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

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**KAS Governing Board meeting**

Commonwealth Suite

Open to all KAS members

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**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.

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**Practice Room for Oral Presentations**

Tennessee Room, Curris Center

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**Practice Room for Oral Presentations**

Cumberland Room, Curris Center

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**Tour - Hancock Biological Station**

Meet in front of Curris Center for van pickup.

2 hour round trip

**Hancock Biological Station** - The Hancock Biological Station (HBS), located on Kentucky Lake less than 20 minutes from the campus, is a year-round teaching and research ecosystem facility where students have unique opportunities to interact with faculty and visiting scientists. A variety of field courses are taught each summer at the
KAS Business meeting  
Mississippi Room, Curris Center  

President: Darrin Smith  

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

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.

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

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
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.

Friday, November 3, 2017  5:00pm - 8:00pm
Posters: Agricultural Sciences
Curris Center
effects of excess dietary branched chain amino acids (leucine and isoleucine) on growth and health of Nile tilapia

61.

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

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

62.

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

Co-author: Brian Parr
Murray State University

Dehydration of autumn olive berries for human consumption

63.

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

Developing cold-hardy perennial ornamentals for Kentucky

64.

First Author: Hideka Kobayashi
Kentucky State University

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

65.

First Author: Harry Franklin
Co-author: Duncan Thomas
Co-author: Connor Raymond
Co-author: Jacob Flemming
Co-author: Iin Handayani
Murray State University

Co-author: Brian Parr
Murray State University
Effects of fertilization on growth performance of lotus plants in containers

First Author
Changzheng Wang
Kentucky State University

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

First Author
GEORGE ANTONIOUS
KENTUCKY STATE UNIVERSITY

Co-author
Kirk Pomper
Kentucky State University

Co-author
Eric Turley
Kentucky State University

Co-author
Quinn Heist
Kentucky State University

Co-author
Thomas Trivette
Kentucky State University

Co-author
Lusekelo Nkuwi
Kentucky State University

Co-author
Yogendra Upadhyaya
Kentucky State University

Co-author
Bjesh Mishra
Kentucky State University

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

First Author
Jean Dominique Gumirakiza
Western Kentucky University

Co-author
Thomas Kingery
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

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

First Author
Spencer Fulkerson
Murray State University

Co-author
joel reddick
Murray State University

Co-author
Landon Williams
Murray State University

Co-author
Blake Remmert
Murray State University

Co-author
iin Handayani
Murray State University

Co-author
Brian Parr
Murray State University

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

First Author
Zack Eells
Murray State University

Co-author
Canaan Wring
Murray State University

Co-author
Clay Smotherman
Murray State University

Co-author
Connor Moore
Murray State University

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

First Author


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<td>Brian Parr</td>
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**Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil**

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<td>Yogendra Upadhyaya</td>
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<tr>
<td>Kelly Hagan</td>
<td>Ray Smith</td>
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<td>Asbury University</td>
<td>University of Kentucky</td>
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**Analyzing Quality and Quantity of Binary and Pure Stands of Low Lignin and Standard Alfalfa**

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<tr>
<td>Juliana Silva e Costa</td>
<td>Justin Cornett</td>
<td>D. Nicholas McLetchie</td>
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<tr>
<td>Federal University of Juiz de Fora</td>
<td>University of Kentucky</td>
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**Posters: Botany**

**Curris Center**

<table>
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<tr>
<th>Chair: Lawrence Alice</th>
<th>Secretary: Maggie Whitson</th>
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**Is there an association between sex ratio and the level of sex expression among plant populations?**

<table>
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<td>Taylor Horton</td>
<td>Dayle Saar</td>
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**Detection of Cryptic Interspecific Hybridization Between Morus rubra and M. alba Using Molecular Markers**

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**Is wintercreeper’s (Euonymus fortunei) success as an invader due to avoidance of herbivory?**

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<td>University</td>
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</table>
Building an interactive tree map for the Bellarmine University campus.

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

**Posters: Cellular and Molecular Biology**

**Curris Center**

Chair: Emily Shifley  
Secretary: Gary ZeRuth

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

First Author  
Hasan Salim  
WKU

Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye

First Author  
Hadley Neal  
KBRIN

Co-author  
Rebecca Petersen  
University of Kentucky

Co-author  
Wen Wen  
University of Kentucky

Co-author  
Ann Morris  
University of Kentucky

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

First Author  
Dane Flinchum  
Western Kentucky University

Co-author  
Ajay Srivastava  
Western Kentucky University

Examining Gene Expression during Xenopus Embryonic Development

First Author  
Maria Stewart  
Northern Kentucky University

Co-author  
Emily Shifley  
Northern Kentucky University

Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster
Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

First Author
Amber Follin
Biology Department, Berea College

Co-author
Kyla Britson
Neuroscience and Neurology, Johns Hopkins Medicine

Co-author
Tom Lyod
Neuroscience and Neurology, Johns Hopkins Medicine

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

First Author
Sarah Kunkler
Northern Kentucky University

Co-author
Emily Shifley
Northern Kentucky University

The effect of benzo[a]pyrene on motor function in neonatal mice

First Author
Katelyn Dunn
Northern Kentucky University

Co-author
Tamika Chappell
Northern Kentucky University

Co-author
Lisa Massie
Northern Kentucky University

Co-author
Shelby Caudill
Northern Kentucky University

Co-author
Nicholas Brinkman
Northern Kentucky University

Co-author
Rachel Dempsey
Northern Kentucky University

Co-author
Christine Curran
Northern Kentucky University

Role of autophagy-related protein Vps34 in the function of adipose tissues and interactions with the immune system

First Author
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Vanderbilt University Medical Center

Co-author
Lan Wu
Vanderbilt University Medical Center

Co-author
Luc Van Kaer
Vanderbilt University Medical Center

Co-author
Luke Postoak
Vanderbilt University Medical Center

Co-author
Margaret Sabourin
Vanderbilt University Medical Center

Using gene expression to better understand macrophages' role in tissue regeneration

First Author
Kendall Collins
<table>
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<th>Title</th>
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<th>Co-author</th>
<th>Co-author</th>
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<tr>
<td>Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos</td>
<td>Conner Hounshell</td>
<td>Courtney Waterbury</td>
<td>Jeremiah Smith</td>
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<td>Sex Specific Gene Control of Cardiac Fibrosis</td>
<td>Bruce Northington</td>
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<td>Annotation of Spock and Inky Mycobacteriophages</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
<td>Moria Magre</td>
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<td>Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins</td>
<td>Jiyoung Shim</td>
<td>Barnabas Kim</td>
<td>Moon-Soo Kim</td>
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<tr>
<td>Functional and genetic studies of the tRNA modification protein Trm732 in yeast</td>
<td>Hannah Sizemore</td>
<td>Daisy DiVita</td>
<td>Julia Ziebro</td>
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<td>Exploring Small Molecule Drugs Binding To Ribosomal Protein L11</td>
<td>Swetaben Patel</td>
<td>Michal Hetman</td>
<td>Lukasz Slomnicki</td>
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<td>IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY</td>
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RELATIONSHIP

94.
First Author
Issac Domenech
Vanderbilt University Medical Center

Co-author
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Co-author
Corina Borza
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Co-author
Craig Lindsley
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Co-author
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Vanderbilt University Medical Center

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

95.
First Author
Morgan Bahnsen
KBRIN

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

96.
First Author
Thomas Case
KBRIN

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

97.
First Author
Melanie Couch
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Co-author
Getahun Agga
ARS USDA

Co-author
John Loughrin
ARS USDA

Co-author
Rohan Parekh
ARS USDA

Co-author
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Identification of the enzyme responsible for the acp3U modification in bacteria

98.
First Author
Maggie Thomas
Northern Kentucky University

Co-author
Jamison Burchett
Northern Kentucky University

Co-author
Justen Mamaril
Northern Kentucky University

Co-author
Michael Guy
Northern Kentucky University

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

99.
First Author
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
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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.
First Author
Maxwell Conte
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<th>Western Kentucky University</th>
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<td>Ali Abd-Elaal</td>
<td>Aaron Kirtland</td>
<td>The Carol Martin</td>
<td>Yong-Il Lee</td>
<td>Department of Chemistry, Changwon National University, S.K.</td>
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<td>Department of Petrochemicals, Egypt</td>
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<td>Mathematics and Science</td>
<td>Department of Petrochemicals, Egypt</td>
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<td>Nathan Denney</td>
<td>Lauren Clark</td>
<td>Gregory Clark</td>
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<td>Department of Agriculture Science, Hutson School of Agriculture</td>
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<td>Bomman Loganathan</td>
<td>Brian Parr</td>
<td>Bikram Subedi</td>
<td>Department of Chemistry, Murray State University,</td>
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<td>Alex Thome</td>
<td>Jill Cao</td>
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<td>The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index</td>
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<td>Rachel Bracker</td>
<td>Lori Wilson</td>
<td>Eastern Kentucky</td>
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<td>Sara Garner</td>
<td>Shay Steele</td>
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<td>Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA</td>
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<td>Jay Baltisberger</td>
<td>Sara Garner</td>
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<td>First Author</td>
<td>Michael Greiving</td>
<td>KYSU</td>
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Salt-Assisted Ultrasonicated De-aggregation and Advanced Electrochemistry of Detonation Nanodiamond.

First Author  Co-author  Co-author
Brendan Evans  Alex Henson  Sanju Gupta
Western Kentucky  Western Kentucky  Western Kentucky
University  University  University

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

First Author  Co-author  Co-author  Co-author  Co-author
Nicole States  Henry Pruet  Bikram Subedi  Susan Hendricks  David White
Murray State  Murray State  Murray State  Hancock Biological  Hancock Biological
University  University  University  Station  Station

Co-author  Co-author  Co-author  Co-author
Bommanna Loganathan  Bikram Subedi  Susan Hendricks
Murray State  Murray State  Murray State  Hancock Biological
University  University  University  Station

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

First Author  Co-author  Co-author  Co-author  Co-author
K.N. Thimmaiah  Mark Montgomery  Padma Thimmaiah  Ashish Pagare  Larry Sylvester
Northwest MS  Northwest MS  Northwest MS  Northwest MS  Northwest MS
Community College  Community College  Community College  Community College  Community College

Co-author  Co-author  Co-author  Co-author
Ray Cox  Paul Grisham  Piya Adris  Lindsay Massie
Northwest MS  Northwest MS  Northwest MS  Northwest MS
Community College  Community College  Community College  Community College

Water Purification using Magnetic Biochar

First Author
Anne Carlisle
Western Kentucky
University

A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms
Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification

First Author
Junjie Xiang
Western Kentucky University

Effect of Iron charge state on P450 BM3 stability

First Author
Catherine Denning
Co-author
David Heidary
Edith Glazer
University of Kentucky

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

First Author
Bangbo Yan
Co-author
Robert Spears
University Department of Chemistry
Western Kentucky University

Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors

First Author
Erin O'Donnell
Co-author
Rachel Allenbaugh
University of Kentucky

Curris Center

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

Posters: Chemistry: Organic/Inorganic

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

First Author
Ryan Boggess
Co-author
Bangbo Yan
University of Kentucky

Effect of Iron charge state on P450 BM3 stability
18.

First Author
Catherine Denning
Co-author
David Heidary
Edith Glazer
University of Kentucky

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

First Author
Bangbo Yan
Co-author
Robert Spears
Western Kentucky University

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

First Author
Erin O'Donnell
Co-author
Rachel Allenbaugh
Murray State University
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods</td>
<td>Haiyan Liu, Western Kentucky University</td>
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<td>Light Activated Ruthenium Peptide Hybrids</td>
<td>Lydia Millard, Kentucky State University</td>
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<td>N-Heterocyclic Carbene Complexes</td>
<td>Mario Chavarria, Cheyenne Haynes, Berea College</td>
<td>Berea College</td>
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<td>Optimization of lipid extraction from Scenedesmus acutus via in-situ transesterification</td>
<td>Vincent Kelly, Robert Pace, University of Kentucky</td>
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<td>Photocatalytic reduction of carbon dioxide by metal-organic framework materials.</td>
<td>Hannah Brooks, Bangbo Yan, Western Kentucky University</td>
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<tr>
<td>Promotional Effect of Platinum on Nickel Catalysts in the Conversion of Lipids to Hydrocarbons in Diesel Range</td>
<td>Kelsey Huff, Tonya Morgan, University of Kentucky's Center for Applied Energy Research, Eduardo Santillan-Jimenez, University of Kentucky's Center for Applied Energy Research, Mark Crocker</td>
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</table>
Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Knöller-type Catalyst

First Author: Alexandra Redden
Co-author: Rachel Whittaker
Co-author: Kane Ferguson
Murray State University

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

First Author: Luis Gonzalez Anguiar
Berea College

Solid-Phase Synthesis of Heteroatom-Activated Antibiotics

First Author: Morgan Uebelacker
Co-author: Jacob Nanney
Co-author: Kyle Watson
Kentucky Wesleyan College

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

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

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

First Author: Benjamin Kash
Co-author: Haiyan Liu
Co-author: Rui Zhang
Gatton Academy, Western Kentucky University

Synthesis and Properties of a Ruthenium Polypyridyl Complex

First Author: Hannah Cope
Co-author: Bangbo Yan
Western Kentucky University
Synthesis of Cleavable Acetal Antibody Drug Conjugate

First Author
Luis Salazar Guzman
Berea College

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

First Author
Charles Greif
Eastern Kentucky University

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

First Author
Beau Schweitzer
Berea College

Synthesizing Cleavable Acetal Antibody Drug Conjugates

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

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

Posters: Computer and Informational Sciences
Curris Center

Incorporating WeBWorK in a Mathematics Classroom

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

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

First Author
## Posters: Ecology and Environmental Sciences

### Curris Center

**Chair:** Maheteme Gebremedhin  
**Secretary:** Roberta Challener

### 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**  
Oguz Sariyildiz  
*Kentucky State University*

**Co-author**  
Mamata Bashyal  
*Kentucky State University*

**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.

**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*

### Is it enough? Passive Restoration in a Western Colorado Stream

103.

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

**Co-author**  
Howard Whitemand  
*Murray State University*
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<thead>
<tr>
<th>Title</th>
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<tr>
<td>The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils</td>
<td>Vanetta Graves, Kentucky State University</td>
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<td>Leaf Toughness in Tropical Rainforest Plants Depends on Leaf Age in Dicots but Not Monocots</td>
<td>Shelby Watkins, Stephen Yanovick, Christopher Frost, University of Louisville</td>
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<td>Examining the Relationship Between Temperature and Vegetation Phenology: Is Soil a Better Predictor than Air?</td>
<td>Kevin &quot;Austin&quot; Johnessee, Monika Staszczak, Murray State University</td>
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<td>Effect of Slope and Packing Ratio on the Behavior of Matchsticks Burnings</td>
<td>Roma Karna, Priya Karna, Sunil Karna, Union College</td>
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<td>Site selection by the Jefferson's and spotted salamanders based on substrate pH</td>
<td>Tosha Shokes, Jarrett Johnson, Western Kentucky University</td>
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<tr>
<td>Assessing the effects of urban air pollution on lichens</td>
<td>Austin Adam, Roberta Challender, Bellarmine University</td>
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<tr>
<td>The Effects of Stream Degradation on Food Web Stability</td>
<td>Hannah Moore, Murray State</td>
</tr>
</tbody>
</table>
Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.
111.
First Author
Spencer Phillips
Murray State University
Co-author
Nathan Tillotson
Murray State University
Co-author
Ben Tumolo
Murray State University
Co-author
Michael Flinn
Murray State University

Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status
112.
First Author
Alishea Brown
Kentucky State University
Co-author
Farida Olden
Kentucky State University

Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees
113.
First Author
Maria Shields
University of Louisville
Co-author
Christopher Frost
University of Louisville
Co-author
Stephen Yanoviak
University of Louisville

Driver bias in intentional wildlife-vehicle collisions
114.
First Author
Mary Wilkinson
Murray State University
Co-author
Terry Derting
Murray State University

Using Hardiness Zones to Determine Phenological Variation
115.
First Author
Whitney Buechler
Murray State University
Co-author
Bassil El Masri
Murray State University
Co-author
Paul Gagnon
Murray State University

Assessing Stormwater Impacts and Hydrogeological Influences on Water Quality in an Urban Karst Lake
116.
First Author
Rachel Kaiser
Western Kentucky University
Co-author
James Shelley
Western Kentucky University

Is aboveground pathogen load influenced by belowground pathogen presence, plant community
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<tr>
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<td>Diversity, or precipitation</td>
<td>Aspen Workman</td>
<td>Claudia Stein</td>
<td>Scott Mangan</td>
<td>Washington University</td>
<td>Washington University in St. Louis</td>
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<tr>
<td>Insect Pollinator Diversity in Gardens Across an Urban-to-Suburban Gradient</td>
<td>Jacob Lawson</td>
<td>Margaret Carreiro</td>
<td>Lindsay Nason</td>
<td>Perri Eason</td>
<td>Amy Cherry</td>
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<td>Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.</td>
<td>David White</td>
<td>Susan Hendricks</td>
<td>Mindy Armstead</td>
<td>Bill Ford</td>
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<td>Improving Detection and of a Threatened Anuran Species (Lithobates areolatus) in Western Kentucky</td>
<td>Michaela Lambert</td>
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<td>Exploring the impact of body size variation on trophic cascades using mole salamanders (Ambystoma talpoideum)</td>
<td>Robin Baker</td>
<td>Cy Mott</td>
<td>Katelyn May</td>
<td>Howard Whiteman</td>
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<td>Ability of Bald Cypress (Taxodium distichum) to enhance aquatic structure in backwater embayments of reservoirs</td>
<td>Christy Soldo</td>
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<td>Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes</td>
<td>Sarah Bissmeyer</td>
<td>Chris Frost</td>
<td>Grace Freundlich</td>
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<td>Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.</td>
<td>Andrew Nesselroade</td>
<td>Ronald Sams</td>
<td>Cierla McGuire</td>
<td>Sumathi Sankaran-Walters</td>
<td>Mike McGrann</td>
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<td>Caterpillar Predation Rates Across an Urban-Suburban Gradient</td>
<td>Amy Cherry</td>
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<td>Proliferation of Zebra Mussels (Dreissena polymorpha) in Kentucky Lake during 2017</td>
<td>Michael Flinn</td>
<td>Melody Feden</td>
<td>Ben Ferguson</td>
<td>Bradley Hartman</td>
<td>Kayleen Parker</td>
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<td>Ivan Roe</td>
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</table>
### Detection of Percopsis omiscomaycus (trout-perch) using eDNA in eastern Kentucky streams.

127.

<table>
<thead>
<tr>
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<tr>
<td>Andrew Nesselroade</td>
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<td>David Eisenhour</td>
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### Ant tarsal adhesion on oak leaves differing in trichome density

128.

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<tr>
<th>First Author</th>
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<tr>
<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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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Virginia Nunamaker</td>
<td>Chris Nunamaker</td>
<td>Steve Yanoviak</td>
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<td>University of Louisville</td>
<td>University of Louisville</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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<tr>
<th>First Author</th>
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<tr>
<td>Summer Wheeler</td>
<td>Amie Towery</td>
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<td>Murray State</td>
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### Health of the Lee Branch on the Midway University Campus: Biological stream assessments and stream habitat assessments

131.

<table>
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<tr>
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<tbody>
<tr>
<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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<tr>
<th>First Author</th>
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<tr>
<td>Ramon Guivas</td>
<td>Kyle Laufenburger</td>
<td>Ben Brammell</td>
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</tbody>
</table>
Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.

First Author: Kayleen Parker
Co-author: Claire Fuller
Institution: Murray State University

Assessing Mussel Condition and Potential Dam Impact on the Green River, KY

First Author: Lauren Mayton
Institution: Campbellsville University

Herbivory rates of Amazonian melastomes are unaffected by the presence of domatia-inhabiting ants

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

Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

First Author: Onyinye Uwolloh
Co-author: Sarah Farrar
Co-author: Kimberly Wolfe
Co-author: Steven Castellano
Co-author: Richard Boyce
Institution: Northern Kentucky University

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
Institution: Murray State University

Automated Control System For Photo-bioreactor

First Author: 
Institution: 

<table>
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<tr>
<td>42.</td>
<td>Integrated Computational Design of Tunable 3D CNT/Graphene Hybrid Nanomaterials</td>
<td>Tyler Stoffel</td>
<td>Jordan Garcia</td>
<td>Charles Lu</td>
<td>Johnson Joseph</td>
<td>Fiat Chrysler Automobiles</td>
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<td>Fiat Chrysler Automobiles</td>
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<td>43.</td>
<td>Quantification of Cast Aluminum Pores using MATLAB (by Rayens, N., Cai, P., and Zhai, T.)</td>
<td>Nathan Rayens</td>
<td>Tongguang Zhai</td>
<td>Pei Cai</td>
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**Posters: Geography**

**Curris Center**

Chair: Buddhi Gyawali

Secretary: Christopher Day

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<tr>
<td>44.</td>
<td>Comparing Vegetation Index and Classification methods for detecting agriculture conservation practice using Landsat imag</td>
<td>Kenneth Hancock</td>
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<td>Murray State University</td>
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<td>45.</td>
<td>Unmarked Burial Identification at the Frankfort, KY Cemetery using Ground Penetrating Radar and LIDAR data</td>
<td></td>
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</table>
Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

46.
First Author
Aman Bhatta
KYSU
Co-author
Saaru Khadka
KYSU
Co-author
Bijesh Mishra
KYSU
Co-author
Buddhi Gyawali
KYSU
Co-author
Prabisha Shrestha
Kentucky State University
Co-author
Jeremy Sandifer
Kentucky State University
Co-author
Tilak Shrestha
Kentucky State University

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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.
First Author
Roger Olson
Northern Kentucky University
Co-author
Benjamin Roenker
Northern Kentucky University
Co-author
Hawkins Warner
Northern Kentucky University
Co-author
Zachary Ivey
Northern Kentucky University
Co-author
Tim Faller
Northern Kentucky University
Co-author
Sarah Johnson
Northern Kentucky University

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

48.
First Author
Benedict Ferguson
Murray State University: Department of Geosciences
Co-author
Gary Stinchcomb
Murray State University: Department of Geosciences

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

49.
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<thead>
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<td>Christopher Stewart</td>
<td>Gary Stinchcomb</td>
<td>Steve Forman</td>
<td>Lisa Davis</td>
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<td>Murray State</td>
<td>Murray State</td>
<td>Baylor University</td>
<td>University</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, UROSLAPINX CINEREA, USING STABLE ISOTOPE ANALYSIS

51.

First Author
Molly Karnes
Murray State
University

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

**Posters: Health Sciences**

**Curris Center**

Chair: Bruce Branan
Secretary: Avinash Tope

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 Tulip
Kentucky State                 University of Miami,  USAT College of  USAT College of  
University                     Miller College of Medicine & graduate Medicine & graduate
                                   School                                     School

Effect of select phytochemicals on salivary and urinary pH

139.
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<th>140.</th>
<th>Effects of salt on the textural characteristics of fish meatballs prepared from deboned Asian carp meat</th>
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<td>Sydney Leisure</td>
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<th>141.</th>
<th>Examining the Expression and Function of Septin Proteins in Human Pancreatic Cancer Cells</th>
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<tr>
<td>First Author</td>
<td>Co-author</td>
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<tr>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
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<td>Kentucky State University</td>
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<tr>
<th>142.</th>
<th>Health Impact of a Shared Use Path in Rural Appalachia: A Pilot Study</th>
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<tbody>
<tr>
<td>First Author</td>
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<tr>
<td>Louisa Summers</td>
<td>Maiyon Park</td>
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<td>KYCOM-UPIKE</td>
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<th>143.</th>
<th>Immunogenicity of Novel Vaccines for Hepatitis C Virus</th>
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<tr>
<td>First Author</td>
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<tr>
<td>Donniesha Mason</td>
<td>Ashley Wentworth</td>
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<th>144.</th>
<th>Measurement of Influenza Severity in Tennessee Hospitalized Patients, 2016-2017</th>
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<td>First Author</td>
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<tr>
<td>Allison Harper</td>
<td>Tiffanie Markus</td>
</tr>
<tr>
<td>Berea College</td>
<td>Vanderbilt University</td>
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</table>

| 145. | Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptiv |
The Relationship Between Maternal Physical Activity and Infant Motor Development
146.
First Author
Nikitha Rajendran
Gatton Academy, Western Kentucky University
Co-author
Rachel Tinius
Western Kentucky University

Urinary 8-OHdG as a Non-Invasive Biomarker of Oxidative Stress in Metabolic Syndrome (MetS)
147.
First Author
Bisola Asaolu
Kentucky State University
Co-author
Avinash Tope
Kentucky State University

Using engineered zinc finger proteins to detect pathogen-specific DNA
148.
First Author
Caleb Sedlak
Department of Chemistry WKU

Zinc, Dietary Fat, and Sex have Interacting Influences on BTBR Mice in the Open Field Test
149.
First Author
Kandis Arlinghaus
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Co-author
Nicholas Mellen
University of Louisville

Friday, November 3, 2017  5:00pm - 8:00pm
Posters: Microbiology
Curris Center
Chair: Lingyu Huang
Secretary: Joseph Mester

Inactivation of Fungal Spores with Heat and UVC
150.
First Author
Colin Hartman
Northern Kentucky University
Co-author
Sarah Goodrich
Northern Kentucky University
Co-author
Mitchel Lange
Northern Kentucky University
Co-author
Zadah Coy
Northern Kentucky University
Co-author
Joseph Mester
Northern Kentucky University
### Mycobacteriophages: Inky and Spock

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<tr>
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<tr>
<td>Moria Magre</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
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<td>Spalding University</td>
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### Antifungal Endophytes as a Source of Novel Bioactive Compounds

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<td>Katie Sawvell</td>
<td>John Carmen</td>
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### Production of hydrogen peroxide as a virulence factor by Mycoplasma mycoides subspecies capri

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<td>Zackery Newton</td>
<td>Rachel Pritchard</td>
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### The Prevalence of Bacteria Resistant to Vancomycin and Colistin in Waters Around Louisville

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<td>Amy Priest</td>
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<td>Deborah Yoder-Himes</td>
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### Isolation and Characterization of the Mycobacteriophage Acquire49

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<td>Tyler Burton</td>
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### Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates

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### SURVEY OF VANCOMYCIN- AND COLISTIN-RESISTANT BACTERIA IN ENVIRONMENTAL WATER SAMPLES ACROSS LOUISVILLE
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Non-pathogenic Neisseria sicca ATCC 29256 undergoes natural transformation

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

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<td>Grayson Fuller</td>
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Targeting Proteolytic Activity using protease inhibitors as natural therapeutics for human metapneumovirus (HMPV)

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<td>Amber Earlywine</td>
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<td>Berea College</td>
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Friday, November 3, 2017  5:00pm - 8:00pm

Posters: Physics and Astronomy

<table>
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<th>Chair: Troy Messina</th>
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Comparison of Period Finding Techniques to Identify RR Lyrae Stars

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### Electromagnetic Wave Motion Around a Black Hole

53.

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<td>Amanda Manning</td>
<td>Sharmanthie</td>
<td>Fernando</td>
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### Analyzing Color Relations for RR Lyrae in KELT

54.

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

55.

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<td>Alexander Banaszak</td>
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### Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination

56.

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<td>Alex Henson</td>
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### Nanoparticles-grafted functionalized graphene coated with nanostructured polyaniline layered nanocomposites as high-perf

57.

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<td>Romney Meek</td>
<td>Sanju Gupta</td>
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### Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistr
First Author Co-author Co-author
Brendan Evans Alex Henson Sanju Gupta
Western Kentucky Western Kentucky Western Kentucky
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Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GexSe1-x Glass System

First Author Co-author Co-author Co-author
John Adamick John Rademacher Chari Ramkumar Wayne Bresser
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The Study of Light Paths Around Black Holes

First Author
Abigail Campbell
Northern Kentucky
University

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

Posters: Physiology and Biochemistry
Curris Center

Chair: Michael Smith Secretary: Julia Carter

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

First Author Co-author
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Cumberlands Cumberlands

Developing TALE proteins as a sensor for detecting pathogens

First Author
Kathrine Gaiko
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University

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

First Author
Meagan Medley
KBRIN
### Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling

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<tr>
<td>Emily Altman</td>
<td>JoBeth Bingham</td>
<td>Dr. Lewis Watson</td>
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<tr>
<td>Georgetown College</td>
<td>University of Pikeville</td>
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### Inhibition of PDE4 fails to reverse behavioural deficits induced by muscarinic receptor blockage

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<td>Samuel Case</td>
<td>Ilsun White</td>
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<td>Morehead State University</td>
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### Investigating Potential Mechanisms of Clove Oil (Eugenol) in Model Systems

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<td>Alec Bradley</td>
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<td>Co-author</td>
<td>Danielle Cantrell</td>
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<td>Samantha Eversole</td>
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<td>Co-author</td>
<td>Carolyn Grachen</td>
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<tr>
<td>Co-author</td>
<td>Kaylee Hall</td>
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<td>Co-author</td>
<td>Claire Kinmon</td>
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<td>Paula Ortiz Guerrero</td>
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<td>Bhavik Patel</td>
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<td>Robin Cooper</td>
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### Investigating the Synergistic Effects of Two Curcuminoids and Cisplatin on Cancer Cell Migration and ROS Release

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<td>Blaine Patty</td>
<td>Matthew Millay</td>
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<td>Jerry Monroe</td>
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<tr>
<td>Co-author</td>
<td>Michael Smith</td>
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### MK-801, a NMDA antagonist, reverses scopolamine-induced behavioral deficits.

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<td>Elizabeth Collins</td>
<td>Sami Case</td>
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<td>Brianna Ward</td>
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### Pharmacological identification of cholinergic receptor subtypes in Drosophilia

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<td>Eashwar Somasundaram</td>
<td>Aya Omar</td>
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The effects of a ketogenic diet on behavior and synaptic transmission in a *Drosophila* model.

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<td>Alex Stanback</td>
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<td>Sushovan Dixit</td>
<td>Madan Subheeswar</td>
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**Posters: Psychology**

**Curris Center**

**Chair:** Richard Osbaldiston

**Secretary:** KatieAnn Skogsberg

Can nicotine improve scopolamine-induced behavioral deficit?

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

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<td>Alicia Bedolla</td>
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What influences recognition of emotion among college students

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

<table>
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<tr>
<th>First Author</th>
<th>Co-author</th>
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</tbody>
</table>
Implicit Gender Bias, Commercials, and Cooperation.

First Author
Rick Holland
Berea College

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

First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony

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

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

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

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

First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?
### 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 Collett  
*Berea College*

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

189.

**First Author**

Martin Brock  
*Eastern Kentucky University*

**Co-author**  
Carly Ballinger-Boone  
*University of Kentucky*

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

**Co-author**  
Tristan Donovan  
*University of Kentucky*

**Co-author**  
Priscilla Boachie  
*University of Kentucky*

**Co-author**  
Brendon Stockwell  
*University of Kentucky*

**Co-author**  
Meaghan Labarre  
*University of Kentucky*

**Co-author**  
Alexa Larson  
*University of Kentucky*
Characterization of mating behaviors and risk of cannibalism in Tigrosa georgicola wolf spiders

First Author: Talon Garman
Murray State University
Co-author: Laura Sullivan-Beckers
Murray State University

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

First Author: Katherine Cappel
Campbellsville University

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

First Author: Abigail Glass
Murray State University
Co-author: Rachel Racicot
Vanderbilt University
Co-author: Michelle Casey
Murray State University
Co-author: Simon Darroch
Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author: Natalie Mercer
Kentucky Wesleyan College
Co-author: Shannon Finerty
Kentucky Wesleyan College

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author: Benjamin Conkright
Western Kentucky University

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

Biology Social
Corvette Lanes, 1415 Main St.

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

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>Saturday, November 4, 2017</td>
<td>7:30am - 10:30am</td>
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<tr>
<td>Crows Nest, Curris Center</td>
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<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>Saturday, November 4, 2017</td>
<td>7:30am - 10:30am</td>
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<td>Blackburn 2nd floor lobby</td>
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<tr>
<td><strong>Practice Room for Oral Presentations</strong></td>
<td>Saturday, November 4, 2017</td>
<td>7:30am - 12:00pm</td>
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<tr>
<td>Cumberland Room, Curris Center</td>
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<td><strong>Practice Room for Oral Presentations</strong></td>
<td>Saturday, November 4, 2017</td>
<td>7:30am - 2:30pm</td>
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<td>Tennessee Room, Curris Center</td>
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<td><strong>Exhibitors tables</strong></td>
<td>Saturday, November 4, 2017</td>
<td>8:00am - 3:00pm</td>
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<td>3rd floor of Curris Center</td>
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</table>

**KBRIN** (Kentucky Biomedical Research Infrastructure Network)

**Kentucky Organization of Field Stations**

**University of Kentucky Chemistry Department**
**Oral Presentations: Cellular and Molecular Biology**  
Barkley Lecture Room, Curris Center

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Characterization of Reagents Developed Against Two Basement Membrane Degraders in Drosophila melanogaster</td>
<td>Afolasayo Aromiwura</td>
<td>Ajay Srivastava</td>
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<td>Western Kentucky</td>
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<td>University</td>
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<tr>
<td>8:15</td>
<td>Evaluation of endocrine pancreas development and maturation in glis3 mutant zebrafish (Danio rerio)</td>
<td>Dylan Hammrich</td>
<td>Gary ZeRuth</td>
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<tr>
<td>8:30</td>
<td>Using CRISPR/Cas9 to generate transgenic zebrafish to determine the expression pattern of glis3 during development</td>
<td>Tyler Hoard</td>
<td>Gary ZeRuth</td>
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<td>Murray State</td>
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<tr>
<td>8:45</td>
<td>Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes</td>
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<tr>
<td>Time</td>
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<td>Authors</td>
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<tr>
<td>9:00</td>
<td>Pancreatic beta cell dysfunction mediated by down regulation of Glis3</td>
<td>First Author: Erin Clayton, Co-author: Gary ZeRuth, Murray State University</td>
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<tr>
<td>9:15</td>
<td>Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy</td>
<td>First Author: Jazmin Escamilla, Co-author: Zongyi Hu, Liver Disease Branch, NIDDK-National Institute of Health</td>
<td></td>
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<tr>
<td>9:30</td>
<td>Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula</td>
<td>First Author: Ahmed Fadil, Western Kentucky University</td>
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<tr>
<td>9:45</td>
<td>PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.</td>
<td>First Author: Brittani Hawkins, Co-author: Chris Trzepacz, Murray State University</td>
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<tr>
<td>10:15</td>
<td>Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration</td>
<td>First Author: Monica Moran, Co-author: Billy Hudson, Division of Nephrology and Hypertension, Vanderbilt University</td>
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<tr>
<td></td>
<td>Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and</td>
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</table>
An Examination of Epigenetic Factors and Methylation Patterns in Promoter Regions of AT1 and ACE
10:45

Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone
11:00

Gene expression differences following early life exposure to polychlorinated biphenyls in three genotypes of mice
11:15

Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference
8:00

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

8:15

First Author: Ian Ries
Kentucky State University

Co-author: Maheteme Gebremedhin
Kentucky State University

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

8:30

First Author: Elizabeth Malloy
Eastern Kentucky University

Co-authors: David Brown, Eastern Kentucky University; Stephen Richter, Eastern Kentucky University; Barbara Scott, US Army Corps of Engineers; Michelle Cook, Kentucky Division of Water

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

8:45

First Author: Meika Finger-Gray
Kentucky State University

Co-authors: Avinash Tope, Kentucky State University; shreya Patel, Kentucky State University

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

9:00

First Author: Sait Sarr
Kentucky State University

Co-authors: Maheteme Gebremedhin, Eastern Kentucky University; Avinash Tope, Kentucky State University; Mark Coyne, University of Kentucky

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

First Author: Rose Marks

<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
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<tr>
<td>Policy communication and the Impact of Agricultural Communities on</td>
<td>Elizabeth Willenbrink</td>
<td>Leslie North</td>
<td>Vu Thi Minh Nguyet</td>
<td>Jason Polk</td>
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<td>Karst Landscapes: An Example from Phong Nha-Kê Bàn</td>
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<td>Institute of Geological Sciences,</td>
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<tr>
<td>Development and Analysis of Avian Index of Biological Integrity for</td>
<td>Kaitlyn Kelly</td>
<td>David Brown</td>
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<td>Kentucky Wetlands</td>
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<td>Increased accuracy in population modeling using density-dependent</td>
<td>Bruce Kessler</td>
<td>Andrew Davis</td>
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<td>Leslie matrices with steady-state distribution control</td>
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<tr>
<td>Prey Resource Partitioning Between Sympatric Bat Species</td>
<td>Macy Kailing</td>
<td>Terry Derting</td>
<td>Gary ZeRuth</td>
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<td>Factors Affecting the Diversity of Stream Salamanders in Two</td>
<td>Hannah Elliott</td>
<td>Muntathar Alshimary</td>
<td>Rebecca Klem</td>
<td>Jeremy Wilde</td>
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<tr>
<td>Watershed Systems in Central Kentucky</td>
<td>Berea College</td>
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<td>Plant-Derived Volatiles Alter Plant Fitness in a Species-Specific</td>
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<tr>
<td>Memory of seeds: Effect of plant volatile exposure to seeds on plant growth, development and defense across generations</td>
<td>11:15</td>
<td>Abhinav Maurya</td>
<td>Christopher Frost</td>
<td>University of Louisville</td>
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<tr>
<td>Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods</td>
<td>11:30</td>
<td>Samantha Thomas</td>
<td>Jarrett Johnson</td>
<td>Western Kentucky University</td>
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<tr>
<td>OCCUPANCY AND ALLOCHTHONY THRESHOLD RESPONSES OF PLETHODONTID STREAM SALAMANDERS TO STREAM CONDUCTIVITY</td>
<td>11:45</td>
<td>Jacob Hutton</td>
<td></td>
<td>University of Kentucky</td>
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<tr>
<td>A Study of Mercury in Bald Eagle Feathers and Quills</td>
<td>1:00</td>
<td>Wendy Cecil</td>
<td>Cate Webb</td>
<td>Western Kentucky University</td>
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<tr>
<td>Using Mobile Eye-Tracking to Inform the Development of nature tourism Destinations in Iceland</td>
<td>1:15</td>
<td>James Graham</td>
<td>Leslie North</td>
<td>Edward Hujbens</td>
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<td>Who’s the boss: Social dynamics associated with leadership in endangered Toque Macaques.</td>
<td>1:30</td>
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<td>Elizabeth Willenbrink</td>
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<td>Jun Yan</td>
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<td>Western Kentucky University</td>
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</tbody>
</table>
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

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

2:15

First Author
Bradley Hartman
Murray State University

Co-author
Timothy Spier
Murray State University

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

Oral Presentations: Physics and Astronomy
Blackburn 312

Chair: Troy Messina
Secretary: Marilyn Akins

Section meeting to follow presentations

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

8:00

First Author
Thomas Pannuti
Morehead State University
The CREAM instrument on the ISS
8:15
First Author
Scott Nutter
Northern Kentucky University

Matching Simulation Data to Calibration Data for the Silicon Charge Detector used in the ISS-CREAM Instrument
8:30
First Author
Carter Kring
Northern Kentucky University

Calibration of the CREAM Calorimeter with CERN Beam Tests
8:45
First Author
Tyler LaBree
Northern Kentucky University
Co-author
Scott Nutter
Northern Kentucky University

Analysis of a Current-Mode Detector for the NOPTREX Experiment
9:00
First Author
Daniela Olivera Velarde
Berea College
Co-author
Danielle Schaper
University of Kentucky

Josephson weak links with high characteristic voltage for THz radiation detection.
9:15
First Author
Luis Gomez
Northern Kentucky University

Investigation of the Kepler Eclipsing Binary Catalog: Analysis of Targets With UNC Flags
9:30
First Author
Garrison Turner
Big Sandy Community and Technical College

Streamlining Predictions of Temperature-Dependent Changes in Defect Properties of Intermetallic Compounds
9:45
First Author
Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258

10:15

First Author
Sierra Hauck
Morehead State
University

Co-author
Dirk Grupe
Morehead State
University

The “Hotter” Side of an X-Ray Tube

10:30

First Author
Ignacio Birriel
Morehead State
University

Co-author
Joshua Allen
Morehead State
University

Co-author
Anthony Dotson
Morehead State
University

The Changing Look Active Galactic Nucleus IRAS 23226-3843

10:45

First Author
Dirk Grupe
Morehead State
University

Understanding the Parameter Space of Keplerian Orbits in APOGEE

11:00

First Author
Nathan De Lee
Northern Kentucky
University

Co-author
Kyle Houston
Northern Kentucky
University

Co-author
Nicholas Troup
Salisbury University

Co-author
Joleen Carlberg
Space Telescope
Science Institute

Redesign of Introductory Physics Labs Using Arduinos

11:15

First Author
Troy Messina
Berea College

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

Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320

Chair: Harry Fannin
Secretary: Bommanna Loganathan

Section meeting to follow presentations

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

#### 8:45

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

**Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy**

#### 9:00

First Author  
Kayla Steward  
Western Kentucky University  
Co-author  
Matthew Nee  
Western Kentucky University

**The removal of organic pollutants through buoyant photocatalyst**

#### 9:15

First Author  
Rosemary Calabro  
University of Kentucky Department of Chemistry  
Co-author  
Dong-Sheng Yang  
University of Kentucky Department of Chemistry  
Co-author  
Doo Young Kim  
University of Kentucky

**Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation**

#### 9:30

First Author  
Mara Krempel  
Western Kentucky University  
Co-author  
Hayley Moss  
Western Kentucky University  
Co-author  
Hanna (John) Khouryeh  
Western Kentucky University

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

#### 9:45

First Author  
Mara Krempel  
Western Kentucky University  
Co-author  
Hayley Moss  
Western Kentucky University  
Co-author  
Hanna (John) Khouryeh  
Western Kentucky University

**Temperature and electric field dependence of asymmetric stretching of nitrate ion**
Saturday, November 4, 2017  8:15am - 2:15pm

Oral Presentations: Agricultural Sciences

The Stables, Curris Center
1st floor

Chair: Jean Gumirakiza
Section meeting to follow presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15</td>
<td>Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw</td>
<td>Srijana Thapa Magar, Kirk Pomper, Jeremiah Lowe, Sheri Crabtree</td>
</tr>
<tr>
<td>8:30</td>
<td>Enzymes as Indicators of Soil Microbial Activity at three Locations in Kentucky</td>
<td>George Antonious</td>
</tr>
<tr>
<td>8:45</td>
<td>Assessing the nutritional value of novel soybean products in the diet of Atlantic salmon (Salmo salar L.)</td>
<td>James Schwartz, Vikas Kumar, Waldemar Rossi, Katerina Kousoulaki</td>
</tr>
<tr>
<td>9:00</td>
<td>Responses of juvenile largemouth bass (Micropterus salmoides) to dietary EPA and DHA rich oils</td>
<td>Amit Yadav, Waldemar Rossi, Hab Andemichael, Vikas Kumar</td>
</tr>
<tr>
<td>9:15</td>
<td>Applicability of waste-reared Hermetia illucens as an ingredient in the diet of Nile Tilapia, Oreochromis niloticus</td>
<td>Amit Yadav, Waldemar Rossi, Hab Andemichael, Vikas Kumar</td>
</tr>
</tbody>
</table>
Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky

9:30
First Author
Emily Cook
Murray State University

Co-author
Lin Handayani
Murray State University

Co-author
Jessica Pafford
Murray State University

Co-author
Steve Still
Murray State University

Co-author
Mark Coyne
University of Kentucky

Co-author
Ann Freytag
University of Kentucky

Spotted wing Drosophila, Drosophila suzukii, larvae in blackberries bordered by native perennial plants or pasture

9:45
First Author
Sathya Govindasamy
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

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

10:00
First Author
Mamata Bashyal
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

10:30
First Author
Rose Johnson
An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass

First Author: Gagan Kolimadu
Co-authors: Jarod Jones, Kristy Allen, Waldemar Rossi, Michael Habte-Tision, Vikas Kumar

ANTIBIOTIC SUSCEPTIBILITIES OF BACTERIA ISOLATED FROM THE SAME FISH IN CASES EXAMINED AT THE KENTUCKY STATE UNIVERSITY F

First Author: Ashmita Poudel
Co-authors: Kathryn Mitchell, Robert Durborow

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

First Author: Lusekelo Nkuwi
Co-authors: George Antonious, Eric Turley

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

First Author: Sujan Bhattarai
Co-authors: Ken Semmens, Vikas Kumar

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

First Author: JEAN DOMINIQUE GUMIRAKIZA
Co-authors: Stephen King, Thomas Kingery

As online shopping becomes popular, will consumers still be interested in direct-to-consumer offline market outlets?
### Analyzing the Effects the use of Best Practices for Farm Management has on Farm Financial Position and Profitability

1:30

**First Author**  
Audrey Barnett  
Western Kentucky University

**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  
Kentucky State University

**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  
Kentucky State University

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

---

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

**Oral Presentations: Geography**

**Mississippi Room, Curris Center**

Chair: Buddhi Gyawali  
Secretary: Christopher Day

Section meeting to follow presentations

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

8:30

**First Author**  
Oguz Sariyildiz  
Kentucky State University

**Co-author**  
Buddhi Gyawali  
Kentucky State University

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

10:45

First Author: James Shelley
Co-author: Jason Polk
Co-author: Leslie North
Co-author: Nicholas Crawford
Co-author: Matt Powell

Western Kentucky University
Western Kentucky University
Western Kentucky University
Western Kentucky University
City of Bowling Green Department of Public Works

Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

11:00

First Author: Patricia Kambesis
Co-author: Brittiny Moore-Kimmel

Western Kentucky University
Texas State University

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

11:15

First Author: Jordan Wilson
Co-author: Jeremy Sandifer
Co-author: Kenneth Bates

Kentucky State University
Kentucky State University
Kentucky State University

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

Oral Presentations: Geology

Chair: Ann Harris
Secretary: David Dockstader
Section meeting to follow presentations

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

9:00
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 9:15  | Geochemical characteristics and storm dynamics of surface waters and  | First Author: Randal Roberson, Murray State University  
|       | groundwater at Eastern Kentucky University's Meadow                  | Co-author: Michelle Casey, Murray State University                   |
|       |                                                                      |                                                                      |
| 9:30  | Patterns of nutrient export for a typical non-point source, Meadowbrook | First Author: Reid Buskirk, Eastern Kentucky University  
|       | Farm, Madison County, Kentucky.                                       | Co-author: Walter Borowski, Eastern Kentucky University  
|       |                                                                      | Co-author: Jonathan Malzone, Eastern Kentucky University             |
| 10:00 | How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetops | First Author: Selsey Stribling, Eastern Kentucky University  
|       | in Kentucky's Daniel Boone National Forest?                          | Co-author: Jonathan Malzone, Eastern Kentucky University             |
|       |                                                                      |                                                                      |
| 10:15 | Modeling the groundwater storage and the groundwater recharge rate of | First Author: Addison Bell, Eastern Kentucky University  
|       | an ephemeral wetland with Hydrus-1D                                   | Co-author: Jonathan Malzone, Eastern Kentucky University             |
|       |                                                                      |                                                                      |
| 10:30 | Hydrograph Separation of Storm Flows in a Landscape with Thin Soil,  | First Author: Laura Kelley, Eastern Kentucky University  
|       | Meadowbrook Farm, KY                                                 | Co-author: Sophia Chan, Eastern Kentucky University  
|       |                                                                      | Co-author: Jonathan Malzone, Eastern Kentucky University             |
|       |                                                                      | Co-author: Walter Borowski, Eastern Kentucky University             |
| 10:45 | Runoff generation in an ephemeral agricultural watershed with thin    |                                                                      |
|       | soil                                                                |                                                                      |
Oral Presentations: Psychology

Saturday, November 4, 2017  9:00am - 11:15am

Section meeting to follow presentations

Blackburn 155

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

**First Author**
Aaron Clark  
**Co-author**
Dave Porter  
**Berea College**

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

**First Author**
Laura Hopkins  
**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  
**Co-author**
Ashley Hamm  
**Co-author**
Shari Kidwell  
**Co-author**
Morehead State University  
**Co-author**
Morehead State University  
**Co-author**
Morehead State University  
**Morehead State University**

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

**First Author**
Aaron Ellis  
**Co-author**
John Blackledge  
**Co-author**
Shelby Humphrey  
**Co-author**
Kellen Crager  
**Co-author**
Isabella Gearhart  
**Berea College**  
**Berea College**  
**Berea College**  
**Berea College**  
**Berea College**
Oral Presentations: Science Education
Blackburn 249

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

Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes
9:00
First Author  Co-author  Co-author  Co-author  Co-author
Joseph Erskine  Jordan Dowdy  Stephen Denny  M Saleem  Akhtar Mahmood
Bellarmin University  Bellarmine University  Bellarmine University  Bellarmine University  Bellarmine University

Oral Presentations: Science Education
Blackburn 249

Chair: Shira Rabin
Secretary: Karen Hlinka
Section meeting to follow presentations

<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>University</th>
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</thead>
<tbody>
<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>
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<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>Should We Lie To Our Students?</td>
<td>10:00</td>
<td>Andy Martin</td>
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<td>Kentucky School for the Blind</td>
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<tr>
<td>Adaptive Learning Courseware in Majors Biology Course</td>
<td>10:15</td>
<td>Shira Rabin</td>
<td></td>
<td>University of Louisville</td>
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<tr>
<td>Strengthening Student Foundations: Strategies for Active-Learning Classrooms</td>
<td>10:30</td>
<td>Kevin Revell</td>
<td></td>
<td>Murray State University</td>
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<tr>
<td>LOW-COST STUDENT RESEARCH IN A NON-MAJORS BIOLOGY LABORATORY CLASS</td>
<td>10:45</td>
<td>Norm Strobel</td>
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<td>KCTCS/Blugrass Community and</td>
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<td>9:30am</td>
<td><strong>Breaks</strong> Staggered in sessions - check schedule</td>
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<tr>
<td>10:00am</td>
<td><strong>Oral Presentations: Engineering</strong></td>
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<td><strong>Ohio Room, Curris Center</strong></td>
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<td>Chair: Aaron Daley</td>
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<td>Secretary: shen liu</td>
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<td>Section meeting to follow presentations</td>
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<td>10:00</td>
<td>Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts</td>
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<td></td>
<td>First Author: Jordan Garcia</td>
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<td>Co-author: Tyler Stoffel</td>
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<td>Co-author: John Schmidt</td>
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<td>Co-author: Alexander Bolin</td>
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<td>Co-author: David Lu</td>
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<td></td>
<td>Co-author: Charles Lu</td>
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<td></td>
<td>University of Kentucky</td>
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<td>10:015</td>
<td>Imaging of the spinal cord in pediatric patients.</td>
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<td></td>
<td>First Author: Bhavesh Ramkorun</td>
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<td></td>
<td>Co-author: Samantha By</td>
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<td></td>
<td>Co-author: Aashim Bhatia</td>
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<td>Co-author: Bryson Reynolds</td>
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<td></td>
<td>Co-author: Patrick Couture</td>
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<td></td>
<td>University of Kentucky</td>
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<tr>
<td>10:30</td>
<td>Hands-on Robotics Lab at Bellarmine University</td>
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<td></td>
<td>First Author: Christopher Steitz</td>
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<td></td>
<td>Co-author: Stephen Brown</td>
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<td></td>
<td>Co-author: Akhtar Mahmood</td>
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<td></td>
<td>University of Kentucky</td>
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<tr>
<td>10:45</td>
<td>Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms</td>
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</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.

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

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.

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

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

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

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135

Chair: Kevin Revell  Secretary: Kyle Watson

Section meeting to follow presentations

A general fabrication approach on spinel MCo2O4 (M= Co, Mn, Fe, Mg and Zn) submicron prisms as advanced positive materia
1:00

First Author  Co-author
Hongyan Gao  Yan Cao
CHEMISTRY  CHEMISTRY
DEPARTMENT,  DEPARTMENT,
WESTERN  WESTERN
KENTUCKY  KENTUCKY
UNIVERSITY  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  Co-author  Co-author  Co-author  Co-author
Jessie Brown  Amelia Dickey  Elias Hanna  Christopher Samaan  Hannah Williams
Transylvania  Transylvania  Transylvania  Transylvania  Transylvania
University  University  University  University  University
The Synthesis of Heteroatom-activated Antibiotics: \(\beta\)-lactams

2:00

**First Author**
Jacob Nanney

**University**
Kentucky Wesleyan College

**Co-author**
Kyle Watson

**University**
Kentucky Wesleyan

Visible Light Generation of High-Valent Iron-Oxo Intermediates

2:15

**First Author**
Malone Jonathan

**University**
WKU

**Co-author**
dharmesh Patel

**University**
WKU

**Co-author**
Tse-hong Chen

**University**
Purdue University

**Co-author**
Ka Wai Kwong

**University**
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**
University of Louisville

**Co-author**
Samantha Carlisle

**University**
University of Louisville

**Co-author**
Shesh Rai

**University**
University of Louisville

**Co-author**
Andrew DeFilippis

**University**
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**
University of Louisville

**Co-author**
Patrick J. Trainor

**University**
University of Louisville

**Co-author**
Mark A. Doll

**University**
University of Louisville

**Co-author**
David W. Hein

**University**
University of Louisville

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**Oral Presentations: Mathematics**

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

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<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation Title</th>
<th>First Author(s)</th>
<th>Institution(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Open Coverings of the Rationals Need Not Cover The Reals</td>
<td>Andy Martin</td>
<td>Kentucky State University</td>
</tr>
<tr>
<td>1:15</td>
<td>The Cubic Equation</td>
<td>Dwight Smith</td>
<td>Big Sandy CTC</td>
</tr>
<tr>
<td>1:30</td>
<td>A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System of ODEs.</td>
<td>Austin Gabhart</td>
<td>Gatton Academy, Western Kentucky University</td>
</tr>
<tr>
<td>1:45</td>
<td>The n+k kings problem</td>
<td>R. Douglas Chatham</td>
<td>Morehead State University</td>
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</tbody>
</table>

**Oral Presentations: Microbiology**

**Cumberland Room, Curris Center**

Chair: Lingyu Huang  
Secretary: Joseph Mester

Section meeting to follow presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation Title</th>
<th>First Author(s)</th>
<th>Institution(s)</th>
</tr>
</thead>
</table>
| 1:00 | Antimicrobial activity from bacteria found around downtown Cincinnati | Kory Stuessel | Northern Kentucky University  
Co-author: John Carmen |
|       | 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

Physiological Characteristics of Five Bladder Cancer Cell Lines
1:15

First Author
Kyle Damen
Wood Hudson Cancer Research Laboratory

Cell proliferation and Cathepsin L expression are inversely correlated during bladder cancer progression
1:30
The fluorescence quenching ability of graphene oxide as a platform for pathogenic double-stranded DNA sensing

1:45

First Author
Dat Thinh Ha
Western Kentucky University

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

First Author
Mason Gibson
Western Kentucky University

Oral Presentations: Anthropology and Sociology
Ohio Room, Curris Center

Chair: Benjamin Freed
Secretary: Amanuel Beyin

Section meeting to follow presentations

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

Co-author
Shanshan Li
Xingjian College of Science and Liberal Arts, Guangxi Univ.

Co-author
Jun Peng
Xingjian College of Science and Liberal Arts, Guangxi Univ.

Co-author
Jim Chen
Shandong University of Science and Technology
### Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin

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

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

**First Author**  
Benjamin Freed  
*Eastern Kentucky University*  
**Co-author**  
Nathanael Bartosch  
*Eastern Kentucky University*

---

#### Oral Presentations: Computer and Informational Sciences

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

**Chair:** Jerzy Jaromczyk  
**Secretary:** Muzaffar Ali

**Blackburn 312**

**Section meeting to follow presentations**

### Cloud Computing for Hands-On Bioinformatics Education

**1:15**

**First Author**  
Harrison Inocencio  
*University of Kentucky*  
**Co-author**  
Deavin Hester  
*University of Kentucky*  
**Co-author**  
Laura Lodder  
*University of Kentucky*  
**Co-author**  
Justin Moore  
*University of Kentucky*  
**Co-author**  
Bailey Phan  
*University of Kentucky*  
**Co-author**  
Andrew Tapia  
*University of Kentucky*  
**Co-author**  
Neil Moore  
*University of Kentucky*  
**Co-author**  
Mark Farman  
*University of Kentucky*  
**Co-author**  
Jerzy Jaromczyk  
*University of Kentucky*  
**Co-author**  
Luke Decastro  
*University of Kentucky*

### Adaptive Topic Mining from Social Media Streams

**1:30**

**First Author**  
Gopi Chand Nutakki  
*University of Louisville*  
**Co-author**  
Olfa Nasraoui  
*University of Louisville*

### BayesianGLasso: software for integrating a priori knowledge and empirical data utilizing a graphical model framework

**1:45**

**First Author**  
Patrick Trainor  
*University of Louisville*  
**Co-author**  
Andrew DeFilippis  
*University of Louisville*  
**Co-author**  
Shesh Rai  
*University of Louisville*  
**Co-author**  
University of Louisville
**Password cracking performance testing comparing GPU vs CPU performance using Hashcat**

2:00

First Author  
Deven Rataiczak  
Bellarmine University

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**Oral Presentations: Zoology**

<table>
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<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Institution</th>
<th>Co-authors</th>
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<tr>
<td>1:15</td>
<td>Phenotypic plasticity of mating calls in the katydid Neconocephalus triops</td>
<td>Oliver Beckers</td>
<td>Department of Biological Sciences, Murray State University</td>
<td>Talon Garman, Laura Sullivan-Beckers, Murray State University</td>
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<td>1:30</td>
<td>Exploring selection on the complex mating displays of wolf spiders in the genus Tigrosa</td>
<td>Samuel White</td>
<td>Murray State University</td>
<td>Talon Garman, Laura Sullivan-Beckers, Murray State University</td>
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<td>1:45</td>
<td>Biology of the Cercaria of Leuceruthrus micropteri (Trematoda: Azygiidae) Recovered from the Snail, Pleurocera semicarin</td>
<td>chi peng</td>
<td>Berea College</td>
<td>Chi Peng, Hanna Abe, Ron Rosen, Brian Traw, Marah Zeidan</td>
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<td>Yale University</td>
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<td>Emma Reasoner</td>
<td>Marah Zeidan</td>
<td>Berea College</td>
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<td>2:00</td>
<td>Potential detection and utilization of substrate-borne vibrations by chameleons (Chamaeleo calyptratus)</td>
<td>chi peng</td>
<td>Berea College</td>
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</tr>
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Transcriptomic Response to Immune Challenge in Zebra Finch (Taeniopygia guttata) using RNA-seq.

First Author
Cassandra Scalf
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

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

First Author
Cassandra Scalf
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

Coffee & Tea
Crow's Nest, Curris Center

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

Keynote Jeffrey Bennett: Communicating Science to the Public
Curris Center Ballroom

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

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

Perhaps his most visible achievements have been his work in developing educational scale models of the solar system.
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
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