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

Friday, November 3, 2017   1:00pm - 3:00pm

**KAS Governing Board meeting**

Commonwealth Suite

Open to all KAS members

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

**Meeting for Section Leaders and Judges**

The Stables, Curris Center

1st floor

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.

Friday, November 3, 2017   3:00pm - 9:30pm

**Practice Room for Oral Presentations**

Tennessee Room, Curris Center

Friday, November 3, 2017   3:00pm - 9:30pm

**Practice Room for Oral Presentations**

Cumberland Room, Curris Center

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

**Tour - Hancock Biological Station**

Meet in front of Curris Center
for van pickup.

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 Station.

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

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.

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

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.

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

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

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

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, Bioassay & 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 meter, and two viscometers; the DMA makes Murray State the only university in the region to have such capabilities for polymer and materials characterization.

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
425

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.

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### Posters: Agricultural Sciences

Curris Center

Chair: Jean Gumirakiza

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### effects of excess dietary branched chain amino acids (leucine and isoleucine) on growth and health of Nile tilapi

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<td>Vikas Kumar</td>
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A Comparison of the Characteristics of Kentucky and Illinois Soils Under Various Land Cover

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<td>Bernedette Chadwick</td>
<td>Michael Mercer</td>
<td>Bailey Webster</td>
<td>Brandon Clark</td>
<td>Iin Handayani</td>
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<td>Brian Parr</td>
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Dehydration of autumn olive berries for human consumption

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<td>Changzheng Wang</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
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Developing cold-hardy perennial ornamentals for Kentucky

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<td>Hideka Kobayashi</td>
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</table>
Distinguishing Differences of Soil Physical Properties in Irrigated and Non-Irrigated Corn-soybean Rotation and Pastur

First Author
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Co-author
Duncan Thomas
Murray State University

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Connor Raymond
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Jacob Flemming
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Effects of fertilization on growth performance of lotus plants in containers

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Impact of Soil-Set®, Grain-Set®, and Liqui-Plex® Formulations on Hot Pepper Yield

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Online Shoppers; Who Attends Farmers’ Markets, Who Does Not, and Why?

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Soil Distinguishing Factors in Pasture and Irrigated Soils in Tennessee, Kentucky, and Illinois

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### Soil Properties in Varying Crop and Non-Crop Areas of Calloway County, Kentucky

70.

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### The Impact of Cropping Systems on Soil properties in Fredonia and Princeton Kentucky

71.

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### Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil

72.

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

73.

**First Author**
Kelly Hagan
Asbury University

**Co-author**
Ray Smith
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Is there an association between sex ratio and the level of sex expression among plant populations?
74.

First Author: Juliana Silva e Costa
Co-author: Justin Cornett
Co-author: D. Nicholas McLetchie

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University of Kentucky
University of Kentucky

Detection of Cryptic Interspecific Hybridization Between Morus rubra and M. alba Using Molecular Markers
75.

First Author: Taylor Horton
Co-author: Dayle Saar

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Murray State University

Is wintercreeper's (Euonymus fortunei) success as an invader due to avoidance of herbivory?
76.

First Author: Nellie Heitzman
Co-author: Sarah Bray

Transylvania University
Transylvania University

Building an interactive tree map for the Bellarmine University campus.
77.

First Author: David Robinson
Co-author: Kaitlyn Yates

Bellarmine University
Bellarmine University

Assessing the role of the gene, pebbled, in D. melanogaster ASP Invasive Behavior
78.

First Author: Hasan Salim
Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye

First Author: Hadley Neal
Co-author: Rebecca Petersen
Co-author: Wen Wen
Co-author: Ann Morris
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University of Kentucky

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

First Author: Dane Flinchum
Co-author: Ajay Srivastava
Western Kentucky University
University

Examining Gene Expression during Xenopus Embryonic Development

First Author: Maria Stewart
Co-author: Emily Shifley
Northern Kentucky University
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Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster

First Author: Lee Kendall
Co-author: Samuel White
Co-author: Douglas Harrison
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Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

First Author: Amber Follin
Co-author: Kyla Britson
Co-author: Tom Lloyd
Biology Department, Neuroscience and Neurology, Johns Hopkins Medicine
Neuroscience and Johns Hopkins Medicine

FGF and RA signaling pathways interact during development of the Xenopus pharynx

First Author: Sarah Kunkler
Co-author: Emily Shifley
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The effect of benzo[a]pyrene on motor function in neonatal mice

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<tr>
<td>Katelyn Dunn</td>
<td>Tamika Chappell</td>
<td>Lisa Massie</td>
<td>Shelby Caudill</td>
<td>Pamela Dickson</td>
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Role of autophagy-related protein Vps34 in the function of adipose tissues and interactions with the immune system

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<td>Henry Kwan</td>
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<td>Luc Van Kaer</td>
<td>Luke Postoak</td>
<td>Margaret Sabourin</td>
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Using gene expression to better understand macrophages' role in tissue regeneration

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<td>Kendall Collins</td>
<td>Jennifer Simkin</td>
<td>Ashely Seifert</td>
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<td>KBRIN at University of Kentucky</td>
<td>University of Kentucky</td>
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Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos

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<td>Conner Hounshell</td>
<td>Courtney Waterbury</td>
<td>Jeremiah Smith</td>
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<tr>
<td>Kentucky Biomedical Research Infrastructure Network</td>
<td>University of Kentucky</td>
<td>University of Kentucky</td>
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Sex Specific Gene Control of Cardiac Fibrosis

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<td>Bruce Northington</td>
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<td>Eastern Kentucky</td>
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Annotation of Spock and Inky Mycobacteriophages

90.

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Brittany Farnsley | Jennifer Doyle | Moria Magre
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Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins

91.

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University | University | University

Functional and genetic studies of the tRNA modification protein Trm732 in yeast

92.

First Author | Co-author | Co-author | Co-author | Co-author
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University | University | University | University

Exploring Small Molecule Drugs Binding To Ribosomal Protein L11

93.

First Author | Co-author | Co-author
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IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY RELATIONSHIP

94.

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Medical Center | Medical Center | Medical Center | Medical Center | Medical Center

NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells

95.
SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis

First Author
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Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days

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Identification of the enzyme responsible for the acp3U modification in bacteria

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Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces cerevisiae

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Northern Kentucky University

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Michael Guy
Northern Kentucky University

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

Posters: Chemistry: Analytical & Physical
Curris Center

Chair: Harry Fannin
Secretary: Bommanna Loganathan
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.

First Author
Clara Reasoner
Berea College
Co-author
Amanda Siegel
Indiana University
Co-author
Hiroki Yokota
Indiana University
Co-author
Mangilal Agarwal
Indiana University

Anaerobic Degradation of Tetracyclines in Agricultural Manure
3.

First Author
Brandon Couch
Western Kentucky University
Co-author
John Kasumba
Western Kentucky University
Co-author
John Loughrin
usda
Co-author
Eric Conte
Western Kentucky University

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.

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Department of Petrochemicals, Egypt Petroleum Research Inst.
Co-author
Aaron Kirtland
The Carol Martin Gatton Academy of Mathematics and Science
Co-author
Yong-Ill Lee
Department of Chemistry, Changwon National University, S.K.

Polyunsaturated Fatty Acid Profile in Hemp-Fed Chicken Egg
6.

First Author
Cole Hulen
Murray State
From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation

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<td>Kevin Pierce</td>
<td>Alex Thome</td>
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The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index

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<td>Rachel Bracker</td>
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Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA

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<td>Jay Baltisberger</td>
<td>Sara Garner</td>
<td>Shay Steele</td>
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<td>College of Wooster</td>
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Sedimentation Fractionation

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<td>Michael Greiving</td>
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Salt-Assisted Ultrasoundated De-aggregation and Advanced Electrochemistry of Detonation Nanodiamond.

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<td>Brendan Evans</td>
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Comparison of Inorganic Elemental Concentrations in Water Samples and Occurrence of Zebra Mussels in Kentucky Lake, USA

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

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Water Purification using Magnetic Biochar

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Anne Carlisle
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A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms

12.

13.

14.

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

First Author
Junjie Xiang
Western Kentucky University

---

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

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Western Kentucky University
Co-author
Bangbo Yan
Western Kentucky University

Effect of Iron charge state on P450 BM3 stability

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David Heidary
University of Kentucky
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Edith Glazer
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Fluorescence properties of metal-organic frameworks containing ruthenium and copper ions.

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Western Kentucky University
Co-author
Robert Spears
University Department of Chemistry

Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors

---
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

21.
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Light Activated Ruthenium Peptide Hybrids

22.
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Lydia Millard
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N-Heterocyclic Carbene Complexes

23.
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Optimization of lipid extraction from Scenedesmus acutus via in-situ transesterification

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Robert Pace
University of Kentucky

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

25.
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Hannah Brooks
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Co-author
Bangbo Yan
Western Kentucky University

Promotional Effect of Platinum on Nickel Catalysts in the Conversion of Lipids to Hydrocarbons in Diesel Range

26.
First Author
Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Kn?lker-type Catalyst

27.  
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Murray State University  
Co-author  
Rachel Whittaker  
Murray State University  
Co-author  
Kane Ferguson  
Murray State University

Selective C–O bond reductions in carbohydrate derivatives using boron based reagents

28.  
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Luis Gonzalez Anguiar  
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Co-author  
Jacob Nanney  
Kentucky Wesleyan College  
Co-author  
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Solid-Phase Synthesis of Heteroatom-Activated Antibiotics

29.  
First Author  
Morgan Uebelacker  
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Jacob Nanney  
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Co-author  
Kentucky Wesleyan College  
Kentucky Wesleyan College

Storage of Solar Energy in Strained Bis-Anthracene Cycloadducts and Release as Heat by Mechanical Grinding

30.  
First Author  
Erin Calvert  
Murray State University  
Co-author  
Kasey Clear  
Murray State University  
Co-author  
Sebastian Jezowski  
Murray State University

Synthesis and catalytic studies of metalloporphyrin complexes as biomimetic models for cytochrome P450 enzymes

31.
Synthesis and Properties of a Ruthenium Polypyridyl Complex

First Author
Benjamin Kash
Gatton Academy,
Western Kentucky University

Co-author
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Co-author
Rui Zhang
Western Kentucky University

Synthesis of Cleavable Acetal Antibody Drug Conjugate

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

First Author
Luis Salazar Guzman
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Synthesis of Poly(4-hydroxystyrene) by Living Anionic Polymerization for Block Copolymer Lithography

First Author
Charles Greif
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Synthesizing Cleavable Acetal Antibody Drug Conjugates

First Author
Michael James
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Co-author
Sarah Tabor
Berea College

Co-author
Elizabeth Thomas
Berea College

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

Posters: Computer and Informational Sciences
Curris Center
### Incorporating WeBWorK in a Mathematics Classroom

#### 37.

**First Author**  
Haley Replogle  
*Kentucky Wesleyan College*

**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.

#### 38.

**First Author**  
Russell Sexton  
*Bellarmine University*

**Co-author**  
Stephen Denny  
*Bellarmine University*

**Co-author**  
Akhtar Mahmood  
*Bellarmine University*

**Co-author**  
M. Saleem  
*Bellarmine University*

---

### Posters: Ecology and Environmental Sciences

**Curris Center**

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

#### 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*

**Co-author**  
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*Kentucky State University*

**Co-author**  
Mamata Bashyal  
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**Co-author**  
Tony Silvernail  
*Runchero Farms*

**Co-author**  
John Sedlacek  
*Kentucky State University*

**Co-author**  
Shawn Lucas  
*Kentucky State University*

---

### Ant communities of temperate tree canopies along an urban-rural gradient
102. Is it enough? Passive Restoration in a Western Colorado Stream

First Author
Heather Short
University of Louisville

Co-author
Daniella Prince
University of Louisville

Co-author
Benjamin Adams
University of Louisville

Co-author
Keegan Thompson
University of Louisville

Co-author
Chloe Lash
University of Louisville

Co-author
Stephen Yanoviak
University of Louisville

103. The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils

First Author
Melody Feden
Murray State University

Co-author
Howard Whiteman
Murray State University

104. Leaf Toughness in Tropical Rainforest Plants Depends on Leaf Age in Dicots but Not Monocots

First Author
Vanetta Graves
Kentucky State University

105. Examining the Relationship Between Temperature and Vegetation Phenology: Is Soil a Better Predictor than Air?

First Author
Shelby Watkins
University of Louisville

Co-author
Stephen Yanoviak
University of Louisville

Co-author
Christopher Frost
University of Louisville

106. Effect of Slope and Packing Ratio on the Behavior of Matchsticks Burnings

First Author
Roma Karna
Sunil Karna

Co-author
Priya Karna
Union College

Co-author
Sunil Karna
Union College
<table>
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<tr>
<th>Using Hardiness Zones to Determine Phenological Variation</th>
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<td><strong>First Author</strong></td>
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<td>Whitney Buechler</td>
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<td>Murray State University</td>
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<th>Assessing Stormwater Impacts and Hydrogeological Influences on Water Quality in an Urban Karst Lake</th>
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<td><strong>First Author</strong></td>
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<td>Rachel Kaiser</td>
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<th>Is aboveground pathogen load influenced by belowground pathogen presence, plant community diversity, or precipitation</th>
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<td>Aspen Workman</td>
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<td>University of Louisville</td>
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<th>Insect Pollinator Diversity in Gardens Across an Urban-to-Suburban Gradient</th>
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<th>Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.</th>
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<td><strong>First Author</strong></td>
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<td>David White</td>
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</table>
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
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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
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Co-author
Michael Flinn
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Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes

First Author
Sarah Bissmeyer
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University of Louisville
Co-author
Grace Freundlich
University of Louisville

Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

First Author
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Caterpillar Predation Rates Across an Urban-Suburban Gradient

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Co-author
Lindsay Nason
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Co-author
Margaret Carreiro
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Co-author
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Proliferation of Zebra Mussels (Dreissena polymorpha) in Kentucky Lake during 2017

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Ivan Roe
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Detection of Percopsis omiscomaycus (trout-perch) using eDNA in eastern Kentucky streams.

First Author
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Asbury University

Co-author
David Eisenhour
Morehead State University

Co-author
Brooke Washburn
Morehead State University

Co-author
Lynn Eisenhour
Morehead State University

Co-author
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Asbury University

Ant tarsal adhesion on oak leaves differing in trichome density

First Author
Andrew Nesselroade
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Harold Brabon
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David Eisenhour
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Co-author
Brooke Washburn
Morehead State University

Co-author
Lynn Eisenhour
Morehead State University

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Ben Brammell
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<td>Keegan Thompson</td>
<td>Alyssa Stark</td>
<td>Steve Yanoviak</td>
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<td>University of Louisville</td>
<td>Villanova University</td>
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**Body Size of Leaf-Carrying and Hitchhiking Leafcutter Ants in a Tropical Forest**

129.

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<th>First Author</th>
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<td>Virginia Nunamaker</td>
<td>Chris Nunamaker</td>
<td>Steve Yanoviak</td>
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**Assessing the diet of Perimyotis subflavus and Nycticeius humeralis bats before and after the occurrence of WNS**

130.

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<td>Summer Wheeler</td>
<td>Amie Towery</td>
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**Health of the Lee Branch on the Midway University Campus: Biological stream assessments and stream habitat assessments**

131.

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<td>John Delfino</td>
<td>Guipsy Lopez</td>
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<td>Midway University</td>
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**Relationship between fish biomass and eDNA in central Kentucky streams.**

132.

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<td>Ramon Guivas</td>
<td>Kyle Laufenburger</td>
<td>Ben Brammell</td>
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<td>Asbury University</td>
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**Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.**

133.

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<th>First Author</th>
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<td>Kayleen Parker</td>
<td>Claire Fuller</td>
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<td>University</td>
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**Assessing Mussel Condition and Potential Dam Impact on the Green River, KY**

134.

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

First Author  Co-author  Co-author
Jeffrey Fox  Chris Frost  Steve Yanoviak
University of Louisville  University of Louisville  University of Louisville

Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

First Author  Co-author  Co-author  Co-author  Co-author
Onyinye Uwolloh  Sarah Farrar  Kimberly Wolfe  Steven Castellano  Richard Boyce
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Friday, November 3, 2017  5:00pm - 8:00pm
Posters: Engineering
Curris Center
Chair: Aaron Daley  Secretary: shen liu

Green Roofs: Synergistic Benefits to Energy and Environmental Building Design

First Author
Emery Ginger
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Automated Control System For Photo-bioreactor

First Author
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Kentucky State University

Biomass Stove Design Project: Automated Fuel Feeder System

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Berea College

Integrated Computational Design of Tunable 3D CNT/Graphene Hybrid Nanomaterials
42.

First Author
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Co-author
Jordan Garcia
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Co-author
Charles Lu
University of Kentucky

Co-author
Johnson Joseph
Fiat Chrysler Automobiles

Quantification of Cast Aluminum Pores using MATLAB (by Rayens, N., Cai, P., and Zhai, T.)
43.

First Author
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Co-author
Tongguang Zhai
University of Kentucky

Co-author
Pei Cai
University of Kentucky

Posters: Geography
Curris Center
Friday, November 3, 2017 5:00pm - 8:00pm

Comparing Vegetation Index and Classification methods for detecting agriculture conservation practice using Landsat imag
44.

First Author
Kenneth Hancock
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Unmarked Burial Identification at the Frankfort, KY Cemetery using Ground Penetrating Radar and LIDAR data
45.

First Author
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Kentucky State University

Co-author
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Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Ken Bates
Kentucky State University

Land Cover Change Assessment in Five Major Watersheds of Central Kentucky
46.

First Author
## Posters: Geology

**Curris Center**

**Chair:** Ann Harris  
**Secretary:** David Dockstader

### Using Sequential LiDAR to Monitor & Catalog Landslides in Kenton and Campbell Counties in Northern Kentucky

47.

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<th>First Author</th>
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<tr>
<td>Roger Olson</td>
<td>Benjamin Roenker</td>
<td>Hawkins Warner</td>
<td>Zachary Ivey</td>
<td>Tim Faller</td>
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<tr>
<td>Co-author</td>
<td>Sarah Johnson</td>
<td>Northern Kentucky University</td>
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### Variability of Soil Organic Carbon Storage in Alluvial Landforms: A Case Study from Western Kentucky

48.

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<th>First Author</th>
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<tr>
<td>Benedict Ferguson</td>
<td>Gary Stinchcomb</td>
<td>Murray State University</td>
<td>Department of Geosciences</td>
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<tr>
<td>Murray State University</td>
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### LATE HOLOCENE PALEOFLOOD DEPOSITIONAL SEQUENCES: MIDDLE TENNESSEE RIVER VALLEY, USA

49.

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<td>Christopher Stewart</td>
<td>Gary Stinchcomb</td>
<td>Steve Forman</td>
<td>Lisa Davis</td>
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<tr>
<td>Murray State University</td>
<td>Murray State University</td>
<td>Baylor University</td>
<td>University of Alabama</td>
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</table>
SITE FORMATION OF THE MIDDLE PLEISTOCENE FARRE ARCHAEOLOGICAL SITE, NORTHERN KENYA

50.

First Author  Co-author
Mallory Gerzan  Gary Stinchcomb
Murray State  Murray State
University  University

INVESTIGATION OF OMNIVORY IN THE DRILLING GASTROPOD, UROSALPINX CINEREA, USING STABLE ISOTOPE ANALYSIS

51.

First Author
Molly Karnes
Murray State
University

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

Posters: Health Sciences

An Automatic Segmentation Method for the Thigh Muscles and Adipose Tissue of Spinal Cord Injured Patients

137.

First Author
Carter Waugh
Kentucky Biomedical Research Infrastructure Network

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

138.

First Author  Co-author  Co-author  Co-author
Frederick Bebe  Shasa Hu  Tony Brown  Orien Tulp
Kentucky State  University of Miami,  USAT College of  USAT College of
University  Miller College of  Medicine & graduate  Medicine & graduate
  Medicine

Effect of select phytochemicals on salivary and urinary pH

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<td>140.</td>
<td>Effects of salt on the textural characteristics of fish meatballs prepared from deboned Asian carp meat</td>
<td>Ralphiel Payne</td>
<td>Sydney Leisure</td>
<td>Kentucky Wesleyan College</td>
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<td>141.</td>
<td>Examining the Expression and Function of Septin Proteins in Human Pancreatic Cancer Cells</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
<td>Changzheng Wang</td>
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<td>Kentucky State University</td>
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<td>142.</td>
<td>Health Impact of a Shared Use Path in Rural Appalachia: A Pilot Study</td>
<td>Danielle Upton</td>
<td>Maiyon Park</td>
<td>Valerie Dixon</td>
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<td>143.</td>
<td>Immunogenicity of Novel Vaccines for Hepatitis C Virus</td>
<td>Donniesha Mason</td>
<td>Ashley Wentworth</td>
<td>Reese Triana</td>
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<td>Northern Kentucky University</td>
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</table>
Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptive Response

First Author: Manoj Pathak
Co-author: Cindy Austin
Co-author: Simon Thompson
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The Relationship Between Maternal Physical Activity and Infant Motor Development

First Author: Nikitha Rajendran
Co-author: Rachel Tinius
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Urinary 8-OHdG as a Non-Invasive Biomarker of Oxidative Stress in Metabolic Syndrome (MetS)

First Author: Bisola Asaolu
Co-author: Avinash Tope
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Kentucky State University

Using engineered zinc finger proteins to detect pathogen-specific DNA

First Author: Caleb Sedlak
Department of Chemistry WKU

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

First Author: Kandis Arlinghaus
Co-author: Nicholas Mellen
Bellarmine University
University of Louisville

Posters: Microbiology
Curris Center

Chair: Lingyu Huang
Secretary: Joseph Mester
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<tr>
<th>Title</th>
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<tr>
<td>Inactivation of Fungal Spores with Heat and UVC</td>
<td>Colin Hartman</td>
<td>Sarah Goodrich</td>
<td>Mitchel Lange</td>
<td>Zadah Coy</td>
<td>Joseph Mester</td>
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<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>
<td>Northern Kentucky</td>
<td>University</td>
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<tr>
<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>College</td>
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<tr>
<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>
<td>Doug Krauth</td>
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<td>Deborah Yoder-Himes</td>
<td>Paul Himes</td>
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<td>Isolation and Characterization of the Mycobacteriophage Acquire49</td>
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<td>Charles Mosley</td>
<td>Tyler Burton</td>
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</table>

**Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates**

156.

**SURVEY OF VANCOMYCIN- AND COLISTIN-RESISTANT BACTERIA IN ENVIRONMENTAL WATER SAMPLES ACROSS LOUISVILLE**

157.

**Non-pathogenic Neisseria sicca ATCC 29256 undergoes natural transformation**

158.

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

159.

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

160.
Comparison of Period Finding Techniques to Identify RR Lyrae Stars

52.

First Author: Connor Edwards  
Northern Kentucky University

Co-author: Logan Hicks  
Northern Kentucky University

Co-author: Tyler Labree  
Northern Kentucky University

Co-author: Matthew Buelsing  
Northern Kentucky University

Co-author: Nathan De Lee  
Northern Kentucky University

Electromagnetic Wave Motion Around a Black Hole

53.

First Author: Amanda Manning  
Northern Kentucky University

Co-author: Sharmanthie Fernando  
Northern Kentucky University

Analyzing Color Relations for RR Lyrae in KELT

54.

First Author: Logan Hicks  
Northern Kentucky University

Co-author: Connor Edwards  
Northern Kentucky University

Co-author: Tyler Labree  
Northern Kentucky University

Co-author: Matthew Buelsing  
Northern Kentucky University

Co-author: Nathan De Lee  
Northern Kentucky University

Gold and Silver Nanoparticles Decorated Graphene as 'smart' Surface Enhanced Raman Scattering (SERS) Platforms
Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination

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

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
161.

First Author: Johnathon Hurt
Co-author: Joan Hembree
University of the Cumberlands

Developing TALE proteins as a sensor for detecting pathogens
162.

First Author: Kathrine Gaiko
Western Kentucky University

Examining the role of muscarinic acetylcholine receptors in regulation of larval Drosophila melanogaster feeding and loc
163.

First Author: Meagan Medley
KBRIN

Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling
164.

First Author: Emily Altman
Co-author: JoBeth Bingham
Co-author: Dr. Lewis Watson
Georgetown College
University of Pikeville

Inhibition of PDE4 fails to reverse behavioural deficits induced by muscarinic receptor blockage
165.

First Author: Samuel Case
Co-author: Ilsun White
Morehead State

Investigating Potential Mechanisms of Clove Oil (Eugenol) in Model Systems
166.

First Author
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<td>Blaine Patty</td>
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**Investigating the Synergistic Effects of Two Curcuminoids and Cisplatin on Cancer Cell Migration and ROS Release**

**167.**

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<td>Elizabeth Collins</td>
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**MK-801, a NMDA antagonist, reverses scopolamine-induced behavioral deficits.**

**168.**

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<td>Eashwar Somasundaram</td>
<td>Aya Omar</td>
<td>Cole Malloy</td>
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**Pharmacological identification of cholinergic receptor subtypes in Drosophila**

**169.**

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<td>Alex Stanback</td>
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<td>Sushovan Dixit</td>
<td>Madan Subheeswar</td>
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**The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.**

**170.**

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<tr>
<td>Kaylee Hall</td>
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<td>Paula Ortiz Guerrero</td>
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### Posters: Psychology

**Can nicotine improve scopolamine-induced behavioral deficit?**

177.

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

178.

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<td>Alicia Bedolla</td>
<td>Evelyne Rivera Perez</td>
<td>Joseph Barger</td>
<td>Jasmine Roman</td>
<td>Sarah Jones</td>
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**What influences recognition of emotion among college students**

179.

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<td>Shannon Mapes</td>
<td>Suzanne Savard</td>
<td>Ilsun White</td>
<td>Kinetta Crisp</td>
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**Dual-task methodology: The use of video games as a surrogate for traditional laboratory tasks**

180.

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<td>Mark Morris</td>
<td>Vanessa Jones</td>
<td>Stephani Prince</td>
<td>Nicholas Kelling</td>
<td>Gregory Corso</td>
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<td>University of Houston Clear Lake</td>
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</tbody>
</table>
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
Co-author
Megan Conn
Morehead State
University

Maternal trauma and parenting sensitivity: Implications for attachment-based interventions
184.
First Author
Ashley Hamm
Co-author
Madison Raymer
Morehead State
University Psychology
Department
Co-author
Dr. Shari Kidwell
Morehead State
University Psychology
Department
Co-author
Madison Raymer
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
Stephanie Temple
Berea College

Friday, November 3, 2017  5:00pm - 8:00pm
Posters: Science Education
Curris Center
Chair: Shira Rabin
Secretary: Karen Hlinka

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

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

Posters: Zoology
Curris Center
Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

Dietary effects on behaviors for Drosophila: behaviors, survival and physiological responses.
171.
First Author
Maddie Stanback
University of Kentucky
Co-author
Alexandra Stanback
uky
Co-author
Tristan Donovan
uky
Co-author
Priscilla Boachie
uky
Co-author
Brendon Stockwell
uky
Co-author
Carly Ballinger-Boone
uky
Co-author
Emma Higgins
uky
Co-author
Meaghan Labarre
uky
Co-author
Alexa Larson
uky
Characterization of mating behaviors and risk of cannibalism in Tigrosa georgicola wolf spiders

First Author
Katherine Cappel
Campbellsville University

Co-author
Laura Sullivan-Beckers
Murray State 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
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!

Saturday, November 4, 2017  7:30am - 10:30am
Coffee & Tea
Crows Nest, Curris Center

Saturday, November 4, 2017  7:30am - 10:30am
Coffee & Tea
Blackburn 2nd floor lobby

Saturday, November 4, 2017  7:30am - 12:00pm
Practice Room for Oral Presentations
Cumberland Room, Curris Center

Saturday, November 4, 2017  7:30am - 2:30pm
Practice Room for Oral Presentations
Tennessee Room, Curris Center

Saturday, November 4, 2017  8:00am - 3:00pm
Exhibitors tables
3rd floor of Curris Center
KBRIN (Kentucky Biomedical Research Infrastructure Network)
Kentucky Organization of Field Stations
University of Kentucky Chemistry Department
Characterization of Reagents Developed Against Two Basement Membrane Degraders in Drosophila melanogaster

8:00
First Author: Afolasayo Aromiwura, Western Kentucky University
Co-author: Ajay Srivastava, Western Kentucky University

Evaluation of endocrine pancreas development and maturation in glis3 mutant zebrafish (Danio rerio)

8:15
First Author: Dylan Hammrich, Murray State University
Co-author: Gary ZeRuth, Murray State University

Using CRISPR/Cas9 to generate transgenic zebrafish to determine the expression pattern of glis3 during development

8:30
First Author: Tyler Hoard, Murray State University
Co-author: Gary ZeRuth, Murray State University
Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes

8:45

First Author
Jamison Burchett
Northern Kentucky University
Co-author
Justen Mamaril
Northern Kentucky University
Co-author
Maggie Thomas
Northern Kentucky University
Co-author
Regan Bales
Northern Kentucky University
Co-author
Michael Guy
Northern Kentucky University

Pancreatic beta cell dysfunction mediated by down regulation of Glis3

9:00

First Author
Erin Clayton
Murray State University
Co-author
Gary ZeRuth
Murray State University

Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy

9:15

First Author
Jazmin Escamilla
Berea College
Co-author
Zongyi Hu
Liver Disease Branch, NIDDK-National Institute of Health
Co-author
Jake Liang
Liver Disease Branch, NIDDK-National Institute of Health

Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula

9:30

First Author
Ahmed Fadil
Western Kentucky University

PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.

9:45

First Author
Brittani Hawkins
Murray State University
Co-author
Chris Trzepacz
Murray State University

Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration

10:15
<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Monica Moran</td>
<td>Billy Hudson</td>
<td>Vadim Pedchenko</td>
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<tr>
<td>Vanderbilt University</td>
<td>Division of Nephrology and Hypertension</td>
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**Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and hypothalamic tissue**

10:30

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<th>First Author</th>
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<tbody>
<tr>
<td>Keelee Pullum</td>
<td>Noah Ashley</td>
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<tr>
<td>Gatton Academy, Western Kentucky University</td>
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**An Examination of Epigenetic Factors and Methylation Patterns in Promoter Regions of AT1 and ACE**

10:45

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<th>First Author</th>
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<tr>
<td>Dimond Shelton</td>
<td>Nancy Rice</td>
<td>Conner Hounshell</td>
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**Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone**

11:00

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<th>First Author</th>
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<tr>
<td>Alexandria Szalanczy</td>
<td>Nitika Nitika</td>
<td>Andrew Truman</td>
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<td>Centre College</td>
<td>University of North Carolina at Charlotte</td>
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**Gene expression differences following early life exposure to polychlorinated biphenyls in three genotypes of mice**

11:15

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<td>Yislain Villalona</td>
<td>Kelsey Klinefelter</td>
<td>Breann Colter</td>
<td>Alexandra Dailey</td>
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Saturday, November 4, 2017  8:00am - 3:00pm

**Oral Presentations: Ecology and Environmental Sciences**
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Institution</th>
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<tr>
<td>8:00</td>
<td>Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference</td>
<td>Audrey Alexander</td>
<td>Leslie North</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
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<tr>
<td>8:15</td>
<td>Assessing the Carbon and Energy Balance of a Grazed Pasture in Central Kentucky Using the Eddy Covariance Method</td>
<td>Ian Ries</td>
<td>Maheteme Gebremedhin</td>
<td>Kentucky State University</td>
<td>Maheteme Gebremedhin</td>
<td>Kentucky State University</td>
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<tr>
<td>8:30</td>
<td>Comparison of the Kentucky Vegetation Index of Biotic Integrity (VIBI) to a rapid wetland condition assessment (KY-WRAM)</td>
<td>Elizabeth Malloy</td>
<td>David Brown</td>
<td>Eastern Kentucky University</td>
<td>Stephen Richter</td>
<td>Eastern Kentucky University</td>
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<tr>
<td>8:45</td>
<td>Comparative Risk Evaluation of Commercially Available Organic and Conventional Fertilizers for Potential Bacterial Pathogens</td>
<td>Meika Finger-Gray</td>
<td>Avinash Tope</td>
<td>Kentucky State University</td>
<td>Barbara Scott</td>
<td>US Army Corps of Engineers</td>
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<td>shreya Patel</td>
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<td>Michelle Cook</td>
<td>Kentucky Division of Water</td>
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<tr>
<td>9:00</td>
<td>Interactive Effects of Animal Manure and Cover Crop Use in Improving Agricultural Soil Quality in Kentucky</td>
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<tr>
<td>Genomics of dehydration tolerance in the liverwort, Marchantia inflexa</td>
<td>Sait Sarr, Kentucky State</td>
<td>Maheteme, Gebremedhin, Kentucky State</td>
<td>Avinash Tope, Kentucky State</td>
<td>Mark Coyne, University of Kentucky</td>
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<tr>
<td>Policy communication and the Impact of Agricultural Communities on Karst Landscapes: An Example from Phong Nha-Kẻ Bàng</td>
<td>Rose Marks, University of Kentucky</td>
<td>D. Nicholas McLetchie</td>
<td>Vu Thi Minh Nguyet, Institute of Geological Sciences, Vietnam</td>
<td>Jason Polk, Center for Human GeoEnvironmental Studies at Western Kentuck</td>
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<tr>
<td>Development and Analysis of Avian Index of Biological Integrity for Kentucky Wetlands</td>
<td>Elizabeth Willenbrink, Center for Human GeoEnvironmental Studies at Western Kentuck</td>
<td>Leslie North, Center for Human GeoEnvironmental Studies at Western Kentuck</td>
<td>Vu Thi Minh Nguyet, Institute of Geological Sciences, Vietnam</td>
<td>Jason Polk, Center for Human GeoEnvironmental Studies at Western Kentuck</td>
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<tr>
<td>Increased accuracy in population modeling using density-dependent Leslie matrices with steady-state distribution control</td>
<td>Kaitlyn Kelly, Eastern Kentucky University</td>
<td>David Brown, Eastern Kentucky University</td>
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<tr>
<td>Prey Resource Partitioning Between Sympatric Bat Species</td>
<td>Macy Kailing, Murray State University</td>
<td>Terry Derting, Murray State University</td>
<td>Gary ZeRuth, Murray State University</td>
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<tr>
<td>Factors Affecting the Diversity of Stream Salamanders in Two Watershed Systems in Central Kentucky</td>
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</table>
Plant-Derived Volatiles Alter Plant Fitness in a Species-Specific Manner
11:00
First Author
Grace Freundlich
Co-author
Chris Frost
University of Louisville
University of Louisville

Memory of seeds: Effect of plant volatile exposure to seeds on plant growth, development and defense across generations
11:15
First Author
Abhinav Maurya
Co-author
Christopher Frost
University of Louisville
University of Louisville

Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods
11:30
First Author
Samantha Thomas
Co-author
Jarrett Johnson
Western Kentucky
Western Kentucky
University
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
Co-author
Cate Webb
Western Kentucky
Western Kentucky
University
University

Using Mobile Eye-Tracking to Inform the Development of nature tourism Destinations in Iceland
1:15
**Who's the boss: Social dynamics associated with leadership in endangered Toque Macaques.**  
1:30

**First Author**  
Jeeva Patabendige  
Rathnaweera  
University of Louisville

**Co-author**  
Rajnish Vandercone  
Rajarata University of Sri Lanka

**Co-author**  
Perrie Eason  
University of Louisville

---

**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

---

**Quantifying the Effects of Invasive Species on Fish Communities in Kentucky Lake: A Post-Invasion Approach**  
2:15

**First Author**  
Bradley Hartman  
Murray State
A Composite View of the Composite Supernova Remnant 3C 396 (G39.2-0.3)

First Author
Thomas Pannuti
Morehead State University

The CREAM instrument on the ISS

First Author
Scott Nutter
Northern Kentucky University

Matching Simulation Data to Calibration Data for the Silicon Charge Detector used in the ISS-CREAM Instrument

First Author
Carter Kring
Northern Kentucky University

Calibration of the CREAM Calorimeter with CERN Beam Tests

First Author
Tyler LaBree
Northern Kentucky University
Co-author
Scott Nutter
Northern Kentucky University

Analysis of a Current-Mode Detector for the NOPTREX Experiment

First Author
Co-author
Scott Nutter
Northern Kentucky University

Analysis of a Current-Mode Detector for the NOPTREX Experiment
Josephson weak links with high characteristic voltage for THz radiation detection.

First Author
Daniela Olivera
Velarde
Berea College

Investigation of the Kepler Eclipsing Binary Catalog: Analysis of Targets With UNC Flags

First Author
Luis Gomez
Northern Kentucky University

Streamlining Predictions of Temperature-Dependent Changes in Defect Properties of Intermetallic Compounds

First Author
Caleb Kirschman
Northern Kentucky University

Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258

First Author
Sierra Hauck
Morehead State University

The “Hotter” Side of an X-Ray Tube

First Author
Ignacio Birriel
Morehead State University

The Changing Look Active Galactic Nucleus IRAS 23226-3843

First Author
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

Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320

Saturday, November 4, 2017 8:15am - 10:00am

OIL DRIES A NEW ABSORBENT MATERIAL; FOR COLLECTING IGNITABLE LIQUIDS IN ARSON SCENES

8:15

First Author
Jessica Dove
Eastern Kentucky University

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
The removal of organic pollutants through buoyant photocatalyst

9:00

First Author
Ryan Lamb
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

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

Hanna (John) Khouryieh
Western Kentucky University

Temperature and electric field dependence of asymmetric stretching of nitrate ion

9:45

First Author
Konnor Jones
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

Chair: Jean Gumirakiza
Section meeting to follow presentations
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw</td>
<td>8:15</td>
</tr>
<tr>
<td>First Author: Srijana Thapa Magar</td>
<td></td>
</tr>
<tr>
<td>Co-author: Kirk Pomper</td>
<td></td>
</tr>
<tr>
<td>Co-author: Jeremiah Lowe</td>
<td></td>
</tr>
<tr>
<td>Co-author: Sheri Crabtree</td>
<td></td>
</tr>
</tbody>
</table>

| Enzymes as Indicators of Soil Microbial Activity at three Locations in Kentucky | 8:30  |
| First Author: GEORGE ANTONIOUS                                       |       |
| Co-author: 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                                          |       |
| Co-author: Vikas Kumar                                                |       |
| Co-author: Waldemar Rossi                                             |       |
| Co-author: Katerina Kousoulaki                                         |       |

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

| Applicability of waste-reared Hermetia illucens as an ingredient in the diet of Nile Tilapia, Oreochromis niloticus | 9:15  |
| First Author: Samuel Kessler                                         |       |
| Co-author: Vikas Kumar                                                |       |
| Co-author: Waldemar Rossi                                             |       |

<p>| Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky | 9:30  |
| First Author:                                                    |       |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:45</td>
<td>Spotted wing Drosophila, Drosophila suzukii, larvae in blackberries bordered by native perennial plants or pasture</td>
<td>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</td>
</tr>
<tr>
<td>10:00</td>
<td>Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture and sp</td>
<td>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</td>
</tr>
<tr>
<td>10:30</td>
<td>Optimizing Hemp Production through Cultivar Selection and Soil Management Practices</td>
<td>Rose Johnson Kentucky State University</td>
</tr>
<tr>
<td>10:45</td>
<td>An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass</td>
<td>Megan McCoun Kentucky State University</td>
</tr>
</tbody>
</table>
ANTIBIOTIC SUSCEPTIBILITIES OF BACTERIA ISOLATED FROM THE SAME FISH IN CASES EXAMINED AT THE KENTUCKY STATE UNIVERSITY

11:00

First Author
Ashmita Poudel
Kentucky State University

Co-author
Kathryn Mitchell
Kentucky State University

Co-author
Robert Durborow
Kentucky State University

Investigating the Impact of Low-Cost Organic Fertilizers on Tomato Yield

11:15

First Author
Lusekelo Nkuwi
Kentucky State University

Co-author
George Antonious
Kentucky State University

Co-author
Eric Turley
Kentucky State University

Evaluation of Density in a Live Holding System for Food Size Channel Catfish, Ictalurus punctatus

11:30

First Author
Sujan Bhattarai
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

Are Online Shoppers Aware and/or Interested In Learning About Direct-To-Consumer Market Outlets?

1:00

First Author
JEAN DOMINIQUE
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

Co-author
Thomas Kingery
Western Kentucky University

As online shopping becomes popular, will consumers still be interested in direct-to-consumer offline market outlets?

1:15

First Author
JEAN DOMINIQUE
Analyzing the Effects the use of Best Practices for Farm Management has on Farm Financial Position and Profitability

1:30

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

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

1:45

First Author: Thomas Mason
Co-author: Ken Semmens
Kentucky State University

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

2:00

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

Oral Presentations: Geography

Saturday, November 4, 2017 8:30am - 11:15am

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

8:30

First Author: Oguz Sariyildiz
Co-author: Buddhi Gyawali
Kentucky State University
<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Identification of Unmarked Burial Sites at Frankfort Cemetery using</td>
<td>8:45</td>
<td>D'Andre Garrison</td>
<td>Jarod Jones</td>
<td>Jordan Wilson</td>
<td>Jeremy Sandifer</td>
<td>Ken Bates</td>
</tr>
<tr>
<td>LiDAR and Ground Penetrating Radar</td>
<td></td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
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</tr>
<tr>
<td>The Urban Heat Island: Environmental Change and the Human Condition</td>
<td>9:00</td>
<td>Tori Farrow</td>
<td>Jeremy Sandifer</td>
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<tr>
<td>in Detroit Michigan</td>
<td></td>
<td>Kentucky State University</td>
<td>University</td>
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</tr>
<tr>
<td>Networks of Sustainability within the Iceland Whale Watching Industry</td>
<td>9:15</td>
<td>Jason Fox</td>
<td>Leslie North</td>
<td></td>
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</tr>
<tr>
<td>Predicting the Adoption of Sustainable Agricultural Practices among</td>
<td>9:30</td>
<td>Bijesh Mishra</td>
<td>Buddhi Gyawali</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Kentucky Farmers and Its Barriers</td>
<td></td>
<td>Kentucky State University</td>
<td>KYSU</td>
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</tr>
<tr>
<td>Exploring Relationship between community Perception and landscape</td>
<td>10:00</td>
<td>Buddhi Gyawali</td>
<td>Prabisha Shrestha</td>
<td>Tilak Shrestha</td>
<td>Jeremy Sandifer</td>
<td></td>
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<tr>
<td>change in the Eastern Kentucky</td>
<td></td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
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<tr>
<td>Association of land cover change trend with land ownership size at</td>
<td>10:15</td>
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<tr>
<td>parcel level data in Breckinridge County, KY</td>
<td></td>
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</tr>
</tbody>
</table>
Land Cover Classification using LandSat, NAIP images, and Accuracy enhancements

10:30

First Author
Tilak Shrestha
Kentucky State University

Co-author
Buddhi Gyawali
Kentucky State University

Co-author
Kenneth Bates
KYSU

Co-author
Jeremy Sandifer
KYSU

Co-author
Prabisha Shrestha
KYSU

Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology

10:45

First Author
James Shelley
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Nicholas Crawford
Western Kentucky University

Co-author
Matt Powell
City of Bowling Green Department of Public Works

Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

11:00

First Author
Patricia Kambesis
Western Kentucky University

Co-author
Brittiny Moore-Kimmel
Texas State University

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

11:15

First Author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Kenneth Bates
Kentucky State University

Saturday, November 4, 2017  9:00am - 11:00am
### Morphological Analysis of Astarte (Class: Bivalvia) using Geometric Morphometrics

9:00

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randal Roberson</td>
<td>Michelle Casey</td>
</tr>
<tr>
<td>Murray State University</td>
<td>Murray State University</td>
</tr>
</tbody>
</table>

### Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University’s Meadow

9:15

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reid Buskirk</td>
<td>Walter Borowski</td>
<td>Jonathan Malzone</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
</tr>
</tbody>
</table>

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

9:30

<table>
<thead>
<tr>
<th>First Author</th>
</tr>
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<tbody>
<tr>
<td>James Winter</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
</tr>
</tbody>
</table>

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

10:00

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Selsey Stribling</td>
<td>Jonathan Malzone</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
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</tbody>
</table>

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

10:15

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addison Bell</td>
<td>Jonathan Malzone</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
</tr>
</tbody>
</table>
Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY
10:30
First Author
Laura Kelley
Eastern Kentucky University
Co-author
Sophia Chan
Eastern Kentucky University
Co-author
Jonathan Malzone
Eastern Kentucky University
Co-author
Walter Borowski
Eastern Kentucky University

Runoff generation in an ephemeral agricultural watershed with thin soil
10:45
First Author
Sophia Chan
Eastern Kentucky University
Co-author
Laura Kelley
Eastern Kentucky University
Co-author
Jonathan Malzone
Eastern Kentucky University
Co-author
Walter Borowski
Eastern Kentucky University

Oral Presentations: Psychology
Blackburn 155
Saturday, November 4, 2017 9:00am - 11:15am

Section meeting to follow presentations

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

Children's emotion understanding and regulation: Links with psychological symptoms
9:45
First Author
Karina Cole
Morehead State
# Initial Validation of the Hexaflex Process Assessement 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.

**10:30**

**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

**10:45**

**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

**11:00**

**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
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes</td>
<td>9:00</td>
<td>Joseph Erskine</td>
<td>Jordan Dowdy</td>
<td>Bellarmine University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Stephen Denny</td>
<td>Bellarmine University</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>M Saleem</td>
<td>Bellarmine University</td>
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<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Akhtar Mahmood</td>
<td>Bellarmine University</td>
</tr>
<tr>
<td>Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology</td>
<td>9:15</td>
<td>Katherine Ray King</td>
<td>Linda Fuselier</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Justin McFadden</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>Hearing eclipses: Making astronomy events accessible to visually-impaired students.</td>
<td>9:30</td>
<td>Wilson Gonzalez-Espada</td>
<td>Laura Parker</td>
<td>Kentucky School for the Blind</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Adam Stockhausen</td>
<td>Kentucky School for the Blind</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Wanda Diaz-Merced</td>
<td>Office of Astronomy for Development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author</td>
<td>Allyson Bieryla</td>
<td>Dept. of Astronomy, Harvard University</td>
</tr>
<tr>
<td>Should We Lie To Our Students?</td>
<td>10:00</td>
<td>collar</td>
<td>Daniel Davis</td>
<td>Natural Sciences Lecture Demonstrations, Harvard University</td>
</tr>
</tbody>
</table>
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 Technical College

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
<table>
<thead>
<tr>
<th>Session Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
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</thead>
<tbody>
<tr>
<td>Imaging of the spinal cord in pediatric patients.</td>
<td>Bhavesh Ramkorun</td>
<td>Samantha By Vanderbilt University</td>
<td>Aashim Bhatia Vanderbilt University Children's Hospital</td>
<td>Bryson Reynolds Vanderbilt University Institute of Imaging Science</td>
<td>Patrick Couture Vanderbilt University Medical Center</td>
</tr>
<tr>
<td>Hands-on Robotics Lab at Bellarmine University</td>
<td>Christopher Steitz</td>
<td>Stephen Brown Bellarmine University</td>
<td>Akhtar Mahmood Bellarmine University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms</td>
<td>Andrew Yee Murray State University</td>
<td>Dylan Stewart Murray State University</td>
<td>Gheorghe Bunget Murray State University</td>
<td></td>
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</tr>
<tr>
<td>Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components</td>
<td>Caviar Gongora Murray State University</td>
<td>Steven Treadaway Murray State University</td>
<td>Chance Glass Murray State University</td>
<td>Andrew Yee Murray State University</td>
<td>Brevin Tilmon Murray State University</td>
</tr>
</tbody>
</table>
Mentor-Matching
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
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
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 Co-author
Nicholas McLetchie Maddison Hatton
University of Kentucky University of Kentucky

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135
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
Ameila Dickey
Transylvania University

Co-author
Eliaa Hanna
Transylvania University

Co-author
Christopher Samaan
Transylvania University

Co-author
Hannah Williams
Transylvania University

Co-author
Christine Phipps
Transylvania University

Co-author
Ashley Montgomery
Transylvania University

The Synthesis of Heteroatom-activated Antibiotics: ?-lactams

2:00

First Author
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

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

Open Coverings of the Rationals Need Not Cover The Reals

1:00

Chair: R. Douglas Chatham
Secretary: Andy Martin

Section meeting to follow presentations
<table>
<thead>
<tr>
<th>1:15</th>
<th>The Cubic Equation</th>
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<tbody>
<tr>
<td>First Author</td>
<td>Andy Martin</td>
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<tr>
<td>Institution</td>
<td>Kentucky State University</td>
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<tr>
<th>1:30</th>
<th>A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System of ODEs.</th>
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<td>First Author</td>
<td>Dwight Smith</td>
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<td>Institution</td>
<td>Big Sandy CTC</td>
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<th>The n+k kings problem</th>
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<tr>
<td>First Author</td>
<td>R. Douglas Chatham</td>
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<td>Institution</td>
<td>Morehead State University</td>
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Saturday, November 4, 2017 1:00pm - 1:45pm

**Oral Presentations: Microbiology**

**Cumberland Room, Curris Center**

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<tr>
<th>Chair: Lingyu Huang</th>
<th>Secretary: Joseph Mester</th>
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**Antimicrobial activity from bacteria found around downtown Cincinnati**

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<td>First Author</td>
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<tr>
<td>Kory Stuessel</td>
<td>John Carmen</td>
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<tr>
<td>Northern Kentucky University</td>
<td>Northern Kentucky</td>
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**Inhibition of Fungal Colony Growth by UVC**
Emergence and divergence of influenza virus: A current perspective
1:30
First Author
Alexander Lai
Kentucky State University

Oral Presentations: Physiology and Biochemistry
Barkley Lecture Room, Curris Center
Saturday, November 4, 2017 1:00pm - 2:00pm

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

**First Author**
Dan Stelzer
**Co-author**
Michelle Robillard
**Co-author**
Mariah Dooley
**Co-author**
James Deddens
**Co-author**
Larry Douglass
**Co-author**
Julia Carter

*Wood Hudson Cancer Research Laboratory*

### 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*

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

**Oral Presentations: Anthropology and Sociology**

**Ohio Room, Curris Center**

*Chair: Benjamin Freed*  
*Secretary: Amanuel Beyin*

*Section meeting to follow presentations*

### 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
### Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin

**First Author**
Mallory Cox  
**University of Louisville**

**Co-authors**
- Shanshan Li  
  Xingjian College of Science and Liberal Arts, Guangxi Univ.  
- Jun Peng  
  Xingjian College of Science and Liberal Arts, Guangxi Univ.

### Shifting Agriculture's Effects on Lemurs in a Malagasy Gallery Forest

**First Author**
Benjamin Freed  
**Eastern Kentucky University**

**Co-authors**
- Nathanael Bartosch  
  Eastern Kentucky University  
- Laura Lodder  
  University of Kentucky  
- Justin Moore  
  University of Kentucky  
- Bailey Phan  
  University of Kentucky  
- Neil Moore  
  University of Kentucky  
- Mark Farman  
  University of Kentucky  
- Jerzy Jaromczyk  
  University of Kentucky  
- Andrew Tapia  
  University of Kentucky  
- Luke Decastro  
  University of Kentucky

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**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

**First Author**
Harrison Inocencio  
**University of Kentucky**

**Co-authors**
- Deavin Hester  
  University of Kentucky  
- Laura Lodder  
  University of Kentucky  
- Justin Moore  
  University of Kentucky  
- Andrew Tapia  
  University of Kentucky  
- Neil Moore  
  University of Kentucky  
- Mark Farman  
  University of Kentucky  
- Jerzy Jaromczyk  
  University of Kentucky  
- Luke Decastro  
  University of Kentucky

### Adaptive Topic Mining from Social Media Streams

**First Author**

**Co-author**

**University of Kentucky**
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

Password cracking performance testing comparing GPU vs CPU performance using Hashcat

2:00

First Author
Deven Rataiczak
Bellarmine University

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

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

1:45

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<td>Chi Peng</td>
<td>Hanna Abe</td>
<td>Ron Rosen</td>
<td>Brian Traw</td>
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<td>Yale University</td>
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<td></td>
<td>Emma Reasoner</td>
<td>Co-author</td>
<td>Marah Zeidan</td>
<td>Co-author</td>
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Potential detection and utilization of substrate-borne vibrations by chameleons (Chamaeleo calyptratus).

2:00

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<tr>
<td>Kathryn Laslie</td>
<td>Emily Hamilton</td>
<td>Michael Smith</td>
<td>Western Kentucky University</td>
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Transcriptomic Response to Immune Challenge in Zebra Finch (Taeniopygia guttata) using RNA-seq.

2:15

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<tr>
<td>Cassandra Scalf</td>
<td>Noah Ashley</td>
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<tr>
<td>Western Kentucky University</td>
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Saturday, November 4, 2017  2:30pm - 4:30pm

**Coffee & Tea**

Crow's Nest, Curris Center

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

**Keynote Jeffrey Bennett: Communicating Science to the Public**

Introduced by President-Elect  Curris Center Ballroom

Jennifer Birriel
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
More Information

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