisplatin on Cancer Cell Migration and ROS Release</td>
<td>Blaine Patty</td>
<td>Matthew Millay</td>
<td>Jerry Monroe</td>
<td>Western Kentucky</td>
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<td>Michael Smith</td>
<td>Paula Ortiz Guerrero</td>
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<td>MK-801, a NMDA antagonist, reverses scopolamine-induced behavioral deficits.</td>
<td>Elizabeth Collins</td>
<td>Sami Case</td>
<td>Brianna Ward</td>
<td>Morehead State</td>
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<td>Aya Omar</td>
<td>Cole Malloy</td>
<td>University of Kentucky</td>
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<td>Pharmacological identification of cholinergic receptor subtypes in Drosophila</td>
<td>Eashwar</td>
<td>Aya Omar</td>
<td>Cole Malloy</td>
<td>Robin Cooper</td>
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<td>Somasundaram</td>
<td>University of Kentucky</td>
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The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.

First Author
Alex Stanback
University of Kentucky
Co-author
Hunter Maxwell
uky
Co-author
Clare Cole
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Co-author
Katherine Johnson
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Jenni Ho
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Co-author
La Shay Byrd
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Co-author
Samantha Danyi
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Co-author
Sushovan Dixit
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Co-author
Madan Subheeswar
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Co-author
Maddie Stanback
uky

Friday, November 3, 2017 5:00pm - 8:00pm
Posters: Psychology
Curris Center
Chair: Richard Osbaldiston
Secretary: KatieAnn Skogsberg

Can nicotine improve scopolamine-induced behavioral deficit?

First Author
Brianna Ward
Morehead State University
Co-author
Elizabeth Collins
Morehead State University
Co-author
Ilsun White
Morehead State University

Betta fish spontaneously use the combination of numerosity and surface area during discrimination learning

First Author
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Berea College
Co-author
Evelyne Rivera Perez
Berea College
Co-author
Joseph Barger
Berea College
Co-author
Jasmine Roman
Berea College
Co-author
Sarah Jones
Berea College

What influences recognition of emotion among college students

First Author
Shannon Mapes
Morehead State University
Co-author
Suzanne Savard
Morehead State University
Co-author
Ilsun White
Morehead State University
Co-author
Kinetta Crisp
Morehead State University

Dual-task methodology: The use of video games as a surrogate for traditional laboratory tasks

First Author
...
Implicit Gender Bias, Commercials, and Cooperation.
181.

First Author
Rick Holland
Berea College

Let's Face It: The Effects of Disclosure Type and Modality on Student Comfort
182.

First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony
183.

First Author
Madison Raymer
Morehead State University
Co-author
Megan Conn
Morehead State University

Maternal trauma and parenting sensitivity: Implications for attachment-based interventions
184.

First Author
Ashley Hamm
Morehead State University Psychology Department
Co-author
Madison Raymer
Morehead State University Psychology Department
Co-author
Dr. Shari Kidwell
Morehead State University Psychology Department

The Effect of Noise, Intention, and Time of Day on Memory
185.

First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?
186.

First Author
### Posters: Science Education

**Chair**: Shira Rabin  
**Secretary**: Karen Hlinka  
**Curris Center**

#### The POGIL Approach to Teaching

187.  
*First Author*  
Lucas Collett  
*Berea College*

#### Using the POGIL Approach in Non-Stem Disciplines

188.  
*First Author*  
Miguel Valdes  
*Berea College*  
*Co-author*  
Megan Hoffman  
*Berea College*  
*Co-author*  
Lucas Collet  
*Berea College*

#### Preparing K-8 teachers to utilize learning progressions to teach properties of materials

189.  
*First Author*  
Martin Brock  
*Eastern Kentucky University*  
*Co-author*  
Alexandra Stanback  
*University of Kentucky*  
*Co-author*  
Tristan Donovan  
*University of Kentucky*  
*Co-author*  
Priscilla Boachie  
*University of Kentucky*  
*Co-author*  
Brendon Stockwell  
*University of Kentucky*  
*Co-author*  
Carly Ballinger-Boone  
*University of Kentucky*  
*Co-author*  
Emma Higgins  
*University of Kentucky*  
*Co-author*  
Meaghan Labarre  
*University of Kentucky*  
*Co-author*  
Alexa Larson

---

### Posters: Zoology

**Chair**: Roy Scudder-Davis  
**Secretary**: Oliver Beckers  
**Curris Center**

#### Dietary effects on behaviors for Drosophila: behaviors, survival and physiological responses.

171.  
*First Author*  
Maddie Stanback  
*University of Kentucky*  
*Co-author*  
Alexandra Stanback  
*University of Kentucky*  
*Co-author*  
Tristan Donovan  
*University of Kentucky*  
*Co-author*  
Priscilla Boachie  
*University of Kentucky*  
*Co-author*  
Brendon Stockwell  
*University of Kentucky*  
*Co-author*  
Carly Ballinger-Boone  
*University of Kentucky*  
*Co-author*  
Emma Higgins  
*University of Kentucky*  
*Co-author*  
Meaghan Labarre  
*University of Kentucky*  
*Co-author*  
Alexa Larson
Characterization of mating behaviors and risk of cannibalism in Tigrosa georgicola wolf spiders

First Author: Talon Garman
Murray State University

Co-author: Laura Sullivan-Beckers
Murray State University

Bat Call Monitoring Study and Discrimination Between Species in Taylor County, Kentucky

First Author: Katherine Cappel
Campbellsville University

Comparing inner ear morphologies of globicephaline (Odontoceti: Delphinidae: Globicephalinae) dolphins

First Author: Abigail Glass
Murray State University

Co-author: Rachel Racicot
Vanderbilt University

Co-author: Michelle Casey
Murray State University

Co-author: Simon Darroch
Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author: Natalie Mercer
Kentucky Wesleyan College

Co-author: Shannon Finerty
Kentucky Wesleyan College

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author: Benjamin Conkright
Western Kentucky University

Friday, November 3, 2017  8:30pm - 11:00pm

Biology Social

Corvette Lanes, 1415 Main St.

Biology Social: Let’s get to know each other a bit better.
Biologists of all disciplines (incl. students), join us for a round of bowling, arcade games, and/or drinks at Corvette Lanes (1415 Main St - in close walking distance). Half-price bowling specials for the first bowlers in line!

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Date and Time</th>
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<tr>
<td>Coffee &amp; Tea</td>
<td>Saturday, November 4, 2017  7:30am - 10:30am</td>
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<td>Crows Nest, Curris Center</td>
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<td>Saturday, November 4, 2017  7:30am - 10:30am</td>
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<td>Blackburn 2nd floor lobby</td>
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<td>Practice Room for Oral Presentations</td>
<td>Saturday, November 4, 2017  7:30am - 12:00pm</td>
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<td>Cumberland Room, Curris Center</td>
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<td>Saturday, November 4, 2017  7:30am - 2:30pm</td>
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<td>Tennessee Room, Curris Center</td>
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<td>Exhibitors tables</td>
<td>Saturday, November 4, 2017  8:00am - 3:00pm</td>
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<td>3rd floor of Curris Center</td>
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- **KBRIN** (Kentucky Biomedical Research Infrastructure Network)
- **Kentucky Organization of Field Stations**
- **University of Kentucky Chemistry Department**
Oral Presentations: Cellular and Molecular Biology  
Barkley Lecture Room, Curris Center  

Chair: Emily Shifley  
Secretary: Gary ZeRuth  
Section meeting to follow presentations  

Characterization of Reagents Developed Against Two Basement Membrane Degraders in Drosophila melanogaster  
8:00  
First Author  
Afolasayo Aromiwura  
Co-author  
Ajay Srivastava  
Western Kentucky University  
University  

Evaluation of endocrine pancreas development and maturation in glis3 mutant zebrafish (Danio rerio)  
8:15  
First Author  
Dylan Hammrich  
Co-author  
Gary ZeRuth  
Murray State University  
University  

Using CRISPR/Cas9 to generate transgenic zebrafish to determine the expression pattern of glis3 during development  
8:30  
First Author  
Tyler Hoard  
Co-author  
Gary ZeRuth  
Murray State University  
University  

Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes  
8:45
### Pancreatic beta cell dysfunction mediated by down regulation of Glis3

**9:00**

<table>
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<tr>
<th>First Author</th>
<th>Co-author</th>
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<td>Erin Clayton</td>
<td>Gary ZeRuth</td>
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<td>Murray State</td>
<td>University</td>
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### Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy

**9:15**

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<tr>
<td>Jazmin Escamilla</td>
<td>Zongyi Hu</td>
<td>Jake Liang</td>
<td>Liver Disease Branch,</td>
<td>NIDDK- National</td>
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<td>Berea College</td>
<td>Institute of Health</td>
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<td>NIDDK-National</td>
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### Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula

**9:30**

<table>
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<th>First Author</th>
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<tr>
<td>Ahmed Fadil</td>
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<td>Western Kentucky</td>
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### PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.

**9:45**

<table>
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<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>Brittani Hawkins</td>
<td>Chris Trzepacz</td>
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<td>Murray State</td>
<td>University</td>
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### Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration

**10:15**

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<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>Monica Moran</td>
<td>Billy Hudson</td>
<td>Vadim Pedchenko</td>
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<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
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<tr>
<td>Division of Nephrology and Hypertensio</td>
<td>Division of Nephrology and Hypertensio</td>
<td>Division of Nephrology</td>
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</table>

### Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and
hypothalamic tissue

10:30

First Author  Co-author
Keelee Pullum  Noah Ashley
Gatton Academy,  Western Kentucky
Western Kentucky University

An Examination of Epigenetic Factors and Methylation Patterns in Promoter Regions of AT1 and ACE

10:45

First Author  Co-author  Co-author
Dimond Shelton  Nancy Rice  Conner Hounshell
Western Kentucky  Western Kentucky  Western Kentucky
University  University  University

Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone

11:00

First Author  Co-author  Co-author
Alexandria Szalanczy  Nitika Nitika  Andrew Truman
Centre College  University of North Carolina at Charlotte  University of North Carolina at Charlotte

Gene expression differences following early life exposure to polychlorinated biphenyls in three genotypes of mice

11:15

First Author  Co-author  Co-author  Co-author  Co-author
Yislain Villalona  Kelsey Klinefelter  Breann Colter  Alexandra Dailey  Christine Curran
Northern Kentucky University  Northern Kentucky University  Northern Kentucky University  Northern Kentucky University  Northern Kentucky University

Saturday, November 4, 2017  8:00am - 3:00pm

Oral Presentations: Ecology and Environmental Sciences
Curris Center Theatre

Chair: Maheteme Gebremedhin  Secretary: Roberta Challener
Section meeting to follow presentations at 2:30

Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference

8:00

First Author
Audrey Alexander
### Assessing the Carbon and Energy Balance of a Grazed Pasture in Central Kentucky Using the Eddy Covariance Method

8:15

**First Author**  
Ian Ries  
**University**  
Kentucky State University

**Co-author**  
Leslie North  
**University**  
Western Kentucky University

---

### Comparison of the Kentucky Vegetation Index of Biotic Integrity (VIBI) to a rapid wetland condition assessment (KY-WRAM)

8:30

**First Author**  
Elizabeth Malloy  
**University**  
Eastern Kentucky University

**Co-author**  
David Brown  
**University**  
Eastern Kentucky University

**Co-author**  
Stephen Richter  
**University**  
Eastern Kentucky University

**Co-author**  
Maheteme Gebremedhin  
**University**  
Kentucky State University

**Co-author**  
Barbara Scott  
**University**  
US Army Corps of Engineers

**Co-author**  
Michelle Cook  
**University**  
Kentucky Division of Water

---

### Comparative Risk Evaluation of Commercially Available Organic and Conventional Fertilizers for Potential Bacterial Pat

8:45

**First Author**  
Meika Finger-Gray  
**University**  
Kentucky State University

**Co-author**  
Avinash Tope  
**University**  
Kentucky State University

**Co-author**  
shreya Patel  
**University**  
Kentucky State University

---

### Interactive Effects of Animal Manure and Cover Crop Use in Improving Agricultural Soil Quality in Kentucky

9:00

**First Author**  
Sait Sarr  
**University**  
Kentucky State University

**Co-author**  
Maheteme Gebremedhin  
**University**  
Kentucky State University

**Co-author**  
Avinash Tope  
**University**  
Kentucky State University

**Co-author**  
Mark Coyne  
**University**  
University of Kentucky

---

### Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

**First Author**  
Rose Marks
Policy communication and the Impact of Agricultural Communities on Karst Landscapes: An Example from Phong Nha-Kẻ Bàng

9:30

First Author
Elizabeth Willenbrink
Center for Human GeoEnvironmental Studies at Western Kentucky

Co-author
Leslie North
Center for Human GeoEnvironmental Studies at Western Kentucky

Co-author
Vu Thi Minh Nguyet
Institute of Geological Sciences, Vietnam Academy of Science

Co-author
Jason Polk
Center for Human GeoEnvironmental Studies at Western Kentucky

Development and Analysis of Avian Index of Biological Integrity for Kentucky Wetlands

9:45

First Author
Kaitlyn Kelly
Eastern Kentucky University

Co-author
David Brown
Eastern Kentucky University

Increased accuracy in population modeling using density-dependent Leslie matrices with steady-state distribution control

10:15

First Author
Bruce Kessler
Western Kentucky University

Co-author
Andrew Davis
Western Kentucky University

Prey Resource Partitioning Between Sympatric Bat Species

10:30

First Author
Macy Kailing
Murray State University

Co-author
Terry Derting
Murray State University

Co-author
Gary ZeRuth
Murray State University

Factors Affecting the Diversity of Stream Salamanders in Two Watershed Systems in Central Kentucky

10:45

First Author
Hannah Elliott
Berea College

Co-author
Muntathar Alshimary
Berea College

Co-author
Rebecca Klem
Berea College

Co-author
Jeremy Wilde
Berea College

Co-author
Roy Scudder-Davis
Berea College

Plant-Derived Volatiles Alter Plant Fitness in a Species-Specific Manner

11:00
Memory of seeds: Effect of plant volatile exposure to seeds on plant growth, development and defense across generations

11:15

First Author
Abhinav Maurya
University of Louisville

Co-author
Christopher Frost
University of Louisville

Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods

11:30

First Author
Samantha Thomas
Western Kentucky University

Co-author
Jarrett Johnson
Western Kentucky University

OCCUPANCY AND ALLOCHTHONY THRESHOLD RESPONSES OF PLETHODONTID STREAM SALAMANDERS TO STREAM CONDUCTIVITY

11:45

First Author
Jacob Hutton
University of Kentucky

A Study of Mercury in Bald Eagle Feathers and Quills

1:00

First Author
Wendy Cecil
Western Kentucky University

Co-author
Cate Webb
Western Kentucky University

Using Mobile Eye-Tracking to Inform the Development of nature tourism Destinations in Iceland

1:15

First Author
James Graham
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Edward Hujbens
University of Akureyri

Co-author
Elizabeth Willenbrink
Western Kentucky University

Co-author
Jun Yan
Western Kentucky University

Who’s the boss: Social dynamics associated with leadership in endangered Toque Macaques.

1:30

First Author
An examination of fish and macroinvertebrate succession patterns after restoration of a novel stream system

1:45

First Author
Patrick Vrablik
Murray State University

Co-author
Michael B. Flinn
Murray State University

Movement patterns of Silver Carp Hypophthalmichthys molitrix in Kentucky Lake

2:00

First Author
Timothy Spier
Murray State University

Co-author
Michael Flinn
Murray State University

Co-author
Jessica Morris
Kentucky Department of Fish and Wildlife Resources

Co-author
Neal Jackson
U. S. Fish and Wildlife Service

Co-author
Allison DeRose
Murray State University

Co-author
Brad Hartman
Murray State University

Co-author
Dalton Lebeda
Murray State University

Quantifying the Effects of Invasive Species on Fish Communities in Kentucky Lake: A Post-Invasion Approach

2:15

First Author
Bradley Hartman
Murray State University

Co-author
Timothy Spier
Murray State University

Saturday, November 4, 2017 8:00am - 11:30am

Oral Presentations: Physics and Astronomy

Blackburn 312

A Composite View of the Composite Supernova Remnant 3C 396 (G39.2-0.3)

8:00

First Author
Thomas Pannuti
Morehead State University

Chair: Troy Messina
Secretary: Marilyn Akins

Section meeting to follow presentations
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>The CREAM instrument on the ISS</td>
<td>8:15</td>
</tr>
<tr>
<td>First Author: Scott Nutter</td>
<td></td>
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<tr>
<td>Northern Kentucky University</td>
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</tr>
<tr>
<td>Matching Simulation Data to Calibration Data for the Silicon Charge</td>
<td>8:30</td>
</tr>
<tr>
<td>Detector used in the ISS-CREAM Instrument</td>
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<tr>
<td>First Author: Carter Kring</td>
<td></td>
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<tr>
<td>Northern Kentucky University</td>
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<tr>
<td>Calibration of the CREAM Calorimeter with CERN Beam Tests</td>
<td>8:45</td>
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<tr>
<td>First Author: Tyler LaBree</td>
<td>Co-author: Scott Nutter</td>
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<tr>
<td>Northern Kentucky University</td>
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<tr>
<td>University</td>
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<tr>
<td>Analysis of a Current-Mode Detector for the NOPTREX Experiment</td>
<td>9:00</td>
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<tr>
<td>First Author: Daniela Olivera</td>
<td>Co-author: Danielle Schaper</td>
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<td>Velarde</td>
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<tr>
<td>Berea College</td>
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<tr>
<td>Josephson weak links with high characteristic voltage for THz</td>
<td>9:15</td>
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<td>radiation detection.</td>
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<tr>
<td>First Author: Luis Gomez</td>
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<td>Northern Kentucky University</td>
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<tr>
<td>University</td>
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<tr>
<td>Investigation of the Kepler Eclipsing Binary Catalog: Analysis of</td>
<td>9:30</td>
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<tr>
<td>Targets With UNC Flags</td>
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<tr>
<td>First Author: Garrison Turner</td>
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<tr>
<td>Big Sandy Community and Technical College</td>
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<tr>
<td>Streamlining Predictions of Temperature-Dependent Changes in Defect</td>
<td>9:45</td>
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<tr>
<td>Properties of Intermetallic Compounds</td>
<td></td>
</tr>
<tr>
<td>First Author</td>
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</tr>
</tbody>
</table>
Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258
10:15
First Author
Sierra Hauck
Morehead State University
Co-author
Dirk Grupe
Morehead State University

The “Hotter” Side of an X-Ray Tube
10:30
First Author
Ignacio Birriel
Morehead State University
Co-author
Joshua Allen
Morehead State University
Co-author
Anthony Dotson
Morehead State University

The Changing Look Active Galactic Nucleus IRAS 23226-3843
10:45
First Author
Dirk Grupe
Morehead State University

Understanding the Parameter Space of Keplerian Orbits in APOGEE
11:00
First Author
Nathan De Lee
Northern Kentucky University
Co-author
Kyle Houston
Northern Kentucky University
Co-author
Nicholas Troup
Salisbury University
Co-author
Joleen Carlberg
Space Telescope Science Institute

Redesign of Introductory Physics Labs Using Arduinos
11:15
First Author
Troy Messina
Berea College

Saturday, November 4, 2017 8:15am - 10:00am
Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320
Chair: Harry Fannin
Secretary: Bommanna Loganathan
Section meeting to follow presentations

OIL DRIES A NEW ABSORBENT MATERIAL; FOR COLLECTING IGNITABLE LIQUIDS IN ARSON
Kinetic Modeling of Relevant Atmospheric Sulfur and Nitrogen Containing Compounds to Understand Particle Formation

8:30

First Author
Jesus Berlanga
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

Co-author
Philip J. Silva
USDA - ARS

Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy

8:45

First Author
Ryan Lamb
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

The removal of organic pollutants through buoyant photocatalyst

9:00

First Author
Kayla Steward
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation

9:15

First Author
Rosemary Calabro
University of Kentucky Department of Chemistry

Co-author
Dong-Sheng Yang
University of Kentucky Department of Chemistry

Co-author
Doo Young Kim
University of Kentucky

Oxidative stability of fish oil-in-water emulsions stabilized by protein-polysaccharide complexes: Effect of salt and pH

9:30

First Author
Mara Krempel
Western Kentucky University

Co-author
Hayley Moss
Western Kentucky University

Co-author
Hanna (John) Khourieh
Western Kentucky University

Temperature and electric field dependence of asymmetric stretching of nitrate ion
Oral Presentations: Agricultural Sciences
The Stables, Curris Center
1st floor

Chair: Jean Gumirakiza
Section meeting to follow presentations

Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw
8:15
First Author
Srijana Thapa Magar
Kentucky State University
Co-author
Kirk Pomper
Kentucky State University
Co-author
Jeremiah Lowe
Kentucky State University
Co-author
Sheri Crabtree
Kentucky State University

Enzymes as Indicators of Soil Microbial Activity at three Locations in Kentucky
8:30
First Author
GEORGE ANTONIOUS
KENTUCKY STATE UNIVERSITY

Assessing the nutritional value of novel soybean products in the diet of Atlantic salmon (Salmo salar L.)
8:45
First Author
James Schwartz
Kentucky State University
Co-author
Vikas Kumar
Kentucky State University
Co-author
Waldemar Rossi
Kentucky State University
Co-author
Katerina Kousoulaki
Nofima

Responses of juvenile largemouth bass (Micropterus salmoides) to dietary EPA and DHA rich oils
9:00
First Author
Amit Yadav
Kentucky State University
Co-author
Waldemar Rossi
Kentucky State University
Co-author
Hab Andemichael
Kentucky State University
Co-author
Vikas Kumar
Kentucky State University

Applicability of waste-reared Hermetia illucens as an ingredient in the diet of Nile Tilapia, Oreochromis niloticus
9:15
Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky

9:30

First Author
Emily Cook
Murray State University

Co-author
Lin Handayani
Murray State University

Co-author
Jessica Pafford
Murray State University

Co-author
Steve Still
Murray State University

Co-author
John Grove
University of Kentucky

Co-author
Mark Coyne
University of Kentucky

Co-author
Ann Freytag
University of Kentucky

Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture

9:45

First Author
Sathya Govindasamy
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Mamata Bashyal
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

10:00

First Author
Mamata Bashyal
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Sathya Govindasamy
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

First Author
Rose Johnson
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass</td>
<td>10:45</td>
<td>Gagan Kolimadu</td>
<td>Jarod Jones, Kristy Allen, Waldemar Rossi, Michael Habte-Tision</td>
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<td>Kentucky State University</td>
<td>Kentucky State University, University</td>
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<td>Vikas Kumar, Kentucky State University</td>
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<tr>
<td>ANTIBIOTIC SUSCEPTIBILITIES OF BACTERIA ISOLATED FROM THE SAME FISH IN CASES EXAMINED AT THE KENTUCKY STATE UNIVERSITY F</td>
<td>11:00</td>
<td>Ashmita Poudel</td>
<td>Kathryn Mitchell, Robert Durborow, Kentucky State University</td>
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<td>Kentucky State University</td>
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<td>University</td>
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<tr>
<td>Investigating the Impact of Low-Cost Organic Fertilizers on Tomato Yield</td>
<td>11:15</td>
<td>Lusekelo Nkuwi</td>
<td>George Antonious, Eric Turley, Kentucky State University</td>
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<td>Kentucky State University</td>
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<tr>
<td>Evaluation of Density in a Live Holding System for Food Size Channel Catfish, Ictalurus punctatus</td>
<td>11:30</td>
<td>Sujan Bhattarai</td>
<td>Ken Semmens, Vikas Kumar, Kentucky State University</td>
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<td>Kentucky State University</td>
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<td>University</td>
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<tr>
<td>Are Online Shoppers Aware and/or Interested In Learning About Direct-To-Consumer Market Outlets?</td>
<td>1:00</td>
<td>JEAN DOMINIQUE</td>
<td>Stephen King, Thomas Kingery, Western Kentucky University</td>
</tr>
<tr>
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<td>GUMIRAKIZA</td>
<td>Western Kentucky University</td>
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<td>Western Kentucky University</td>
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</tr>
<tr>
<td>As online shopping becomes popular, will consumers still be interested in direct-to-consumer offline market outlets?</td>
<td>1:15</td>
<td>PREPARED BY THE SPEAKERS OF THE SESSION</td>
<td></td>
</tr>
</tbody>
</table>
Analyzing the Effects the use of Best Practices for Farm Management has on Farm Financial Position and Profitability

1:30

First Author  Co-author  Co-author
JEAN DOMINIQUE  Thomas Kingery  Stephen King
GUMIRAKIZA  Western Kentucky  Western Kentucky
Western Kentucky University  University  University

EVALUATION OF TWO SALT APPLICATIONS FOR HOLDING LARGEMOUTH BASS Micropterus salmoides FOR MARKETING AS A FOOD FISH

1:45

First Author  Co-author
Audrey Barnett  Dominique Gumirakiza
Western Kentucky University  Western Kentucky University

Evaluation of Microbial Quality of Agricultural Water from Small Farms in Kentucky

2:00

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

Oral Presentations: Geography

Mississippi Room, Curris Center

Assessment of Vegetation Cover Change and Water Quality in Coal Mine Watersheds

8:30

First Author  Co-author
Oguz Sariyildiz  Buddhi Gyawali
Kentucky State University  Kentucky State University

Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar
The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan
9:00
First Author
Tori Farrow
Kentucky State
University
Co-author
Jeremy Sandifer
Kentucky State
University

Networks of Sustainability within the Iceland Whale Watching Industry
9:15
First Author
Jason Fox
Western Kentucky
University
Co-author
Leslie North
Western Kentucky
University

Predicting the Adoption of Sustainable Agricultural Practices among Kentucky Farmers and Its Barriers
9:30
First Author
Bijesh Mishra
Kentucky State
University
Co-author
Buddhi Gyawali
KYSU

Exploring Relationship between community Perception and landscape change in the Eastern Kentucky
10:00
First Author
Buddhi Gyawali
Kentucky State
University
Co-author
Prabisha Shrestha
Kentucky State
University
Co-author
Tilak Shrestha
Kentucky State
University
Co-author
Jeremy Sandifer
Kentucky State
University

Association of land cover change trend with land ownership size at parcel level data in Breckinridge County, KY
10:15
First Author
Prabisha Shrestha
Kentucky State
University
Co-author
Buddhi Gyawali
Kentucky State
University
Co-author
Tilak Shrestha
Kentucky State
University
Co-author
Jeremy Sandifer
Kentucky State
University

Land Cover Classification using LandSat, NAIP images, and Accuracy enhancements
### Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology

**10:45**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Shelley</td>
<td>Jason Polk</td>
<td>Leslie North</td>
<td>Nicholas Crawford</td>
<td>Matt Powell</td>
</tr>
<tr>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>City of Bowling Green Department of Public Works</td>
</tr>
</tbody>
</table>

### Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

**11:00**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Patricia Kambesis</td>
<td>Brittiny Moore-Kimmel</td>
</tr>
<tr>
<td>Western Kentucky University</td>
<td>Texas State University</td>
</tr>
</tbody>
</table>

### Estimating the Approximate Age of Unmarked Burial Sites in The Frankfort Cemetery using Spatial Interpolation

**11:15**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan Wilson</td>
<td>Jeremy Sandifer</td>
<td>Kenneth Bates</td>
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<tr>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
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</table>

### Saturday, November 4, 2017 9:00am - 11:00am

#### Oral Presentations: Geology

**Blackburn 228**

<table>
<thead>
<tr>
<th>Chair: Ann Harris</th>
<th>Secretary: David Dockstader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section meeting to follow presentations</td>
<td></td>
</tr>
</tbody>
</table>

**Morphological Analysis of Astarte (Class: Bivalvia) using Geometric Morphometrics**

**9:00**
**Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University's Meadow**

**First Author**
First Author

**Co-author**
Randal Roberson
Michelle Casey
Murray State
University

**Murray State**
**University**

9:15

**Patterns of nutrient export for a typical non-point source, Meadowbrook Farm, Madison County, Kentucky.**

**First Author**
First Author

**Co-author**
Reid Buskirk
Walter Borowski
Eastern Kentucky
University

**Eastern Kentucky**
**University**

9:30

**How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetops in Kentucky's Daniel Boone National Forest?**

**First Author**
First Author

**Co-author**
Selsey Stribling
Jonathan Malzone
Eastern Kentucky
University

**Eastern Kentucky**
**University**

10:00

**Modeling the groundwater storage and the groundwater recharge rate of an ephemeral wetland with Hydrus-1D**

**First Author**
First Author

**Co-author**
Addison Bell
Sophia Chan
Jonathan Malzone
Eastern Kentucky
University

**Eastern Kentucky**
**University**

10:15

**Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY**

**First Author**
First Author

**Co-author**
Laura Kelley
Sophia Chan
Jonathan Malzone
Walter Borowski
Eastern Kentucky
University

**Eastern Kentucky**
**Eastern Kentucky**
**University**

10:30

**Runoff generation in an ephemeral agricultural watershed with thin soil**

**First Author**
First Author

**Co-author**
Laura Kelley
Sophia Chan
Jonathan Malzone
Walter Borowski
Eastern Kentucky
University

**Eastern Kentucky**
**Eastern Kentucky**
**University**

10:45
Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.
9:00

First Author
Aaron Clark
Berea College

Co-author
Dave Porter
Berea College

Breaking the Prejudice Habit: A Longitudinal Assessment of Reducing Implicit Racial Bias
9:15

First Author
Laura Hopkins
Centre College

Co-author
Nicole Stumpp
Centre College

The Effects of Gender, Task Difficulty, and Emotional Arousal on Perceptual Sensitivity
9:30

First Author
Enkhjin Enkhbold
Berea College

The Effects of Gender, Task Difficulty, and Emotional Arousal on Perceptual Sensitivity
9:30

First Author
Enkhjin Enkhbold
Berea College

Co-author
Ashley Hamm
Morehead State University

Co-author
Shari Kidwell
Morehead State University

Children's emotion understanding and regulation: Links with psychological symptoms
9:45

First Author
Karina Cole
Morehead State University

Co-author
Ashley Hamm
Morehead State University

Co-author
Shari Kidwell
Morehead State University

Initial Validation of the Hexaflex Process Assessment Instrument.
10:15

First Author
Aaron Ellis
Morehead State University

Co-author
John Blackledge
Morehead State University

Co-author
Shelby Humphrey
Morehead State University

Co-author
Kellen Crager
Morehead State University

Co-author
Isabella Gearhart
Morehead State University

Co-author
Rebecca Ashley
Morehead State University
The Association of Parents' Emotion Philosophy with Adolescents' Mindful Approach to Affect.

First Author
Joseph Reese
Morehead State University

Co-author
Mary Blanton
Morehead State University

Co-author
Ashley Ball
Morehead State University

Co-author
Kory Phelps
Morehead State University

Co-author
Shari Kidwell
Morehead State University

What does your Tinder profile say about you? Correlates of Tinder profile features and extroversion

First Author
Hunter Gatewood
Morehead State University

Co-author
Lynn Haller
Morehead State University

Peer Mentoring Circles for Women STEM Faculty at Murray State University

First Author
Maeve McCarthy
Murray State University

Co-author
Paula Waddill
Murray State University

Co-author
Robin Zhang
Murray State University

Co-author
Echo Wu
Murray State University

Co-author
Steve Cobb
Murray State University

Saturoday, November 4, 2017 9:00am - 11:00am

Oral Presentations: Science Education
Blackburn 249

Chair: Shira Rabin
Secretary: Karen Hlinka

Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes

First Author
Joseph Erskine
Bellarmine University

Co-author
Jordan Dowdy
Bellarmine University

Co-author
Stephen Denny
Bellarmine University

Co-author
M Saleem
Bellarmine University

Co-author
Akhtar Mahmood
Bellarmine University
### Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology

**9:15**

**First Author**
Katherine Ray King
University of Louisville

**Co-author**
Linda Fuselier
University of Louisville

**Co-author**
Justin McFadden
University of Louisville

### Hearing eclipses: Making astronomy events accessible to visually-impaired students.

**9:30**

**First Author**
Wilson Gonzalez-Espada
Morehead State University

**Co-author**
Laura Parker
Kentucky School for the Blind

**Co-author**
Adam Stockhausen
Kentucky School for the Blind

**Co-author**
Wanda Diaz-Merced
Office of Astronomy for Development

**Co-author**
Allyson Bieryla
Dept. of Astronomy, Harvard University

**Co-author**
Robert Hart
Dept. of Physics, Harvard University

**Co-author**
Daniel Davis
Natural Sciences Lecture Demonstrations, Harvard University

### Should We Lie To Our Students?

**10:00**

**First Author**
Andy Martin
Kentucky State University

### Adaptive Learning Courseware in Majors Biology Course

**10:15**

**First Author**
Shira Rabin
University of Louisville

### Strengthening Student Foundations: Strategies for Active-Learning Classrooms

**10:30**

**First Author**
Kevin Revell
Murray State University

### LOW-COST STUDENT RESEARCH IN A NON-MAJORS BIOLOGY LABORATORY CLASS

**10:45**

**First Author**
Norm Strobel
KCTCS/Blugrass Community and
Saturday, November 4, 2017 9:30am - 10:30am

Breaks
Staggered in sessions - check schedule

Saturday, November 4, 2017 10:00am - 11:15am

Oral Presentations: Engineering
Ohio Room, Curris Center

Chair: Aaron Daley
Secretary: shen liu
Section meeting to follow presentations

Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts
10:00

First Author
Jordan Garcia
University of Kentucky

Co-author
Tyler Stoffel
University of Kentucky

Co-author
John Schmidt
University of Kentucky

Co-author
Alexander Bolin
University of Kentucky

Co-author
David Lu
University of Kentucky

Co-author
Charles Lu
University of Kentucky

Imaging of the spinal cord in pediatric patients.
10:15

First Author
Bhavesh Ramkorun
Berea College

Co-author
Samantha By
Vanderbilt University

Co-author
Aashim Bhatia
Vanderbilt University

Co-author
Bryson Reynolds
Vanderbilt University

Co-author
Patrick Couture
Vanderbilt University

Co-author
Seth Smith
Institute of Imaging

Science

Hands-on Robotics Lab at Bellarmine University
10:30

First Author
Christopher Steitz
Bellarmine University

Co-author
Stephen Brown
Bellarmine University

Co-author
Akhtar Mahmood
Bellarmine University

Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms
10:45
Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components

11:00

Mentor-Matching

Saturday, November 4, 2017  12:00pm - 1:00pm

 Winslow Dining Hall

Mentor matching: Looking for a future graduate advisor?
If you are a biology undergraduate/graduate student and looking for a future biology advisor for your M.S. or Ph.D., please come to Winslow dining on Saturday at lunch time. Biology faculty who are interested in recruiting students will be present in the cafeteria (look for signs on the tables) and will be happy to talk to you about possibilities in their labs.

KAS-KCTCS Science Faculty meeting

Saturday, November 4, 2017  1:00pm - 2:45pm

 Blackburn 249

An annual meeting of KCTCS Science faculty. A general meeting of all disciplines is followed by break-out meetings for faculty in Biology, Chemistry, and Physics. Breakouts will be in Blackburn 249 and 320.

Oral Presentations: Botany

Saturday, November 4, 2017  1:00pm - 1:15pm

 Mississippi Room, Curris Center

Chair: Lawrence Alice  Secretary: Maggie Whitson

Botany and Zoology Section meetings to follow presentations, at 2:30
Far-Red light can induce sex structure development in the liverwort Marchantia inflexa Nees et Mont.

1:00

First Author
Nicholas McLetchie
University of Kentucky

Co-author
Maddison Hatton
University of Kentucky

Saturday, November 4, 2017 1:00pm - 2:30pm

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135

Chair: Kevin Revell
Secretary: Kyle Watson

Section meeting to follow presentations

A general fabrication approach on spinel MCo2O4 (M= Co, Mn, Fe, Mg and Zn) submicron prisms as advanced positive materia

1:00

First Author
Hongyan Gao
CHEMISTRY
DEPARTMENT,
WESTERN
KENTUCKY
UNIVERSITY

Co-author
Yan Cao
CHEMISTRY
DEPARTMENT,
WESTERN
KENTUCKY
UNIVERSITY

Chemical and photo generation of high-valent manganese-oxo porphyrins

1:15

First Author
Mike Winchester
Western Kentucky
University

Multiple Oxidation Pathways for Photo-generated Manganese(V)-Oxo Corroles

1:30

First Author
Ngo Fung Lee
Western Kentucky
University

Recent Progress in the Investigation of the Bonding and Electronic Structure in Metal Chalcogenide Complexes

1:45

First Author
Jessie Brown
Transylvania
University

Co-author
Amelia Dickey
Transylvania
University

Co-author
Elias Hanna
Transylvania
University

Co-author
Christopher Samaan
Transylvania
University

Co-author
Hannah Williams
Transylvania
University
Transylvania University
Christine Phipps
Transylvania University
Ashley Montgomery
Transylvania University

The Synthesis of Heteroatom-activated Antibiotics: β-lactams
2:00
First Author
Jacob Nanney
Kentucky Wesleyan College
Co-author
Kyle Watson
Kentucky Wesleyan College

Visible Light Generation of High-Valent Iron-Oxo Intermediates
2:15
First Author
Malone Jonathan
WKU
Co-author
dharmesh Patel
WKU
Co-author
Tse-hong Chen
Purdue University
Co-author
Ka Wai Kwong
WKU

Oral Presentations: Health Sciences
Saturday, November 4, 2017  1:00pm - 1:30pm
Blackburn 155
Chair: Bruce Branan
Secretary: Avinash Tope
Section meeting to follow presentations

Determining a reference interactome for stable heart disease utilizing molecular structure for informed model selection
1:00
First Author
Patrick Trainor
University of Louisville
Co-author
Samantha Carlisle
University of Louisville
Co-author
Shesh Rai
University of Louisville
Co-author
Andrew DeFilippis
University of Louisville

Transcriptomics Evaluation of MDA-MB-231 Breast Cancer Cells Reveals NAT2 Transcript Production Following NAT1 Knockout
1:15
First Author
Samantha M. Carlisle
University of Louisville
Co-author
Patrick J. Trainor
University of Louisville
Co-author
Mark A. Doll
University of Louisville
Co-author
David W. Hein
University of Louisville

Oral Presentations: Mathematics
Saturday, November 4, 2017  1:00pm - 2:00pm
Blackburn 228
Chair: R. Douglas Chatham
Secretary: Andy Martin
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Open Coverings of the Rationals Need Not Cover The Reals</td>
<td>Andy Martin, Kentucky State University</td>
</tr>
<tr>
<td>1:15</td>
<td>The Cubic Equation</td>
<td>Dwight Smith, Big Sandy CTC</td>
</tr>
<tr>
<td>1:30</td>
<td>A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System of ODEs.</td>
<td>Austin Gabhart, Gatton Academy, Western Kentucky University</td>
</tr>
<tr>
<td>1:45</td>
<td>The n+k kings problem</td>
<td>R. Douglas Chatham, Morehead State University</td>
</tr>
</tbody>
</table>

**Saturday, November 4, 2017 1:00pm - 1:45pm**

**Oral Presentations: Microbiology**

Cumberland Room, Curris Center

Chair: Lingyu Huang  
Secretary: Joseph Mester

Section meeting to follow presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Antimicrobial activity from bacteria found around downtown Cincinnati</td>
<td>Kory Stuessel, John Carmen, Northern Kentucky University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhibition of Fungal Colony Growth by UVC</td>
</tr>
</tbody>
</table>
## Emergence and divergence of influenza virus: A current perspective

1:30

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

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### Oral Presentations: Physiology and Biochemistry

Saturday, November 4, 2017 1:00pm - 2:00pm

**Barkley Lecture Room, Curris Center**

**Chair:** Michael Smith
**Secretary:** Julia Carter

Section meeting to follow presentations

---

### Identification of tRNA modification enzymes in higher eukaryotes via primer extension

1:00

**First Author**
Justen Mamaril
*Northern Kentucky University*

**Co-author**
Regan Bales
*Northern Kentucky University*

**Co-author**
Michael Guy
*Northern Kentucky University*

---

### Physiological Characteristics of Five Bladder Cancer Cell Lines

1:15

**First Author**
Kyle Damen
*Wood Hudson Cancer Research Laboratory*

**Co-author**
Ryan Moore
*Wood Hudson Cancer Research Laboratory*

**Co-author**
Alex White
*Wood Hudson Cancer Research Laboratory*

**Co-author**
Julia Carter
*Wood Hudson Cancer Research Laboratory*

**Co-author**
Bonnie Richmond
*Wood Hudson Cancer Research Laboratory*

---

### Cell proliferation and Cathepsin L expression are inversely correlated during bladder cancer progression

1:30
The fluorescence quenching ability of graphene oxide as a platform for pathogenic double-stranded DNA sensing

1:45

First Author
Dat Thinh Ha
Western Kentucky University

Saturday, November 4, 2017 1:00pm - 2:00pm

Oral Presentations: Anthropology and Sociology
Ohio Room, Curris Center

LGBTQ+ Suicide: A review of the literature on social services for the queer community
1:00

First Author
Mason Gibson
Western Kentucky University

The Effects of Parental Guidance and Internet Use on Teenagers Experiencing Cyberbullying
1:15

First Author
Hannah Ridner
Western Kentucky University

Challenges and coping strategies of Chinese exchange students attending a university in Eastern Kentucky: A case study
1:30

First Author
Wilson Gonzalez-Espada
Morehead State University

Co-author
Co-author
Co-author

Shanshan Li
Jun Peng

Xingjian College of Science and Liberal Arts, Guangxi Univ.
Xingjian College of Science and Liberal Arts, Guangxi Univ.
Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin
1:45
First Author
Mallory Cox
University of Louisville

Shifting Agriculture’s Effects on Lemurs in a Malagasy Gallery Forest
2:00
First Author
Benjamin Freed
Eastern Kentucky University
Co-author
Nathanael Bartosch
Eastern Kentucky University

Saturday, November 4, 2017 1:15pm - 2:15pm
Oral Presentations: Computer and Informational Sciences
Blackburn 312
Chair: Jerzy Jaromczyk
Secretary: Muzaffar Ali
Section meeting to follow presentations

Cloud Computing for Hands-On Bioinformatics Education
1:15
First Author
Harrison Inocencio
University of Kentucky
Co-author
Deavin Hester
University of Kentucky
Co-author
Laura Lodder
University of Kentucky
Co-author
Justin Moore
University of Kentucky
Co-author
Bailey Phan
University of Kentucky
Co-author
Andrew Tapia
University of Kentucky
Co-author
Neil Moore
University of Kentucky
Co-author
Mark Farman
University of Kentucky
Co-author
Jerzy Jaromczyk
University of Kentucky
Co-author
Luke Decastro
University of Kentucky

Adaptive Topic Mining from Social Media Streams
1:30
First Author
Gopi Chand Nutakki
University of Louisville
Co-author
Olfa Nasraoui
University of Louisville

BayesianGLasso: software for integrating a priori knowledge and empirical data utilizing a graphical model framework
1:45
First Author
Patrick Trainor
University of Louisville
Co-author
Andrew DeFilippis
University of Louisville
Co-author
Shesh Rai
University of Louisville
Co-author
University of Louisville
Co-author
University of Louisville
Password cracking performance testing comparing GPU vs CPU performance using Hashcat

Saturday, November 4, 2017  1:15pm - 2:30pm

Oral Presentations: Zoology

Mississippi Room, Curris Center

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

Botany and Zoology Section meetings to follow presentations

Phenotypic plasticity of mating calls in the katydid Neconocephalus triops
1:15

First Author
Oliver Beckers
Department of
Biological Sciences,
Murray State
University

Exploring selection on the complex mating displays of wolf spiders in the genus Tigrosa
1:30

First Author
Samuel White
Murray State
University

Co-author
Talon Garman
Murray State
University

Co-author
Laura Sullivan-Beckers
Murray State
University

Co-author
Talon Garman
Murray State
University

Co-author
Laura Sullivan-Beckers
Murray State
University

Biology of the Cercaria of Leuceruthrus micropteri (Trematoda: Azygiidae) Recovered from the Snail, Pleurocera semicarin
1:45

First Author
chi peng
Berea College

Co-author
Chi Peng
Berea College

Co-author
Hanna Abe
Yale University

Co-author
Ron Rosen
Berea College

Co-author
Brian Traw
Berea College

Co-author
Emma Reasoner
Berea College

Co-author
Marah Zeidan
Berea College

Co-author
Berea College

Potential detection and utilization of substrate-borne vibrations by chameleons (Chamaeleo calyptratus).
2:00

First Author
Transcriptomic Response to Immune Challenge in Zebra Finch (Taeniopygia guttata) using RNA-seq.

First Author
Cassandra Scalf
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

Saturday, November 4, 2017 2:30pm - 4:30pm
Coffee & Tea
Crow's Nest, Curris Center

Keynote Jeffrey Bennett: Communicating Science to the Public
Introduced by President-Elect Jennifer Birriel
Curris Center Ballroom

Jeffrey Bennett holds a B.A. in Biophysics from the University of California at San Diego and an M.S. and Ph.D. in Astrophysics from the University of Colorado at Boulder. He specializes in mathematics and science education, writing for and speaking to audiences ranging from elementary school children to college faculty. His extensive teaching experience, which spans all levels from preschool through graduate school, includes having founded and run a private science summer school for elementary and middle school children and teaching more than fifty college classes in astronomy, physics, mathematics, and education. He has received numerous awards for his teaching and writing, including the American Institute of Physics Science Communication Award.

Among his other major endeavors, Dr. Bennett served two years as a Visiting Senior Scientist at NASA Headquarters, where he was the first scientist hired within a science division specifically to leverage science missions for education. Working closely with NASA’s Education Division and teams working with the Hubble Space Telescope and other science missions, he was credited with helping bridge the cultural divide between education and science. In addition, he created the Initiative to Develop Education through Astronomy (originally IDEA, later called IDEAS), developed the Perspectives From Space concept (and creating its poster set) that was ultimately adopted as the global theme for International Space Year, and helped start the program known as Flight Opportunities for Science Teacher EnRichment (FOSTER), which flew teachers on the Kuiper Airborne Observatory and evolved to become the Airborne Astronomy Ambassadors program that now flies teachers on the SOFIA airborne observatory.

Perhaps his most visible achievements have been his work in developing educational scale models of the solar
system. He proposed the idea for and helped develop both the Colorado Scale Model Solar System (on the University of Colorado campus) and the Voyage Scale Model Solar System on the National Mall in Washington, DC. The Voyage model is now being replicated (through the Voyage National Program) in many other cities around the United States.

Saturday, November 4, 2017  4:00pm - 4:30pm
Reception and Presentation of 2017 Science Education & Outreach Award
Curris Center Ballroom

Saturday, November 4, 2017  4:15pm - 5:15pm
Symposium: Out in the Field: Experiences Communicating Science to the Public
Curris Center Ballroom

Moderator: Wilson Gonzalez-Espada

Featuring
• Dr. Jeffrey Bennett
• Kim Hunter, Chief Program Officer at the Kentucky Science Center
• Richard Gelderman, Professor of Physics at WKU, recipient of 2016 KAS Science Education & Outreach Award
• Robin Q. Zhang, Ph.D., Professor and Chair, Department of Geosciences, Murray State University
• David White, Commonwealth Endowed Chair, Professor, Biological Sciences & Director, Hancock Biological Station
• Gerry Harris, Hancock Biological Station, Murray State University
Quick links

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