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
Poster presentations are all on Friday

Oral Presentations are all on Saturday

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

**KAS Governing Board meeting**  
Commonwealth Suite  
Open to all KAS members

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

**Meeting for Section Leaders and Judges**  
The Stables, Curris Center  
1st floor  
If you are serving as a Judge or Section leader, please attend this meeting for a brief orientation to the student competition process and to pick up materials.

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

**Practice Room for Oral Presentations**  
Tennessee Room, Curris Center

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

**Practice Room for Oral Presentations**  
Cumberland Room, Curris Center

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

**Tour - Hancock Biological Station**  
Meet in front of Curris Center for van pickup.

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

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.

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

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

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

[Campus map](#)

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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](#)

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

Judges conference room
Commonwealth Suite, Curris Center

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

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

Posters: Agricultural Sciences
Curris Center
Chair: Jean Gumirakiza

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

61.

First Author  
Cora Teets  
Kentucky State University

Co-author  
waldemar Rossi  
Kentucky State University

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  
Murray State University

Co-author  
Michael Mercer  
Murray State University

Co-author  
Bailey Webster  
Murray State University

Co-author  
Brandon Clark  
Murray State University

Co-author  
in Handayani  
Murray State University

Co-author  
Brian Parr  
Murray State University

**Dehydration of autumn olive berries for human consumption**

63.

First Author  
Changzheng Wang  
Kentucky State University

Co-author  
Lingyu Huang  
Kentucky State University

Co-author  
Cecil Butler  
Kentucky State University

**Developing cold-hardy perennial ornamentals for Kentucky**

64.

First Author  
Hideka Kobayashi  
Kentucky State University

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

65.

First Author  
Harry Franklin  
Murray State University

Co-author  
Duncan Thomas  
Murray State University

Co-author  
Connor Raymond  
Murray State University

Co-author  
Jacob Flemming  
Murray State University

Co-author  
in 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*

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

**First Author**  
Jean Dominique Gumirakiza  
*Western Kentucky University*

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

**First Author**  
Spencer Fulkerson  
*Murray State University*

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

**First Author**  
Zack Eells  
*Murray State University*

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

**First Author**  

Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil

First Author
Yogendra Upadhyaya
Kentucky State University

Co-author
Thomas Trivette
Kentucky State University

Co-author
Lusekelo Nkuwi
Kentucky State University

Co-author
Bijesh Mishra
Kentucky State University

Co-author
George Antonious
Kentucky State University

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

First Author
Kelly Hagan
Asbury University

Co-author
Ray Smith
University of Kentucky

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

First Author
Juliana Silva e Costa
Federal University of Juiz de Fora

Co-author
Justin Cornett
University of Kentucky

Co-author
D. Nicholas McLetchie
University of Kentucky

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

First Author
Taylor Horton
Murray State University

Co-author
Dayle Saar
Murray State University

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

First Author
Taylor Horton
Murray State University

Co-author
Dayle Saar
Murray State University
Building an interactive tree map for the Bellarmine University campus.

First Author
David Robinson
Co-author
Kaitlyn Yates
Bellarmine University

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
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Lee Kendall</td>
<td>Samuel White</td>
<td>Douglas Harrison</td>
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<td>Centre College</td>
<td>Murray State University</td>
<td>University of Kentucky</td>
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</table>

Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

83.

First Author                  Co-author                  Co-author
Amber Follin                  Kyla Britson               Tom Llyod
Biology Department, Berea College Neuroscience and Neurology, Johns Neuroscience and Hopkins Medicine Hopkins Medicine

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

84.

First Author                  Co-author                  Co-author
Sarah Kunkler                 Emily Shifley              Northern Kentucky
Northern Kentucky University  Northern Kentucky University

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

85.

First Author                  Co-author                  Co-author                  Co-author                  Co-author                  Co-author
Katelyn Dunn                  Tamika Chappell           Lisa Massie                 Shelby Caudill             Pamela Dickson             Northern Kentucky
Northern Kentucky University  Northern Kentucky University Northern Kentucky University Northern Kentucky University

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

86.

First Author                  Co-author                  Co-author                  Co-author                  Co-author                  Co-author
Henry Kwan                    Lan Wu                     Luc Van Kaer                Luke Postoak               Margaret Sabourin          Vanderbilt University
Vanderbilt University Medical Center Vanderbilt University Medical Center Vanderbilt University Medical Center Vanderbilt University Medical Center

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

87.

First Author                  Co-author                  Co-author
Kendall Collins               Kendal Collins             Kendal Collins

<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</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>
<td>Jennifer Doyle</td>
<td>Moria Magre</td>
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<td>Annotation of Spock and Inky Mycobacteriophages</td>
<td>Brittany Farnsley</td>
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<td>Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins</td>
<td>Jiyoung Shim</td>
<td>Barnabas Kim</td>
<td>Moon-Soo Kim</td>
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<td>Functional and genetic studies of the tRNA modification protein Trm732 in yeast</td>
<td>Hannah Sizemore</td>
<td>Daisy DiVita</td>
<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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<td>RELATIONSHIP</td>
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<td>94. First Author&lt;br&gt;Issac Domenech&lt;br&gt;Vanderbilt University Medical Center</td>
<td>Co-author&lt;br&gt;Ambra Pozzi&lt;br&gt;Vanderbilt University Medical Center</td>
<td>Co-author&lt;br&gt;Corina Borza&lt;br&gt;Vanderbilt University Medical Center</td>
<td>Co-author&lt;br&gt;Craig Lindsley&lt;br&gt;Vanderbilt University Medical Center</td>
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<th>NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells</th>
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<th>SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis</th>
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<td>96. First Author&lt;br&gt;Thomas Case&lt;br&gt;KBRIN</td>
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<tr>
<th>Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days</th>
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<td>97. First Author&lt;br&gt;Melanie Couch&lt;br&gt;Western Kentucky University</td>
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<th>Identification of the enzyme responsible for the acp3U modification in bacteria</th>
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<td>98. First Author&lt;br&gt;Maggie Thomas&lt;br&gt;Northern Kentucky University</td>
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<tr>
<th>Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces cerevisiae</th>
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<tr>
<td>99. First Author</td>
</tr>
</tbody>
</table>
### 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-authors**  
Amanda Siegel  
*Indiana University*  
Hiroki Yokota  
*Indiana University*  
Mangilal Agarwal  
*Indiana University*  
Hiroki Yokota  
*Purdue University*  
Mangilal Agarwal  
*Purdue University*  
Hiroki Yokota  
*Indiana University*  
Hiroki Yokota  
*Purdue University*  
Hiroki Yokota  
*Indiana University*  

### Anaerobic Degradation of Tetracyclines in Agricultural Manure

3.  
**First Author**  
Brandon Couch  
*Western Kentucky University*  
**Co-authors**  
John Kasumba  
*Western Kentucky University*  
John Loughrin  
*usda*  
Eric Conte  
*Western Kentucky University*  

### Community Usage of Select Illicit and Prescribed Drugs and their Occurrence in the Clarks River

4.  
**First Author**  
Allie Skees  
*Department of Chemistry, Murray State University*  
**Co-authors**  
Katelyn Foppe  
*Department of Chemistry, Murray State University*  
Bikram Subedi  
*Department of Chemistry, Murray State University*  

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

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

6.

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<td>Cole Hulen</td>
<td>Cheyenne Hooks</td>
<td>Nathan Denney</td>
<td>Lauren Clark</td>
<td>Gregory Clark</td>
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<td>Murray State University</td>
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<td>Department of Agriculture Science, Hutson School of Agri</td>
<td>Kentucky 21st Century Agriculture</td>
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<td>Bommanna Loganathan</td>
<td>Brian Parr</td>
<td>Sebastian Jezowski</td>
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<td>Department of Chemistry, Murray State University</td>
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## From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation

7.

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<tr>
<td>Kevin Pierce</td>
<td>Alex Thome</td>
<td>Jill Cao</td>
<td>Sebastian Jezowski</td>
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<td>Murray State University</td>
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## The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index

8.

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<th>First Author</th>
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<tr>
<td>Rachel Bracker</td>
<td>Lori Wilson</td>
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<td>Eastern Kentucky University</td>
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## Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA

9.

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<th>First Author</th>
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<tr>
<td>Tomas Flores</td>
<td>Jay Baltisberger</td>
<td>Sara Garner</td>
<td>Shay Steele</td>
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<tr>
<td>Berea College</td>
<td>Berea College</td>
<td>Berea College</td>
<td>College of Wooster</td>
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## Sedimentation Fractionation

10.

<table>
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<th>First Author</th>
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<td>Michael Greiving</td>
<td>KYSU</td>
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</table>
Salt-Assisted Ultrasonicated De-aggregation and Advanced Electrochemistry of Detonation Nanodiamond.

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

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

First Author: Nicole States
Co-author: Henry Pruett
Department: Murray State University
Co-author: Bikram Subedi
Department: Murray State University
Co-author: Susan Hendricks
Department: Hancock Biological Station
Co-author: David White
Department: Hancock Biological Station
Co-author: Bommanna Loganathan
Department: Murray State University
Co-author: Larry Sylvester
Department: Northwest MS Community College
Co-author: Mark Montgomery
Department: Northwest MS Community College
Co-author: Padma Thimmaiah
Department: Northwest MS Community College
Co-author: Ashish Pagare
Department: Northwest MS Community College
Co-author: Larry Sylvester
Department: Northwest MS Community College
Co-author: Ray Cox
Department: Northwest MS Community College
Co-author: Paul Grisham
Department: Northwest MS Community College
Co-author: Piya Adris
Department: Northwest MS Community College
Co-author: Lindsay Massie
Department: Northwest MS Community College

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

First Author: K.N. Thimmaiah
Co-author: Mark Montgomery
Department: Northwest MS Community College
Co-author: Padma Thimmaiah
Department: Northwest MS Community College
Co-author: Ashish Pagare
Department: Northwest MS Community College
Co-author: Larry Sylvester
Department: Northwest MS Community College
Co-author: Ray Cox
Department: Northwest MS Community College
Co-author: Paul Grisham
Department: Northwest MS Community College
Co-author: Piya Adris
Department: Northwest MS Community College
Co-author: Lindsay Massie
Department: Northwest MS Community College

Water Purification using Magnetic Biochar

First Author: Anne Carlisle
Department: University of Western Kentucky

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*

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

*First Author*
Ryan Boggess
*Western Kentucky University*
*Co-author*
Bangbo Yan
*Western Kentucky University*

**Effect of Iron charge state on P450 BM3 stability**

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

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

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

**Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors**

*First Author*
Erin O'Donnell
*Murray State University*
*Co-author*
Rachel Allenbaugh
*Murray State University*
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

21.

First Author
Haiyan Liu
Western Kentucky University

Light Activated Ruthenium Peptide Hybrids

22.

First Author
Lydia Millard
Kentucky State University

N-Heterocyclic Carbene Complexes

23.

First Author
Mario Chavarria
Berea College

Co-author
Cheyenne Haynes
Berea College

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

24.

First Author
Vincent Kelly
Kentucky State University

Co-author
Robert Pace
University of Kentucky

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

25.

First Author
Hannah Brooks
Western Kentucky University

Co-author
Bangbo Yan
Western Kentucky University

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

26.

First Author
Kelsey Huff
Kentucky State University

Co-author
Ryan Loe
University of Kentucky’s Center for Applied Energy Research

Co-author
Tonya Morgan
University of Kentucky’s Center for Applied Energy Research

Co-author
Eduardo Santillan-Jimenez
University of Kentucky’s Center for Applied Energy Research

Co-author
Mark Crocker
<table>
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<tr>
<th>Title</th>
<th>First Author</th>
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<tr>
<td>Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Knöcker-type Catalyst</td>
<td>Alexandra Redden</td>
<td>Rachel Whittaker</td>
<td>Kane Ferguson</td>
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<td>Selective C–O bond reductions in carbohydrate derivatives using boron based reagents</td>
<td>Luis Gonzalez Anguiar</td>
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<td>Solid-Phase Synthesis of Heteroatom-Activated Antibiotics</td>
<td>Morgan Uebelacker</td>
<td>Jacob Nanney</td>
<td>Kyle Watson</td>
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<td>Storage of Solar Energy in Strained Bis-Anthracene Cycloadducts and Release as Heat by Mechanical Grinding</td>
<td>Erin Calvert</td>
<td>Kasey Clear</td>
<td>Sebastian Jezowski</td>
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<td>Synthesis and catalytic studies of metalloporphyrin complexes as biomimetic models for cytochrome P450 enzymes</td>
<td>Benjamin Kash</td>
<td>Haiyan Liu</td>
<td>Rui Zhang</td>
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<td>Synthesis and Properties of a Ruthenium Polypyridyl Complex</td>
<td>Hannah Cope</td>
<td>Bangbo Yan</td>
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</table>
Synthesis of Cleavable Acetal Antibody Drug Conjugate
33.
First Author
Luis Salazar Guzman
Berea College

Synthesis of Platinum-Malonate-Luteinizing Hormone Releasing Hormone (Pt-Mal-LHRH), an Anti-Cancer Agent
34.
First Author
Charles Greif
Eastern Kentucky University

Synthesis of Poly(4-hydroxystyrene) by Living Anionic Polymerization for Block Copolymer Lithography
35.
First Author
Beau Schweitzer
Berea College

Synthesizing Cleavable Acetal Antibody Drug Conjugates
36.
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
37.
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.
38.
First Author
### American Chestnut restoration in Daniel Boone National Forest: a GIS approach

100.

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

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

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

**Co-author**  
M. Saleem  
*Bellarmine 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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<td>The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils</td>
<td>Vanetta Graves</td>
<td>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 Yanoviak, Christopher Frost</td>
<td>University of Louisville, University of Louisville</td>
<td>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</td>
<td>Murray State, University of Louisville</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</td>
<td>Union College, 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</td>
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<td>Assessing the effects of urban air pollution on lichens</td>
<td>Austin Adam, Roberta Challener</td>
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<td>The Effects of Stream Degradation on Food Web Stability</td>
<td>Hannah Moore</td>
<td>Murray State</td>
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<td>Water Levels and Temperatures Define Narrow Window of Larval Fish</td>
<td>Spencer Phillips</td>
<td>Nathan Tillotson</td>
<td>Ben Tumolo</td>
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<td>Phenology in Kentucky Lake.</td>
<td>Murray State University</td>
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<td>Honey Bee Gene Expression Response to Pesticides Under Differential</td>
<td>Alishea Brown</td>
<td>Farida Olden</td>
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<td>Nutritional Status</td>
<td>Kentucky State University</td>
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<td>Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees</td>
<td>Maria Shields</td>
<td>Christopher Frost</td>
<td>Stephen Yanoviak</td>
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<td>Driver bias in intentional wildlife-vehicle collisions</td>
<td>Mary Wilkinson</td>
<td>Terry Derting</td>
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<td>Using Hardiness Zones to Determine Phenological Variation</td>
<td>Whitney Buechler</td>
<td>Bassil El Masri</td>
<td>Paul Gagnon</td>
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<td>Assessing Stormwater Impacts and Hydrogeological Influences on</td>
<td>Rachel Kaiser</td>
<td>James Shelley</td>
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<td>Water Quality in an Urban Karst Lake</td>
<td>Western Kentucky University</td>
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</table>

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

First Author
Jacob Lawson
University of Louisville

Co-author
Margaret Carreiro
University of Louisville

Co-author
Lindsay Nason
University of Louisville

Co-author
Perri Eason
University of Louisville

Co-author
Amy Cherry
University of Louisville

Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.

First Author
David White
Murray State University

Co-author
Susan Hendricks
Murray State University

Co-author
Mindy Armstead
Marshall University

Co-author
Bill Ford
University of Kentucky

Co-author
Jimmy Fox
University of Kentucky

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

First Author
Michaela Lambert
University of Kentucky

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

First Author
Robin Baker
Murray State University

Co-author
Cy Mott
Eastern Kentucky University

Co-author
Katelyn May
Murray State University

Co-author
Howard Whiteman
Murray State University

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

First Author
Christy Soldo
| Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes |
|-------------------------------|------------------|------------------|
| **First Author** | **Co-author** | **Co-author** |
| Sarah Bissmeyer | Chris Frost | Grace Freundlich |
| University of Louisville | University of Louisville | University of Louisville |

| Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams. |
|-------------------------------|------------------|------------------|
| **First Author** | **Co-author** | **Co-author** | **Co-author** | **Co-author** |
| Andrew Nesselroade | Ronald Sams | Cierla McGuire | Sumathi Sankaran-Walters | Mike McGrann |
| Asbury University | Asbury University | Asbury University | William Jessup University | |
| **Co-author** | **Co-author** | **Co-author** | **Co-author** | **Co-author** |
| Malinda Stull | Ben Brammell | Mike McGrann | William Jessup | |
| Asbury University | Asbury University | William Jessup University | |

| Caterpillar Predation Rates Across an Urban-Suburban Gradient |
|-------------------------------|------------------|------------------|
| **First Author** | **Co-author** | **Co-author** | **Co-author** | **Co-author** |
| Amy Cherry | Jacob Lawson | Lindsay Nason | Margaret Carreiro | Perri Eason |
| University of Louisville | University of Louisville | University of Louisville | University of Louisville | University of Louisville |

<p>| Proliferation of Zebra Mussels (Dreissena polymorpha) in Kentucky Lake during 2017 |
|-------------------------------|------------------|------------------|
| <strong>First Author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> |
| Michael Flinn | Melody Feden | Ben Ferguson | Bradley Hartman | Kayleen Parker |
| Murray State University | Murray State University | Murray State University | Murray State University | Murray State University |
| <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> |
| Spencer Phillips | Ivan Roe | Christy Soldo | Susan Hendricks | |
| Murray State University | Murray State University | Murray State University | |
| <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> | <strong>Co-author</strong> |
| Kayleen Parker | William Jessup | Murray State University | Murray State University | Murray State University | Murray State University |</p>
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<td>Detection of Percopsis omiscomaycus (trout-perch) using eDNA in eastern Kentucky streams.</td>
<td>Andrew Nesselroade</td>
<td>Harold Brabon</td>
<td>David Eisenhour</td>
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<td>Ant tarsal adhesion on oak leaves differing in trichome density</td>
<td>Keegan Thompson</td>
<td>Alyssa Stark</td>
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<td>Body Size of Leaf-Carrying and Hitchhiking Leafcutter Ants in a Tropical Forest</td>
<td>Virginia Nunamaker</td>
<td>Chris Nunamaker</td>
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<td>Assessing the diet of Perimyotis subflavus and Nycticeius humeralis bats before and after the occurrence of WNS</td>
<td>Summer Wheeler</td>
<td>Amie Towery</td>
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<td>Health of the Lee Branch on the Midway University Campus: Biological stream assessments and stream habitat assessments</td>
<td>John Delfino</td>
<td>Guipsy Lopez</td>
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<td>Relationship between fish biomass and eDNA in central Kentucky streams.</td>
<td>Ramon Guivas</td>
<td>Kyle Laufenburger</td>
<td>Ben Brammell</td>
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</table>
### Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.

133.

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

134.

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

135.

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

136.

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

### Curris Center

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

39.

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<td>Emery Ginger</td>
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<td>University</td>
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### Automated Control System For Photo-bioreactor

40.
Biomass Stove Design Project: Automated Fuel Feeder System

41.

First Author
Chance Davice
Berea College

Co-author
Mark Mahoney
Berea College

Co-author
Constantine Botimer
Berea College

Co-author
Chris True
Berea College

Co-author
Jedidiah Radosevich
Berea College

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

42.

First Author
Tyler Stoffel
University of Kentucky

Co-author
Jordan Garcia
University of Kentucky

Co-author
Charles Lu
University of Kentucky

Co-author
Johnson Joseph
Fiat Chrysler Automobiles

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

43.

First Author
Nathan Rayens
University of Kentucky

Co-author
Tongguang Zhai
University of Kentucky

Co-author
Pei Cai
University of Kentucky

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Posters: Geography

Curris Center

Chair: Buddhi Gyawali
Secretary: Christopher Day

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

44.

First Author
Kenneth Hancock
Murray State
University

Unmarked Burial Identification at the Frankfort, KY Cemetery using Ground Penetrating Radar and LIDAR data

45.

First Author
Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

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

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

LATE HOLOCENE PALEOFLOOD DEPOSITIONAL SEQUENCES: MIDDLE TENNESSEE RIVER VALLEY, USA
SITE FORMATION OF THE MIDDLE PLEISTOCENE FARRE ARCHAEOLOGICAL SITE, NORTHERN KENYA

50.

First Author
Mallory Gerzan
Murray State University

Co-author
Gary Stinchcomb
Murray State University

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

51.

First Author
Molly Karnes
Murray State University

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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
Frederick Bebe
Kentucky State University

Co-author
Shasa Hu
University of Miami, Miller College of Medicine

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

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

Effect of select phytochemicals on salivary and urinary pH

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

Examining the Expression and Function of Septin Proteins in Human Pancreatic Cancer Cells

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

Immunogenicity of Novel Vaccines for Hepatitis C Virus

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

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

146.

First Author
Manoj Pathak
Murray State University

Co-author
Cindy Austin
Trauma & Burn Research, Mercy Hospital

Co-author
Simon Thompson
Department of Trauma and Burn, Mercy Hospital

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

147.

First Author
Nikitha Rajendran
Gatton Academy, Western Kentucky University

Co-author
Rachel Tinius
Western Kentucky 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
Bellarmine University

Co-author
Nicholas Mellen
University of Louisville

Posters: Microbiology

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

Curris Center

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
# Mycobacteriophages: Inky and Spock

151.

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<th>Co-author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Moria Magre</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
</tr>
<tr>
<td>Spalding University</td>
<td>Spalding University</td>
<td>Spalding University</td>
</tr>
</tbody>
</table>

# Antifungal Endophytes as a Source of Novel Bioactive Compounds

152.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katie Sawvell</td>
<td>John Carmen</td>
</tr>
<tr>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

# Production of hydrogen peroxide as a virulence factor by Mycoplasma mycoides subspecies capri

153.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zackery Newton</td>
<td>Rachel Pritchard</td>
</tr>
<tr>
<td>Kentucky Wesleyan</td>
<td>Kentucky Wesleyan</td>
</tr>
<tr>
<td>College</td>
<td>College</td>
</tr>
</tbody>
</table>

# The Prevalence of Bacteria Resistant to Vancomycin and Colistin in Waters Around Louisville

154.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel Mahbubani</td>
<td>Amy Priest</td>
<td>Annie Koenig</td>
<td>Easton Ford</td>
<td>Doug Krauth</td>
<td>Deborah Yoder-Himes</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>Co-author</td>
<td>Co-author</td>
<td>Co-author</td>
<td>Co-author</td>
<td>Co-author</td>
<td>Co-author</td>
</tr>
<tr>
<td>Deborhah Yoder-Himes</td>
<td>Paul Himes</td>
<td>Paul Himes</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
</tr>
</tbody>
</table>

# Isolation and Characterization of the Mycobacteriophage Acquire49

155.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Mosley</td>
<td>Tyler Burton</td>
<td>John Starnes</td>
</tr>
<tr>
<td>Somerset Community</td>
<td>Somerset Community</td>
<td>Somerset Community</td>
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<tr>
<td>College</td>
<td>College</td>
<td>College</td>
</tr>
</tbody>
</table>

# Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates

156.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaria Elery</td>
<td>John Carmen</td>
</tr>
<tr>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

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

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

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

Comparison of Period Finding Techniques to Identify RR Lyrae Stars
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromagnetic Wave Motion Around a Black Hole</td>
<td>Amanda Manning</td>
<td>Sharmanthie</td>
<td>Fernando</td>
<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Analyzing Color Relations for RR Lyrae in KELT</td>
<td>Logan Hicks</td>
<td>Connor Edwards</td>
<td>Tyler Labree</td>
<td>Matthew Buelsing</td>
<td>Nathan De Lee</td>
</tr>
<tr>
<td>Gold and Silver Nanoparticles Decorated Graphene as 'smart' SERS Platforms</td>
<td>Alexander Banaszak</td>
<td>Tyler Smith</td>
<td>Sanju Gupta</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination</td>
<td>Alex Henson</td>
<td>Brendan Evans</td>
<td>Sanju Gupta</td>
<td>WKU Department of Physics and Astronomy</td>
<td>WKU Department of Physics and Astronomy</td>
</tr>
<tr>
<td>Nanoparticles-grafted functionalized graphene coated with nanostructured polyaniline layered nanocomposites as high-perf</td>
<td>Romney Meek</td>
<td>Sanju Gupta</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>University</td>
</tr>
<tr>
<td>Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
58.

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

Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GexSe1-x Glass System

59.

**First Author**  John Adamick  
**Co-author**  John Rademacher  
**University**  Northern Kentucky University  

The Study of Light Paths Around Black Holes

60.

**First Author**  Abigail Campbell  
**University**  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**

161.

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

Developing TALE proteins as a sensor for detecting pathogens

162.

**First Author**  Kathrine Gaiko  
**University**  Western Kentucky University

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

163.

**First Author**  Meagan Medley  
**University**  KBRIN
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling</td>
<td>Emily Altman</td>
<td>JoBeth Bingham</td>
<td>Dr. Lewis Watson</td>
</tr>
<tr>
<td>Inhibition of PDE4 fails to reverse behavioural deficits induced by muscarinic receptor blockage</td>
<td>Samuel Case</td>
<td>Ilsun White</td>
<td></td>
</tr>
<tr>
<td>Investigating Potential Mechanisms of Clove Oil (Eugenol) in Model Systems</td>
<td>Elizabeth Grau</td>
<td>Alec Bradley</td>
<td>Danielle Cantrell</td>
</tr>
<tr>
<td>Investigating the Synergistic Effects of Two Curcuminoids and Cisplatin on Cancer Cell Migration and ROS Release</td>
<td>Blaine Patty</td>
<td>Matthew Millay</td>
<td>Jerry Monroe</td>
</tr>
<tr>
<td>MK-801, a NMDA antagonist, reverses scopolamine-induced behavioral deficits.</td>
<td>Elizabeth Collins</td>
<td>Sami Case</td>
<td>Brianna Ward</td>
</tr>
<tr>
<td>Pharmacological identification of cholinergic receptor subtypes in Drosophila</td>
<td>Eashwar Somasundaram</td>
<td>Aya Omar</td>
<td>Cole Malloy</td>
</tr>
</tbody>
</table>
The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.

170.

**First Author**
Alex Stanback  
University of Kentucky

**Co-author**
Hunter Maxwell  
uky

**Co-author**
Clare Cole  
uky

**Co-author**
Katherine Johnson  
uky

**Co-author**
Jenni Ho  
uky

**Co-author**
La Shay Byrd  
uky

**Co-author**
Samantha Danyi  
uky

**Co-author**
Sushovan Dixit  
uky

**Co-author**
Madan Subheeswar  
uky

**Co-author**
Maddie Stanback  
uky

---

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

### Posters: Psychology

<table>
<thead>
<tr>
<th><strong>Curris Center</strong></th>
<th>Chair: Richard Osbaldiston</th>
<th>Secretary: KatieAnn Skogsberg</th>
</tr>
</thead>
</table>

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

177.

**First Author**
Brianna Ward  
Morehead State University

**Co-author**
Elizabeth Collins  
Morehead State University

**Co-author**
Ilsun White  
Morehead State University

---

**First Author**
Alicia Bedolla  
Berea College

**Co-author**
Evelyn Rivera Perez  
Berea College

**Co-author**
Joseph Barger  
Berea College

**Co-author**
Jasmine Roman  
Berea College

**Co-author**
Sarah Jones  
Berea College

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

178.

#### What influences recognition of emotion among college students

179.

**First Author**
Shannon Mapes  
Morehead State University

**Co-author**
Suzanne Savard  
Morehead State University

**Co-author**
Ilsun White  
Morehead State University

**Co-author**
Kinetta Crisp  
Morehead State University

---

**First Author**
Shannon Mapes  
Morehead State University

**Co-author**
Suzanne Savard  
Morehead State University

**Co-author**
Ilsun White  
Morehead State University

**Co-author**
Kinetta Crisp  
Morehead State University

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

180.
Implicit Gender Bias, Commercials, and Cooperation.

181.

First Author
Rick Holland
Berea College

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

182.

First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony

183.

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

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

184.

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

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

185.

First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?

186.

First Author
Posters: Science Education

Curris Center

Chair: Shira Rabin
Secretary: Karen Hlinka

The POGIL Approach to Teaching

187.

First Author
Lucas Collett
Berea College

Using the POGIL Approach in Non-Stem Disciplines

188.

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

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

189.

First Author
Martin Brock
Eastern Kentucky University

Posters: Zoology

Curris Center

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

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

171.

First Author
Maddie Stanback
University of Kentucky
Co-author
Alexandra Stanback
uky
Co-author
Tristan Donovan
uky
Co-author
Priscilla Boachie
uky
Co-author
Brendon Stockwell
uky

Co-author
Carly Ballinger-Boone
uky
Co-author
Emma Higgins
uky
Co-author
Meaghan Labarre
uky
Co-author
Alexa Larson
uky
Characterization of mating behaviors and risk of cannibalism in Tigrosa georgicola wolf spiders

First Author
Talon Garman
University
Murray State

Co-author
Micaiah McNabb
University
Murray State

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

First Author
Katherine Cappel
University
Campbellsville

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

First Author
Abigail Glass
University
Murray State

Co-author
Rachel Racicot
University
Vanderbilt University

Co-author
Michelle Casey
University
Murray State

Co-author
Simon Darroch
University
Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author
Natalie Mercer
College
Kentucky Wesleyan

Co-author
Shannon Finerty
College
Kentucky Wesleyan

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author
Benjamin Conkright
University
Western Kentucky

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

- **KBRIN** (Kentucky Biomedical Research Infrastructure Network)
- **Kentucky Organization of Field Stations**
- **University of Kentucky Chemistry Department**
Saturday, November 4, 2017  8:00am - 11:30am

**Oral Presentations: Cellular and Molecular Biology**

**Barkley Lecture Room, Curris Center**

Chair: Emily Shifley  
Secretary: Gary ZeRuth

Section meeting to follow presentations

---

**Characterization of Reagents Developed Against Two Basement Membrane Degraders in Drosophila melanogaster**

8:00

*First Author*  
Afolasayo Aromiwura  
*Co-author*  
Ajay Srivastava  
*University*  
Western Kentucky University

---

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

8:15

*First Author*  
Dylan Hammrich  
*Co-author*  
Gary ZeRuth  
*University*  
Murray State University

---

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

8:30

*First Author*  
Tyler Hoard  
*Co-author*  
Gary ZeRuth  
*University*  
Murray State University

---

**Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes**

8:45
Pancreatic beta cell dysfunction mediated by down regulation of Glis3
9:00
First Author
Erin Clayton
Murray State University
Co-author
Gary ZeRuth
Murray State University

Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy
9:15
First Author
Jazmin Escamilla
Berea College
Co-author
Zongyi Hu
Liver Disease Branch, NIDDK- National Institute of Health
Co-author
Jake Liang
Liver Disease Branch, NIDDK-National Institute of Health

Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula
9:30
First Author
Ahmed Fadil
Western Kentucky University

PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.
9:45
First Author
Brittani Hawkins
Murray State University
Co-author
Chris Trzepacz
Murray State University

Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration
10:15
First Author
Monica Moran
Vanderbilt University Division of Nephrology and Hypertension
Co-author
Billy Hudson
Vanderbilt University Division of Nephrology and Hypertension
Co-author
Vadim Pedchenko
Vanderbilt University Division of Nephrology

Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothalamic tissue</td>
<td>10:30</td>
</tr>
<tr>
<td>First Author: Keelee Pullum</td>
<td>Co-author: Noah Ashley</td>
</tr>
<tr>
<td>Gatton Academy, Western Kentucky University</td>
<td></td>
</tr>
<tr>
<td>An Examination of Epigenetic Factors and Methylation Patterns in Promoter Regions of AT1 and ACE</td>
<td>10:45</td>
</tr>
<tr>
<td>First Author: Dimond Shelton</td>
<td>Co-author: Nancy Rice</td>
</tr>
<tr>
<td>Western Kentucky University</td>
<td></td>
</tr>
<tr>
<td>Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone</td>
<td>11:00</td>
</tr>
<tr>
<td>First Author: Alexandria Szalanczy</td>
<td>Co-author: Nitika Nitika</td>
</tr>
<tr>
<td>Centre College</td>
<td></td>
</tr>
<tr>
<td>Gene expression differences following early life exposure to polychlorinated biphenyls in three genotypes of mice</td>
<td>11:15</td>
</tr>
<tr>
<td>Northern Kentucky University</td>
<td></td>
</tr>
<tr>
<td>Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference</td>
<td>8:00</td>
</tr>
<tr>
<td>First Author: Audrey Alexander</td>
<td></td>
</tr>
</tbody>
</table>
Assessing the Carbon and Energy Balance of a Grazed Pasture in Central Kentucky Using the Eddy Covariance Method

8:15

First Author Co-author
Ian Ries Maheteme Gebremedhin
Kentucky State University 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 Co-author Co-author Co-author Co-author
Elizabeth Malloy David Brown Stephen Richter Barbara Scott Michelle Cook
Eastern Kentucky University Eastern Kentucky University Eastern Kentucky University Eastern Kentucky University Eastern Kentucky University

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

8:45

First Author Co-author Co-author
Meika Finger-Gray Avinash Tope shreya Patel
Kentucky State University Kentucky State University Kentucky State University

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

9:00

First Author Co-author Co-author Co-author
Sait Sarr Maheteme Avinash Tope Mark Coyne
Kentucky State University Kentucky State University Kentucky State University University of Kentucky

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

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

**First Author**
Elizabeth Willenbrink

**Center for Human GeoEnvironmental Studies at Western Kentucky**

**Co-author**
Leslie North

**Center for Human GeoEnvironmental Studies at Western Kentucky**

**Co-author**
Vu Thi Minh Nguyet

**Institute of Geological Sciences, Vietnam Academy of Science**

**Co-author**
Jason Polk

**University of Kentucky**

**Co-author**
D. Nicholas McLetchie

**University of Kentucky**

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

**First Author**
Kaitlyn Kelly

**Eastern Kentucky University**

**Co-author**
David Brown

**Eastern Kentucky University**

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

**First Author**
Bruce Kessler

**Western Kentucky University**

**Co-author**
Andrew Davis

**Western Kentucky University**

### Prey Resource Partitioning Between Sympatric Bat Species

**First Author**
Macy Kailing

**Murray State University**

**Co-author**
Terry Derting

**Murray State University**

**Co-author**
Gary ZeRuth

**Murray State University**

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

**First Author**
Hannah Elliott

**Berea College**

**Co-author**
Muntathar Alshimary

**Berea College**

**Co-author**
Rebecca Klem

**Berea College**

**Co-author**
Jeremy Wilde

**Berea College**

**Co-author**
Roy Scudder-Davis

**Berea College**

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

**First Author**

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

11:15

First Author
Abhinav Maurya
University of Louisville

Co-author
Christopher Frost
University of Louisville

Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods

11:30

First Author
Samantha Thomas
Western Kentucky University

Co-author
Jarrett Johnson
Western Kentucky University

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

11:45

First Author
Jacob Hutton
University of Kentucky

A Study of Mercury in Bald Eagle Feathers and Quills

1:00

First Author
Wendy Cecil
Western Kentucky University

Co-author
Cate Webb
Western Kentucky University

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

1:15

First Author
James Graham
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Edward Hujbens
University of Akureyri

Co-author
Elizabeth Willenbrink
Western Kentucky University

Co-author
Jun Yan
Western Kentucky University

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

1:30

First Author
An examination of fish and macroinvertebrate succession patterns after restoration of a novel stream system
1:45
First Author
Patrick Vrablik
Murray State University
Co-author
Michael B. Flinn
Murray State University

Movement patterns of Silver Carp Hypophthalmichthys molitrix in Kentucky Lake
2:00
First Author
Timothy Spier
Murray State University
Co-author
Michael Flinn
Murray State University
Co-author
Jessica Morris
Kentucky Department of Fish and Wildlife Resources
Co-author
Neal Jackson
U. S. Fish and Wildlife Service
Co-author
Allison DeRose
Murray State University

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

Oral Presentations: Physics and Astronomy
Blackburn 312
8:00
First Author
Thomas Pannuti
Morehead State University

A Composite View of the Composite Supernova Remnant 3C 396 (G39.2-0.3)
8:00
First Author
Thomas Pannuti
Morehead State University
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15</td>
<td>The CREAM instrument on the ISS</td>
<td>Scott Nutter</td>
</tr>
<tr>
<td>8:30</td>
<td>Matching Simulation Data to Calibration Data for the Silicon Charge</td>
<td>Carter Kring</td>
</tr>
<tr>
<td></td>
<td>Detector used in the ISS-CREAM Instrument</td>
<td></td>
</tr>
<tr>
<td>8:45</td>
<td>Calibration of the CREAM Calorimeter with CERN Beam Tests</td>
<td>Tyler LaBree, Scott Nutter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Northern Kentucky University</td>
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<td>9:00</td>
<td>Analysis of a Current-Mode Detector for the NOPTREX Experiment</td>
<td>Daniela Olivera, Danielle Schaper</td>
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<td>Berea College</td>
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<td>9:15</td>
<td>Josephson weak links with high characteristic voltage for THz</td>
<td>Luis Gomez</td>
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<td>radiation detection.</td>
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<td>9:30</td>
<td>Investigation of the Kepler Eclipsing Binary Catalog: Analysis of</td>
<td>Garrison Turner, Big Sandy Community</td>
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<td>Targets With UNC Flags</td>
<td>and Technical College</td>
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<td>9:45</td>
<td>Streamlining Predictions of Temperature-Dependent Changes in</td>
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<td>Defect Properties of Intermetallic Compounds</td>
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</table>
## Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258

**10:15**  
*First Author* | *Co-author*  
--- | ---  
Sierra Hauck | Dirk Grupe  
**Morehead State University** | **Morehead State University**

## The “Hotter” Side of an X-Ray Tube

**10:30**  
*First Author* | *Co-author* | *Co-author*  
--- | --- | ---  
Ignacio Birriel | Joshua Allen | Anthony Dotson  
**Morehead State University** | **Morehead State University** | **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* | *Co-author* | *Co-author* | *Co-author*  
--- | --- | --- | ---  
Nathan De Lee | Kyle Houston | Nicholas Troup | Joleen Carlberg  
**Northern Kentucky University** | **Northern Kentucky University** | **Salisbury University** | **Space Telescope Science Institute**

## Redesign of Introductory Physics Labs Using Arduinos

**11:15**  
*First Author*  
Troy Messina  
**Berea College**

---

**Oral Presentations: Chemistry: Analytical & Physical**  
Blackburn 320

Chair: Harry Fannin  
Secretary: Bommanna Loganathan

Section meeting to follow presentations

OIL DRIES A NEW ABSORBENT MATERIAL; FOR COLLECTING IGNITABLE LIQUIDS IN ARSON
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<td>8:15</td>
<td>Jessica Dove</td>
<td>Eastern Kentucky University</td>
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<td>8:30</td>
<td>Jesus Berlanga</td>
<td>Matthew Nee</td>
<td>Philip J. Silva</td>
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<td>Kayla Steward</td>
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<td>Rosemary Calabro</td>
<td>Dong-Sheng Yang</td>
<td>Doo Young Kim</td>
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<td>Mara Krempel</td>
<td>Hayley Moss</td>
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### Oral Presentations: Agricultural Sciences

The Stables, Curris Center  
1st floor

**Chair:** Jean Gumirakiza  
**Section meeting to follow presentations**

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<th>Time</th>
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<tr>
<td>8:15</td>
<td><strong>Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw</strong></td>
<td>Srijana Thapa Magar</td>
<td>Kirk Pomper</td>
<td>Jeremiah Lowe</td>
<td>Sheri Crabtree</td>
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<td><strong>Enzymes as Indicators of Soil Microbial Activity at three Locations in Kentucky</strong></td>
<td>GEORGE ANTONIOUS KENTUCKY STATE UNIVERSITY</td>
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<td>8:30</td>
<td><strong>Assessing the nutritional value of novel soybean products in the diet of Atlantic salmon (Salmo salar L.)</strong></td>
<td>James Schwartz</td>
<td>Vikas Kumar</td>
<td>Waldemar Rossi</td>
<td>Katerina Kousoulaki</td>
<td>Nofima</td>
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<td></td>
<td><strong>Responses of juvenile largemouth bass (Micropterus salmoides) to dietary EPA and DHA rich oils</strong></td>
<td>Amit Yadav</td>
<td>Waldemar Rossi</td>
<td>Hab Andemichael</td>
<td>Vikas Kumar</td>
<td>Kentucky State university</td>
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<tr>
<td>9:00</td>
<td><strong>Applicability of waste-reared Hermetia illucens as an ingredient in the diet of Nile Tilapia, Oreochromis niloticus</strong></td>
<td>Amit Yadav</td>
<td>Hab Andemichael</td>
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Saturday, November 4, 2017  8:15am - 2:15pm
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<tr>
<td>9:30</td>
<td>Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky</td>
<td>Emily Cook</td>
<td>Lin Handayani</td>
<td>Jessica Pafford</td>
<td>Steve Still</td>
<td>John Grove</td>
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<td>9:45</td>
<td>Spotted wing Drosophila, Drosophila suzukii, larvae in blackberries bordered by native perennial plants or pasture</td>
<td>Sathya Govindasamy</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
<td>Mamata Bashyal</td>
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<td>10:00</td>
<td>Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture</td>
<td>Mamata Bashyal</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
<td>Sathya Govindasamy</td>
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<td>Megan McCoun</td>
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<td>10:30</td>
<td>Optimizing Hemp Production through Cultivar Selection and Soil Management Practices</td>
<td>Rose Johnson</td>
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First Author
Samuel Kessler
Carol Martin Gatton
Academy of Mathematics and Science, WKU

Co-author
Vikas Kumar
Kentucky State University, Aquaculture Research Center

Co-author
Waldemar Rossi
Kentucky State University, Aquaculture Research Center

First Author
Emily Cook
Murray State University

Co-author
Lin Handayani
Murray State University

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Murray State University

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Murray State University

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Megan McCoun
University of Kentucky

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E. Kyle Slusher
Kentucky State University

Co-author
Sathya Govindasamy
Kentucky State University

Co-author
Megan McCoun
University of Kentucky

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

10:45

First Author
Gagan Kolimadu
Kentucky State University

Co-author
Jarod Jones
Kentucky State University

Co-author
Kristy Allen
Kentucky State University

Co-author
Waldemar Rossi
Kentucky State University

Co-author
Michael Habte-Tision
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

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

11:00

First Author
Ashmita Poudel
Kentucky State University

Co-author
Kathryn Mitchell
Kentucky State University

Co-author
Robert Durborow
Kentucky State University

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

11:15

First Author
Lusekelo Nkuwi
Kentucky State University

Co-author
George Antonious
Kentucky State University

Co-author
Eric Turley
Kentucky State University

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

11:30

First Author
Sujan Bhattarai
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

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

1:00

First Author
JEAN DOMINIQUE GUMIRAKIZA
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

Co-author
Thomas Kingery
Western Kentucky University

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

1:15
Analyzing the Effects the use of Best Practices for Farm Management has on Farm Financial Position and Profitability

1:30

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

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

1:45

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

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

2:00

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

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
Co-author: Buddhi Gyawali
Kentucky State University

Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar
The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan
9:00

First Author
Tori Farrow
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Networks of Sustainability within the Iceland Whale Watching Industry
9:15

First Author
Jason Fox
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Predicting the Adoption of Sustainable Agricultural Practices among Kentucky Farmers and Its Barriers
9:30

First Author
Bijesh Mishra
Kentucky State University

Co-author
Buddhi Gyawali
KYSU

Exploring Relationship between community Perception and landscape change in the Eastern Kentucky
10:00

First Author
Buddhi Gyawali
Kentucky State University

Co-author
Prabisha Shrestha
Kentucky State University

Co-author
Tilak Shrestha
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Association of land cover change trend with land ownership size at parcel level data in Breckinridge County, KY
10:15

First Author
Prabisha Shrestha
Kentucky State University

Co-author
Buddhi Gyawali
Kentucky State University

Co-author
Tilak Shrestha
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

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

10:45

First Author
James Shelley
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Nicholas Crawford
Western Kentucky University

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

Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

11:00

First Author
Patricia Kambesis
Western Kentucky University

Co-author
Brittiny Moore-Kimmel
Texas State University

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

11:15

First Author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Kenneth Bates
Kentucky State University

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

Oral Presentations: Geology

Blackburn 228

Chair: Ann Harris

Secretory: David Dockstader

Section meeting to follow presentations

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

9:00
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<tr>
<td>9:15</td>
<td>Randal Roberson</td>
<td>Michelle Casey</td>
<td>Murray State University</td>
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<td>Reid Buskirk</td>
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<td>James Winter</td>
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<td>How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetops in Kentucky's Daniel Boone National Forest?</td>
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<td>Laura Kelley</td>
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<td>Runoff generation in an ephemeral agricultural watershed with thin soil</td>
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Oral Presentations: Psychology
Blackburn 155
Saturday, November 4, 2017 9:00am - 11:15am

Section meeting to follow presentations

Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.
9:00
First Author: Aaron Clark
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
Morehead State University
Co-author: Shari Kidwell
Morehead State University

Initial Validation of the Hexaflex Process Assessment Instrument.
10:15
First Author: Aaron Ellis
Co-author: John Blackledge
Morehead State University
Co-author: Shelby Humphrey
Morehead State University
Co-author: Kellen Crager
Morehead State University
Co-author: Isabella Gearhart
Morehead State University
Co-author: Rebecca Ashley
Morehead State University
The Association of Parents' Emotion Philosophy with Adolescents' Mindful Approach to Affect.

10:30

**First Author**
Joseph Reese
*Morehead State University*

**Co-author**
Mary Blanton
*Morehead State University*

**Co-author**
Ashley Ball
*Morehead State University*

**Co-author**
Kory Phelps
*Morehead State University*

**Co-author**
Shari Kidwell
*Morehead State University*

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

10:45

**First Author**
Hunter Gatewood
*Morehead State University*

**Co-author**
Lynn Haller
*Morehead State University*

Peer Mentoring Circles for Women STEM Faculty at Murray State University

11:00

**First Author**
Maeve McCarthy
*Murray State University*

**Co-author**
Paula Waddill
*Murray State University*

**Co-author**
Robin Zhang
*Murray State University*

**Co-author**
Echo Wu
*Murray State University*

**Co-author**
Steve Cobb
*Murray State University*

**Co-author**
Robin Zhang
*Murray State University*

**Co-author**
Echo Wu
*Murray State University*

**Co-author**
Steve Cobb
*Murray State University*

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

**Oral Presentations: Science Education**

Blackburn 249

**Chair:** Shira Rabin

**Secretary:** Karen Hlinka

Section meeting to follow presentations

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

9:00

**First Author**
Joseph Erskine
*Bellarmine University*

**Co-author**
Jordan Dowdy
*Bellarmine University*

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

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

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

9:15
First Author
Katherine Ray King
University of Louisville
Co-author
Linda Fuselier
University of Louisville
Co-author
Justin McFadden
University of Louisville

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

9:30
First Author
Wilson Gonzalez-Espada
Morehead State University
Co-author
Laura Parker
Kentucky School for the Blind
Co-author
Adam Stockhausen
Kentucky School for the Blind
Co-author
Wanda Diaz-Merced
Office of Astronomy for Development
Co-author
Allyson Bieryla
Dept. of Astronomy, Harvard University
Co-author
Robert Hart
Dept. of Physics, Harvard University
Co-author
Daniel Davis
Natural Sciences Lecture Demonstrations, Harvard University

Should We Lie To Our Students?

10:00
First Author
Andy Martin
Kentucky state University

Adaptive Learning Courseware in Majors Biology Course

10:15
First Author
Shira Rabin
University of Louisville

Strengthening Student Foundations: Strategies for Active-Learning Classrooms

10:30
First Author
Kevin Revell
Murray State University

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

10:45
First Author
Norm Strobel
KCTCS/Blugrass Community and
### Breaks
Staggered in sessions - check schedule

### Oral Presentations: Engineering
Ohio Room, Curris Center

<table>
<thead>
<tr>
<th>Chair: Aaron Daley</th>
<th>Secretary: shen liu</th>
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<tbody>
<tr>
<td>Section meeting to follow presentations</td>
<td></td>
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#### Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts
10:00

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Jordan Garcia</td>
<td>Tyler Stoffel</td>
<td>John Schmidt</td>
<td>Alexander Bolin</td>
<td>David Lu</td>
</tr>
<tr>
<td>University of Kentucky</td>
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</table>

**Co-author**

Charles Lu
University of Kentucky

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Bhavesh Ramkorun</td>
<td>Samantha By</td>
<td>Aashim Bhatia</td>
<td>Bryson Reynolds</td>
<td>Patrick Couture</td>
</tr>
<tr>
<td>Berea College</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
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</tr>
</tbody>
</table>

**Children's Hospital**
**Institute of Imaging Science**

**Co-author**

Seth Smith
Vanderbilt University
**Institute of Imaging Science**

#### Hands-on Robotics Lab at Bellarmine University
10:30

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christopher Steitz</td>
<td>Stephen Brown</td>
<td>Akhtar Mahmood</td>
</tr>
<tr>
<td>Bellarmine University</td>
<td>Bellarmine University</td>
<td>Bellarmine University</td>
</tr>
</tbody>
</table>

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

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

**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  1:00pm - 2:45pm

**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 - 1:15pm

**Oral Presentations: Botany**

**Mississippi Room, Curris Center**

Chair: Lawrence Alice  
Secretary: Maggie Whitson

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

1:00

First Author  Co-author
Nicholas McLetchie  Maddison Hatton
University of Kentucky  University of Kentucky

Oral Presentations: Chemistry: Organic/Inorganic
Saturday, November 4, 2017  1:00pm - 2:30pm

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: ?-lactams
2:00

First Author
Jacob Nanney

Co-author
Kyle Watson

Kentucky Wesleyan
Co-author
Kentucky Wesleyan

College
College

Visible Light Generation of High-Valent Iron-Oxo Intermediates
2:15

First Author
Malone Jonathan

Co-author
dharmesh Patel

WKU
WKU

Co-author
Tse-hong Chen

Purdue University

Co-author
Ka Wai Kwong

WKU

Oral Presentations: Health Sciences
Saturday, November 4, 2017  1:00pm - 1:30pm

Blackburn 155

Chair: Bruce Branan  Secretary: Avinash Tope

Determining a reference interactome for stable heart disease utilizing molecular structure for informed model selection
1:00

First Author
Patrick Trainor

Co-author
Samantha Carlisle

University of Louisville
University of Louisville

Co-author
Shesh Rai

University of Louisville

Co-author
Andrew DeFilippis

University of Louisville

Transcriptomics Evaluation of MDA-MB-231 Breast Cancer Cells Reveals NAT2 Transcript Production Following NAT1 Knockout
1:15

First Author
Samantha M. Carlisle

Co-author
Patrick J. Trainor

University of Louisville
University of Louisville

Co-author
Mark A. Doll

University of Louisville

Co-author
David W. Hein

University of Louisville

Oral Presentations: Mathematics
Saturday, November 4, 2017  1:00pm - 2:00pm

Blackburn 228

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

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

**Oral Presentations: Microbiology**

**Cumberland Room, Curris Center**

Chair: Lingyu Huang  
Secretary: Joseph Mester

Section meeting to follow presentations

<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial activity from bacteria found around downtown Cincinnati</td>
<td>1:00</td>
<td>Kory Stuessel</td>
<td>John Carmen</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Inhibition of Fungal Colony Growth by UVC</td>
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</tbody>
</table>
Emergence and divergence of influenza virus: A current perspective
1:30

First Author
Alexander Lai
Kentucky State University

Emergence and divergence of influenza virus: A current perspective
1:30

First Author
Alexander Lai
Kentucky State University

Oral Presentations: Physiology and Biochemistry
Saturday, November 4, 2017 1:00pm - 2:00pm
Barkley Lecture Room, Curris Center
Chair: Michael Smith
Secretary: Julia Carter
Section meeting to follow presentations

Identification of tRNA modification enzymes in higher eukaryotes via primer extension
1:00

First Author
Justen Mamaril
Northern Kentucky University

Identification of tRNA modification enzymes in higher eukaryotes via primer extension
1:00

First Author
Justen Mamaril
Northern Kentucky University

Physiological Characteristics of Five Bladder Cancer Cell Lines
1:15

First Author
Kyle Damen
Wood Hudson Cancer Research Laboratory

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

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

Oral Presentations: Anthropology and Sociology
Ohio Room, Curris Center

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

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

First Author
Mason Gibson
Western Kentucky University

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

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

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

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

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

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

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

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

2:00

First Author
Deven Rataiczak
Bellarmine University

---

Oral Presentations: Zoology

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

Mississippi Room, Curris Center

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

Botany and Zoology Section meetings to follow presentations

---

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

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

---

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

First Author
Samuel White
Murray State University

Co-author
Talon Garman
Murray State University

Co-author
Laura Sullivan-Beckers
Murray State University

---

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

First Author
chi peng
Berea College

Co-author
Chi Peng
Berea College

Co-author
Hanna Abe
Yale University

Co-author
Ron Rosen
Berea College

Co-author
Brian Traw
Berea College

Co-author
Emma Reasoner
Berea College

Co-author
Marah Zeidan
Berea College

---

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

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

First Author
Cassandra Scalf
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

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

Coffee & Tea
Crow's Nest, Curris Center

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

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

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

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

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

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

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

Moderator: Wilson Gonzalez-Espada

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