2017 Annual Meeting Program
November 3-4, 2017

Murray State University

Thank you to our Platinum Sponsor

Thank you to our Break Sponsors
Thank you to our Silver Sponsors
Online Program, October 30, 2017

Poster presentations are all on Friday

Oral Presentations are all on Saturday

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
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<tbody>
<tr>
<td>KAS Governing Board meeting</td>
<td>Friday, November 3, 2017</td>
<td>1:00pm - 3:00pm</td>
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<tr>
<td>Commonwealth Suite</td>
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<tr>
<td>Open to all KAS members</td>
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<tr>
<td>Meeting for Section Leaders and Judges</td>
<td>Friday, November 3, 2017</td>
<td>3:00pm - 4:00pm</td>
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<tr>
<td>The Stables, Curris Center</td>
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<td>1st floor</td>
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<tr>
<td>If you are serving as a Judge or Section leader, please attend this meeting for a brief orientation to the student competition process and to pick up materials.</td>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017</td>
<td>3:00pm - 9:30pm</td>
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<tr>
<td>Tennessee Room, Curris Center</td>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017</td>
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<td>Cumberland Room, Curris Center</td>
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Tour - 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

<table>
<thead>
<tr>
<th>Hancock Biological Station</th>
<th>Meet in front of Curris Center</th>
<th>for van pickup.</th>
<th>2 hour round trip</th>
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</table>
**KAS Business meeting**

Mississippi Room, Curris Center

President: Darrin Smith

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

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**Poster presenters Check-In**

3rd floor of Curris Center

Chair: Kevin Revell

Co-chair: ANGELA GUYTON

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

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**Tour - Biology Building**

Meet in the lobby

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

[Campus map](#)

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**Tour - Chemistry Building**

Meet in the lobby

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

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

Tour - Mapping Applications and Resource Center (MARC)
Meet outside of Blackburn
425

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

Campus map

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

Tour - New Institute of Engineering facility
Meet in the lobby

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

Campus map

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

Judges conference room
Commonwealth Suite, Curris Center

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

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

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

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<tr>
<th>First Author</th>
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<tr>
<td>Cora Teets</td>
<td>Waldemar Rossi</td>
<td>Vikas Kumar</td>
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### A Comparison of the Characteristics of Kentucky and Illinois Soils Under Various Land Cover

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<td>Bernedette Chadwick</td>
<td>Michael Mercer</td>
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<td>Iin Handayani</td>
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### Dehydration of autumn olive berries for human consumption

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<th>First Author</th>
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<tr>
<td>Changzheng Wang</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
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### Developing cold-hardy perennial ornamentals for Kentucky

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

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<td>Harry Franklin</td>
<td>Duncan Thomas</td>
<td>Connor Raymond</td>
<td>Jacob Flemming</td>
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</table>
### Effects of fertilization on growth performance of lotus plants in containers

**First Author**  
Changzheng Wang  
*Kentucky State University*

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

**First Author**  
GEORGE ANTONIOUS  
*KENTUCKY STATE UNIVERSITY*

**Co-author**  
Kirk Pomper  
*Kentucky State University*  
Eric Turley  
*Kentucky State University*  
Quinn Heist  
*Kentucky State University*  
Thomas Trivette  
*Kentucky State University*

**Co-author**  
Lusekelo Nkuwi  
*Kentucky State University*  
Yogendra Upadhyaya  
*Kentucky State University*  
Bjesh Mishra  
*Kentucky State University*

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

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

**Co-author**  
Thomas Kingery  
*Western Kentucky University*  
Stephen King  
*Western Kentucky University*

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

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

**Co-author**  
joel reddick  
*Murray State University*  
Landon Williams  
*Murray State University*  
Blake Remmert  
*Murray State University*  
iin Handayani  
*Murray State University*

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

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

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

**Co-author**  
Canaan Wring  
*Murray State University*  
Clay Smotherman  
*Murray State University*  
Connor Moore  
*Murray State University*

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

**First Author**  
Zack Eells  
*Murray State University*
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Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil

72.

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<td>Yogendra Upadhyaya</td>
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Analyzing Quality and Quantity of Binary and Pure Stands of Low Lignin and Standard Alfalfa

73.

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<tr>
<td>Kelly Hagan</td>
<td>Ray Smith</td>
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<td>Asbury University</td>
<td>University of Kentucky</td>
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Friday, November 3, 2017 5:00pm - 8:00pm

**Posters: Botany**

Curris Center

| Chair: Lawrence Alice | Secretary: Maggie Whitson |

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

74.

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<th>First Author</th>
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<tr>
<td>Juliana Silva e Costa</td>
<td>Justin Cornett</td>
<td>D. Nicholas McLetchie</td>
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<td>Federal University of Juiz de Fora</td>
<td>University of Kentucky</td>
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Detection of Cryptic Interspecific Hybridization Between Morus rubra and M. alba Using Molecular Markers

75.

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<tr>
<td>Taylor Horton</td>
<td>Dayle Saar</td>
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Is wintercreeper’s (Euonymus fortunei) success as an invader due to avoidance of herbivory?

76.
Building an interactive tree map for the Bellarmine University campus.

77.

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

78.

Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye

79.

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

80.

Examining Gene Expression during Xenopus Embryonic Development

81.

Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster
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<td>Lee Kendall</td>
<td>Samuel White</td>
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Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

83.

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<tr>
<td>Amber Follin</td>
<td>Kyla Britson</td>
<td>Tom Lyod</td>
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<td>Biology Department,</td>
<td>Neuroscience and</td>
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<td>Hopkins Medicine</td>
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FGF and RA signaling pathways interact during development of the Xenopus pharynx

84.

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<tr>
<td>Sarah Kunkler</td>
<td>Emily Shifley</td>
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The effect of benzo[a]pyrene on motor function in neonatal mice

85.

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<td>Katelyn Dunn</td>
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<td>Lisa Massie</td>
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Role of autophagy-related protein Vps34 in the function of adipose tissues and interactions with the immune system

86.

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

87.

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<tr>
<td>Kendall Collins</td>
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Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos

88.
First Author: Conner Hounshell
Kentucky Biomedical Research Infrastructure Network
University of Kentucky

Co-author: Courtney Waterbury
University of Kentucky

Co-author: Jeremiah Smith
University of Kentucky

Sex Specific Gene Control of Cardiac Fibrosis

89.
First Author: Bruce Northington
Eastern Kentucky University/ KBRIN, McNair

Annotation of Spock and Inky Mycobacteriophages

90.
First Author: Brittany Farnsley
Spalding University

Co-author: Jennifer Doyle
Spalding University

Co-author: Moria Magre
Spalding University

Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins

91.
First Author: Jiyoung Shim
Western Kentucky University

Co-author: Barnabas Kim
Western Kentucky University

Co-author: Moon-Soo Kim
Western Kentucky University

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

92.
First Author: Hannah Sizemore
Northern Kentucky University

Co-author: Daisy DiVita
Northern Kentucky University

Co-author: Julia Ziebro
Northern Kentucky University

Co-author: Michael Guy
Northern Kentucky University

Exploring Small Molecule Drugs Binding To Ribosomal Protein L11

93.
First Author: Swetaben Patel
University of Louisville

Co-author: Michal Hetman
University of Louisville

Co-author: Lukasz Slomnicki
University of Louisville

IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY
<table>
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<td>Issac Domenech               Ambra Pozzi                Corina Borza                Craig Lindsley               Daniel Jeffries</td>
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<td>NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells</td>
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<td>First Author                   Morgan Bahnsen</td>
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<td>SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis</td>
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<td>First Author                   Thomas Case</td>
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<td>Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days</td>
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<td>Melanie Couch                Getahun Agga                John Loughrin               Rohan Parekh               Eric Conte</td>
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<td>Western Kentucky University   ARS USDA                   ARS USDA                   ARS USDA                   Western Kentucky University</td>
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<td>Identification of the enzyme responsible for the acp3U modification in bacteria</td>
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<tr>
<td>Maggie Thomas                Jamison Burchett               Justen Mamaril               Michael Guy</td>
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<td>Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces cerevisiae</td>
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### Posters: Chemistry: Analytical & Physical

**Curris Center**

**Chair:** Harry Fannin  
**Secretary:** Bommanna Loganathan

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

#### 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*

#### Anaerobic Degradation of Tetracyclines in Agricultural Manure

3.  
*First Author*  
Brandon Couch  
*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*

#### 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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### From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation
7.

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<td>Jill Cao</td>
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### The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index
8.

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<td>Rachel Bracker</td>
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### Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA
9.

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<td>Tomas Flores</td>
<td>Jay Baltisberger</td>
<td>Sara Garner</td>
<td>Shay Steele</td>
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<td>College of Wooster</td>
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### Sedimentation Fractionation
10.

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

11.

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

12.

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<tr>
<td>Nicole States</td>
<td>Henry Pruett</td>
<td>Bikram Subedi</td>
<td>Susan Hendricks</td>
<td>David White</td>
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<tr>
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<td>Hancock Biological Station</td>
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<td>Bommanana Loga</td>
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<td>Susan Hendricks</td>
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ZrO2-?-Cyclodextrin (CD) catalyzed synthesis of 2,4,5-trisubstituted imidazoles and 1,2-disubstituted benzimidazoles u

13.

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<tr>
<td>K.N. Thimmaiah</td>
<td>Mark Montgomery</td>
<td>Padma Thimmaiah</td>
<td>Ashish Pagare</td>
<td>Larry Sylvester</td>
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<td>Community College</td>
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<td>Co-author</td>
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<td>Paul Grisham</td>
<td>Piya Adris</td>
<td>Lindsay Massie</td>
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Water Purification using Magnetic Biochar

14.

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<tr>
<td>Anne Carlisle</td>
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<tr>
<td>Western Kentucky University</td>
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</tbody>
</table>

A DRIFT Plus TG Device Reveling Unknown Chemicals Reaction Mechanisms

16.
First Author
Junjie Xiang
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Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification

First Author
Demetrius Davis
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Friday, November 3, 2017 5:00pm - 8:00pm

Posters: Chemistry: Organic/Inorganic

Curris Center

Chair: Kevin Revell
Secretary: Kyle Watson

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

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Effect of Iron charge state on P450 BM3 stability

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

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Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors

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

21.
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Light Activated Ruthenium Peptide Hybrids

22.
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N-Heterocyclic Carbene Complexes

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

24.
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Photocatalytic reduction of carbon dioxide by metal-organic framework materials.

25.
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Promotional Effect of Platinum on Nickel Catalysts in the Conversion of Lipids to Hydrocarbons in Diesel Range

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

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

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Solid-Phase Synthesis of Heteroatom-Activated Antibiotics

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

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

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Rui Zhang
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Synthesis and Properties of a Ruthenium Polypyridyl Complex

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Synthesis of Cleavable Acetal Antibody Drug Conjugate

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

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

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Synthesizing Cleavable Acetal Antibody Drug Conjugates

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Co-author
Sarah Tabor
Berea College
Co-author
Elizabeth Thomas
Berea College

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

Posters: Computer and Informational Sciences
Curris Center

Chair: Jerzy Jaromczyk
Secretary: Muzaffar Ali

Incorporating WeBWorK in a Mathematics Classroom

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Kentucky Wesleyan College
Co-author
Kyle Besing
Kentucky Wesleyan College

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

First Author
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<td>American Chestnut restoration in Daniel Boone National Forest: a GIS approach</td>
<td>Jacob Pease</td>
<td>Murray State University</td>
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<td>Comparative Analysis of Soil Elemental Composition Using Portable X-Ray Fluorescence In Multiple Land Use Practices</td>
<td>Ellyn Anthony</td>
<td>Kentucky State University</td>
<td>Oguz Sariyildiz</td>
<td>Mamata Bashyal</td>
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<td>Ant communities of temperate tree canopies along an urban-rural gradient</td>
<td>Heather Short</td>
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<td>Daniella Prince</td>
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<td>Kevin &quot;Austin&quot; Johnessee</td>
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<td>Priya Karna Sunil Karna</td>
<td>Union College Union College</td>
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<td>Jarrett Johnson</td>
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<td>Assessing the effects of urban air pollution on lichens</td>
<td>Austin Adam</td>
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<td>The Effects of Stream Degradation on Food Web Stability</td>
<td>Hannah Moore</td>
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Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.

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Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status

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Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees

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Driver bias in intentional wildlife-vehicle collisions

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Using Hardiness Zones to Determine Phenological Variation

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Assessing Stormwater Impacts and Hydrogeological Influences on Water Quality in an Urban Karst Lake

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Is aboveground pathogen load influenced by belowground pathogen presence, plant community
diversity, or precipitation

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Insect Pollinator Diversity in Gardens Across an Urban-to-Suburban Gradient

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

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

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

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

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Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes

First Author: Sarah Bissmeyer
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Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

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   University: Asbury University
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   University: William Jessup University
Co-author: Mike McGrann
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Caterpillar Predation Rates Across an Urban-Suburban Gradient

First Author: Amy Cherry
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   University: University of Louisville
Co-author: Lindsay Nason
   University: University of Louisville
Co-author: Margaret Carreiro
   University: University of Louisville
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Proliferation of Zebra Mussels (Dreissena polymorpha) in Kentucky Lake during 2017

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

127.

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Ant tarsal adhesion on oak leaves differing in trichome density

128.

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

129.

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

130.

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

131.

First Author  Co-author
John Delfino  Guipsy Lopez
Midway University  None

Relationship between fish biomass and eDNA in central Kentucky streams.

132.

First Author  Co-author
Ramon Guivas  Kyle Laufenburger  Ben Brammell
Asbury University  Asbury University  Asbury University
Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.

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

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

First Author
Lauren Mayton
Campbellsville University

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

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

Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

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

Posters: Engineering  Curris Center

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

Green Roofs: Synergistic Benefits to Energy and Environmental Building Design

First Author
Emery Ginger
Murray State University

Automated Control System For Photo-bioreactor

40.
Biomass Stove Design Project: Automated Fuel Feeder System

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

First Author
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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.)

First Author
Nathan Rayens
University of Kentucky

Co-author
Tongguang Zhai
University of Kentucky

Co-author
Pei Cai
University of Kentucky

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

Posters: Geography

Curris Center

Chair: Buddhi Gyawali
Secretary: Christopher Day

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

First Author
Kenneth Hancock
Murray State
University

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

First Author
<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Aman Bhatta</td>
<td>Saaruj Khadka</td>
<td>Bijesh Mishra</td>
<td>Buddhi Gyawali</td>
<td>Prabisha Shrestha</td>
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<td>KYSU</td>
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<td>Kentucky State University</td>
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<tr>
<td></td>
<td>Jeremy Sandifer</td>
<td>Tilak Shrestha</td>
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<td></td>
<td>Kentucky State University</td>
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</table>

**Land Cover Change Assessment in Five Major Watersheds of Central Kentucky**

**Posters: Geology**

**Curris Center**

Chair: Ann Harris  
Secretary: David Dockstader

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

**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

Effect of select phytochemicals on salivary and urinary pH

139.
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Ralphiel Payne</td>
<td>Sydney Leisure</td>
</tr>
<tr>
<td>Kentucky Wesleyan College</td>
<td>Kentucky Wesleyan College</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
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<tr>
<td>Kentucky State</td>
<td>Changzheng Wang</td>
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<td>University</td>
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<td>University</td>
<td>Kentucky State</td>
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Examining the Expression and Function of Septin Proteins in Human Pancreatic Cancer Cells

<table>
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<tr>
<th>First Author</th>
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<tr>
<td>Danielle Upton</td>
<td>Maiyon Park</td>
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<td>UPIKE</td>
<td>Valerie Dixon</td>
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<td>Zachariah Slattery</td>
</tr>
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Health Impact of a Shared Use Path in Rural Appalachia: A Pilot Study

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Louisa Summers</td>
<td>Scott Heggen</td>
</tr>
<tr>
<td>Berea College</td>
<td>Christopher Harris</td>
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<tr>
<td>Berea College</td>
<td>Daryl Sullivan</td>
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<td>Berea College</td>
<td>Peter Hackbert</td>
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Immunogenicity of Novel Vaccines for Hepatitis C Virus

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<th>First Author</th>
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<tr>
<td>Donniesha Mason</td>
<td>Ashley Wentworth</td>
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<tr>
<td>Northern Kentucky University</td>
<td>Reese Triana</td>
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<td>Northern Kentucky University</td>
<td>Joseph Mester</td>
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Measurement of Influenza Severity in Tennessee Hospitalized Patients, 2016-2017

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<th>First Author</th>
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<tr>
<td>Allison Harper</td>
<td>Tiffanie Markus</td>
</tr>
<tr>
<td>Vanderbilt University</td>
<td>Gail Hughett</td>
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<td>Vanderbilt University</td>
<td>Danielle Ndi</td>
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<td>Vanderbilt University</td>
<td>Karen Leib</td>
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<td>H. Keipp Talbot</td>
<td>Vanderbilt University</td>
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</table>

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

Nikitha Rajendran
Gatton Academy, Western Kentucky University

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

Bisola Asaolu
Kentucky State University

Using engineered zinc finger proteins to detect pathogen-specific DNA

Caleb Sedlak
Department of Chemistry WKU

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

Kandis Arlinghaus
Bellarmine University

Inactivation of Fungal Spores with Heat and UVC

Colin Hartman
Northern Kentucky University

Posters: Microbiology
Curris Center

Friday, November 3, 2017 5:00pm - 8:00pm
**Mycobacteriophages: Inky and Spock**

151.

<table>
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<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Moria Magre</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
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<td>Spalding University</td>
<td>Spalding University</td>
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**Antifungal Endophytes as a Source of Novel Bioactive Compounds**

152.

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Katie Sawvell</td>
<td>John Carmen</td>
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<td>Northern Kentucky University</td>
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**Production of hydrogen peroxide as a virulence factor by Mycoplasma mycoides subspecies capri**

153.

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Zackery Newton</td>
<td>Rachel Pritchard</td>
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<td>Kentucky Wesleyan College</td>
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**The Prevalence of Bacteria Resistant to Vancomycin and Colistin in Waters Around Louisville**

154.

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<th>First Author</th>
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<tr>
<td>Rachel Mahbubani</td>
<td>Amy Priest</td>
<td>Annie Koenig</td>
<td>Easton Ford</td>
<td>Doug Krauth</td>
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<td>Deborah Yoder-Himes</td>
<td>Paul Himes</td>
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**Isolation and Characterization of the Mycobacteriophage Acquire49**

155.

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<th>First Author</th>
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<tr>
<td>Charles Mosley</td>
<td>Tyler Burton</td>
<td>John Starnes</td>
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<td>Somerset Community College</td>
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**Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates**

156.

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<td>Zaria Elery</td>
<td>John Carmen</td>
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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)

Posters: Physics and Astronomy
Curris Center

Comparison of Period Finding Techniques to Identify RR Lyrae Stars

Friday, November 3, 2017 5:00pm - 8:00pm
<table>
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<th>Title</th>
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<tbody>
<tr>
<td>Electromagnetic Wave Motion Around a Black Hole</td>
<td>Amanda Manning</td>
<td>Sharmanthie</td>
<td>Northern Kentucky</td>
<td>University</td>
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<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>
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<tr>
<td>Gold and Silver Nanoparticles Decorated Graphene as 'smart' SERS</td>
<td>Alexander Banaszak</td>
<td>Tyler Smith</td>
<td>Sanju Gupta</td>
<td>Western Kentucky</td>
<td>University</td>
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<tr>
<td>Large-Area Graphene Membranes and Mesoporous Deionization Electrodes</td>
<td>Alex Henson</td>
<td>Brendan Evans</td>
<td>Sanju Gupta</td>
<td>WKU Department of Physics and</td>
<td>University</td>
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<tr>
<td>Nanoparticles-grafted functionalized graphene coated with</td>
<td>Romney Meek</td>
<td>Sanju Gupta</td>
<td>WKU Department of Physics and</td>
<td>Astronomy</td>
<td>WKU Department of Astronomy</td>
</tr>
<tr>
<td>Surface Functionality Of Graphene-family Nanomaterials On Electronic</td>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
<td>Physics and</td>
<td>Western Kentucky</td>
<td>Astronomy</td>
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<td>and Phononic Properties For Applied Electrochemistry</td>
<td>University</td>
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</table>
58. **Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GexSe1-x Glass System**

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

59. **The Study of Light Paths Around Black Holes**

   **First Author**  
   John Adamick  
   **Co-author**  
   John Rademacher  
   **Co-author**  
   Chari Ramkumar  
   **Co-author**  
   Wayne Bresser  
   **University**  
   Northern Kentucky University  
   **University**  
   Northern Kentucky University  
   **University**  
   Northern Kentucky University

60. **Posters: Physiology and Biochemistry**

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

   **Curris Center**

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

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

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

   **Developing TALE proteins as a sensor for detecting pathogens**

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

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

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

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

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

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

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

First Author: Elizabeth Grau  
University of Kentucky  
Co-author: Alec Bradley  
University of Kentucky  
Co-author: Danielle Cantrell  
University of Kentucky  
Co-author: Samantha Eversole  
University of Kentucky  
Co-author: Carolyn Grachen  
University of Kentucky  
Co-author: Kaylee Hall  
University of Kentucky  
Co-author: Claire Kinmon  
University of Kentucky  
Co-author: Paula Ortiz Guerrero  
University of Kentucky  
Co-author: Bhavik Patel  
University of Kentucky  
Co-author: Robin Cooper  
University of Kentucky

# Investigating the Synergistic Effects of Two Curcuminoids and Cisplatin on Cancer Cell Migration and ROS Release

First Author: Blaine Patty  
Western Kentucky University  
Co-author: Matthew Millay  
Western Kentucky University  
Co-author: Jerry Monroe  
Western Kentucky University  
Co-author: Michael Smith  
Western Kentucky University

# MK-801, a NMDA antagonist, reverses scopolamine-induced behavioral deficits.

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

# Pharmacological identification of cholinergic receptor subtypes in Drosophila

First Author: Eashwar Somasundaram  
University of Kentucky  
Co-author: Aya Omar  
University of Kentucky  
Co-author: Cole Malloy  
NIH  
Co-author: Robin Cooper  
University of Kentucky
The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.

First Author
Alex Stanback
University of Kentucky

Co-author
Hunter Maxwell
uky

Co-author
Clare Cole
uky

Co-author
Katherine Johnson
uky

Co-author
Jenni Ho
uky

Co-author
La Shay Byrd
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Co-author
Samantha Danyi
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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
Curris Center

Can nicotine improve scopolamine-induced behavioral deficit?

First Author
Brianna Ward
Morehead State

Co-author
Elizabeth Collins
Morehead State

Co-author
Ilsun White
Morehead State

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

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

What influences recognition of emotion among college students

First Author
Shannon Mapes
Morehead State

Co-author
Suzanne Savard
Morehead State

Co-author
Ilsun White
Morehead State

Co-author
Kinetta Crisp
Morehead State

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

180.
Implicit Gender Bias, Commercials, and Cooperation.

First Author
Rick Holland
Berea College

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

First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony

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

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

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

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

First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?
The POGIL Approach to Teaching
187.

First Author
Lucas Collett
Berea College

Using the POGIL Approach in Non-Stem Disciplines
188.

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

Preparing K-8 teachers to utilize learning progressions to teach properties of materials
189.

First Author
Martin Brock
Eastern Kentucky University

Dietary effects on behaviors for Drosophila: behaviors, survival and physiological responses.
171.

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

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

First Author: Talon Garman
Murray State University

Co-author: Laura Sullivan-Beckers
Murray State University

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

First Author: Katherine Cappel
Campbellsville University

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

First Author: Abigail Glass
Murray State University

Co-author: Rachel Racicot
Vanderbilt University

Co-author: Michelle Casey
Murray State University

Co-author: Simon Darroch
Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author: Natalie Mercer
Kentucky Wesleyan College

Co-author: Shannon Finerty
Kentucky Wesleyan College

Co-author: Michelle Casey
Murray State University

Co-author: Simon Darroch
Vanderbilt University

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author: Benjamin Conkright
Western Kentucky University

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!

Saturday, November 4, 2017  7:30am - 10:30am

Coffee & Tea

Crows Nest, Curris Center

Coffee & Tea

Blackburn 2nd floor lobby

Saturday, November 4, 2017  7:30am - 12:00pm

Practice Room for Oral Presentations

Cumberland Room, Curris Center

Saturday, November 4, 2017  7:30am - 2:30pm

Practice Room for Oral Presentations

Tennessee Room, Curris Center

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

Exhibitors tables

3rd floor of Curris Center

KBRIN (Kentucky Biomedical Research Infrastructure Network)

Kentucky Organization of Field Stations

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

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

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

Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes
8:45
Pancreatic beta cell dysfunction mediated by down regulation of Glis3
9:00
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 and Hypertension

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

10:30

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

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

10:45

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

Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone

11:00

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

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

11:15

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

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

Oral Presentations: Ecology and Environmental Sciences
Curris Center Theatre

Chair: Maheteme Gebremedhin
Secretary: Roberta Challener

Section meeting to follow presentations at 2:30

Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference

8:00

First Author
Audrey Alexander
Western Kentucky University  
Co-author  
Leslie North  
Western Kentucky University

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

8:15

First Author  
Ian Ries  
Kentucky State University  
Co-author  
Maheteme Gebremedhin  
Kentucky State University

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

8:30

First Author  
Elizabeth Malloy  
Eastern Kentucky University  
Co-author  
David Brown  
Eastern Kentucky University  
Stephen Richter  
Eastern Kentucky University  
Barbara Scott  
US Army Corps of Engineers  
Michelle Cook  
Kentucky Division of Water

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

8:45

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

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

9:00

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

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

First Author  
Rose Marks
### 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-authors**  
Leslie North  
*Center for Human GeoEnvironmental Studies at Western Kentucky*  
Vu Thi Minh Nguyet  
*Institute of Geological Sciences, Vietnam*  
Jason Polk  
*Center for Human GeoEnvironmental Studies at Western Kentucky*

9:30

### 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*

9:45

### 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*

10:15

### Prey Resource Partitioning Between Sympatric Bat Species

**First Author**  
Macy Kailing  
*Murray State University*

**Co-authors**  
Terry Derting  
*Murray State University*  
Gary ZeRuth  
*Murray State University*

10:30

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

**First Author**  
Hannah Elliott  
*Berea College*

**Co-authors**  
Muntathar Alshimary  
*Berea College*  
Rebecca Klem  
*Berea College*  
Jeremy Wilde  
*Berea College*  
Roy Scudder-Davis  
*Berea College*

10:45

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

**First Author**  
  
**Co-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 Hujbenc
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
A Composite View of the Composite Supernova Remnant 3C 396 (G39.2-0.3)

8:00

First Author
Thomas Pannuti
Morehead State University

Oral Presentations: Physics and Astronomy
Blackburn 312

Chair: Troy Messina
Secretary: Marilyn Akins

Section meeting to follow presentations
The CREAM instrument on the ISS
8:15
First Author
Scott Nutter
Northern Kentucky University

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

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

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

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

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

Streamlining Predictions of Temperature-Dependent Changes in Defect Properties of Intermetallic Compounds
9:45
First Author
Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258
10:15
First Author
Sierra Hauck
Morehead State
University
Co-author
Dirk Grupe
Morehead State
University

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

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

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

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

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

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

8:30

First Author: Jesus Berlanga
Western Kentucky University
Co-author: Matthew Nee
Western Kentucky University
Co-author: Philip J. Silva
USDA - ARS

Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy

8:45

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

The removal of organic pollutants through buoyant photocatalyst

9:00

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

Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation

9:15

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

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

9:30

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

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

Chair: Jean Gumirakiza
Section meeting to follow presentations

Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw
8:15

First Author
Srijana Thapa Magar
Kentucky State University

Co-author
Kirk Pomper
Kentucky State University

Co-author
Jeremiah Lowe
Kentucky State University

Co-author
Sheri Crabtree
Kentucky State University

Enzymes as Indicators of Soil Microbial Activity at three Locations in Kentucky
8:30

First Author
GEORGE ANTONIOUS
KENTUCKY STATE UNIVERSITY

Assessing the nutritional value of novel soybean products in the diet of Atlantic salmon (Salmo salar L.)
8:45

First Author
James Schwartz
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

Co-author
Waldemar Rossi
Kentucky State University

Co-author
Katerina Kousoulaki
Nofima

Responses of juvenile largemouth bass (Micropterus salmoides) to dietary EPA and DHA rich oils
9:00

First Author
Amit Yadav
Kentucky State University

Co-author
Waldemar Rossi
Kentucky State University

Co-author
Hab Andemichael
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

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

9:30

First Author
Emily Cook
Murray State University

Co-author
Lin Handayani
Murray State University

Co-author
Jessica Pafford
Murray State University

Co-author
Steve Still
Murray State University

Co-author
John Grove
University of Kentucky

Co-author
Mark Coyne
University of Kentucky

Co-author
Ann Freytag
University of Kentucky

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

9:45

First Author
Sathya Govindasamy
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Mamata Bashyal
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

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

10:00

First Author
Mamata Bashyal
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Sathya Govindasamy
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

10:30

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

10:45

First Author: Gagan Kolimadu  
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  
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  
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  
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  
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
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
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<tbody>
<tr>
<td>JEAN DOMINIQUE GUMIRAKIZA</td>
<td>Thomas Kingery</td>
<td>Stephen King</td>
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<td>Western Kentucky University</td>
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</table>

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

1:30

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Audrey Barnett</td>
<td>Dominique Gumirakiza</td>
</tr>
<tr>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
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</tbody>
</table>

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

1:45

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Thomas Mason</td>
<td>Ken Semmens</td>
</tr>
<tr>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
</tr>
</tbody>
</table>

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

2:00

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Shreya Patel</td>
<td>Avinash Tope</td>
</tr>
<tr>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Oguz Sariyildiz</td>
<td>Buddhi Gyawali</td>
</tr>
<tr>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
</tr>
</tbody>
</table>

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

Oral Presentations: Geology

Blackburn 228

Chair: Ann Harris
Secretary: David Dockstader

Section meeting to follow presentations

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

9:00
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Co-author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geochemical characteristics and storm dynamics of surface waters and</td>
<td>Randal Roberson, Michelle Casey</td>
<td>Murray State, University</td>
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<tr>
<td>groundwater at Eastern Kentucky University's Meadow</td>
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<td>9:15</td>
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<tr>
<td>Patterns of nutrient export for a typical non-point source, Meadowb</td>
<td>Reid Buskirk, Walter Borowski, Jonathan Malzone</td>
<td>Eastern Kentucky, University</td>
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<td>rook Farm, Madison County, Kentucky</td>
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<tr>
<td>How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetop</td>
<td>Selsey Stribling, Jonathan Malzone</td>
<td>Eastern Kentucky, University</td>
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<tr>
<td>s in Kentucky's Daniel Boone National Forest?</td>
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<tr>
<td>Modeling the groundwater storage and the groundwater recharge rate of</td>
<td>Addison Bell, Jonathan Malzone</td>
<td>Eastern Kentucky, University</td>
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<tr>
<td>an ephemeral wetland with Hydrus-1D</td>
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<tr>
<td>Hydrograph Separation of Storm Flows in a Landscape with Thin Soil,</td>
<td>Laura Kelley, Sophia Chan, Jonathan Malzone, Walter</td>
<td>Eastern Kentucky, University</td>
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<tr>
<td>Meadowbrook Farm, KY</td>
<td>Borowski</td>
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<tr>
<td>10:30</td>
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<tr>
<td>Runoff generation in an ephemeral agricultural watershed with thin</td>
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<td>soil</td>
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</table>
Saturday, November 4, 2017  9:00am - 11:15am

**Oral Presentations: Psychology**

Blackburn 155

Section meeting to follow presentations

---

**Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.**

9:00

*First Author*  
Aaron Clark  
*Berea College*

*Co-author*  
Dave Porter  
*Berea College*

---

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

9:15

*First Author*  
Laura Hopkins  
*Centre College*

*Co-author*  
Nicole Stumpp  
*Centre College*

---

**The Effects of Gender, Task Difficulty, and Emotional Arousal on Perceptual Sensitivity**

9:30

*First Author*  
Enkhjin Enkhbold  
*Berea College*

---

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

9:45

*First Author*  
Karina Cole  
*Morehead State University*

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

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

---

**Initial Validation of the Hexaflex Process Assessment Instrument.**

10:15

*First Author*  
Aaron Ellis  
*Morehead State University*

*Co-author*  
John Blackledge  
*Morehead State University*

*Co-author*  
Shelby Humphrey  
*Morehead State University*

*Co-author*  
Kellen Crager  
*Morehead State University*

*Co-author*  
Isabella Gearhart  
*Morehead Statue University*

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

10:30

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Joseph Reese</td>
<td>Mary Blanton</td>
<td>Ashley Ball</td>
<td>Kory Phelps</td>
<td>Shari Kidwell</td>
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<tr>
<td>Morehead State University</td>
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</table>

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

10:45

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Hunter Gatewood</td>
<td>Lynn Haller</td>
</tr>
<tr>
<td>Morehead State University</td>
<td>Morehead State University</td>
</tr>
</tbody>
</table>

### Peer Mentoring Circles for Women STEM Faculty at Murray State University

11:00

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<th>Co-author</th>
</tr>
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<tbody>
<tr>
<td>Maeve McCarthy</td>
<td>Paula Waddill</td>
<td>Robin Zhang</td>
<td>Echo Wu</td>
<td>Steve Cobb</td>
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<tr>
<td>Murray State University</td>
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**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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Erskine</td>
<td>Jordan Dowdy</td>
<td>Stephen Denny</td>
<td>M Saleem</td>
<td>Akhtar Mahmood</td>
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<td>Bellarmine University</td>
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<tr>
<td>Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology</td>
<td>9:15</td>
<td>Katherine Ray King</td>
<td>Linda Fuselier</td>
<td>Justin McFadden</td>
<td>University of Louisville</td>
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<tr>
<td>Hearing eclipses: Making astronomy events accessible to visually-impaired students.</td>
<td>9:30</td>
<td>Wilson Gonzalez-Espada</td>
<td>Laura Parker</td>
<td>Adam Stockhausen</td>
<td>Wanda Diaz-Merced</td>
</tr>
<tr>
<td>Should We Lie To Our Students?</td>
<td>10:00</td>
<td>Andy Martin</td>
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<tr>
<td>Adaptive Learning Courseware in Majors Biology Course</td>
<td>10:15</td>
<td>Andy Martin</td>
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<tr>
<td>Strengthening Student Foundations: Strategies for Active-Learning Classrooms</td>
<td>10:30</td>
<td>Kevin Revell</td>
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<tr>
<td>LOW-COST STUDENT RESEARCH IN A NON-MAJORS BIOLOGY LABORATORY CLASS</td>
<td>10:45</td>
<td>Norm Strobel</td>
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Saturday, November 4, 2017  9:30am - 10:30am

Breaks
Staggered in sessions - check schedule

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

Oral Presentations: Engineering
Ohio Room, Curris Center

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

Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts
10:00
First Author
Jordan Garcia
University of Kentucky
Co-author
Tyler Stoffel
University of Kentucky
Co-author
John Schmidt
University of Kentucky
Co-author
Alexander Bolin
University of Kentucky
Co-author
David Lu
University of Kentucky
Co-author
Charles Lu
University of Kentucky

Imaging of the spinal cord in pediatric patients.
10:15
First Author
Bhavesh Ramkorun
Berea College
Co-author
Samantha By
Vanderbilt University
Co-author
Aashim Bhatia
Vanderbilt University
Co-author
Bryson Reynolds
Vanderbilt University
Institute of Imaging Science
Co-author
Patrick Couture
Vanderbilt University
Medical Center
Co-author
Seth Smith
Vanderbilt University
Institute of Imaging Science

Hands-on Robotics Lab at Bellarmine University
10:30
First Author
Christopher Steitz
Bellarmine University
Co-author
Stephen Brown
Bellarmine University
Co-author
Akhtar Mahmood
Bellarmine University

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

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.

First Author
Nicholas McLetchie
University of Kentucky

Co-author
Maddison Hatton
University of Kentucky

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

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135

Chair: Kevin Revell
Secretary: Kyle Watson

Section meeting to follow presentations

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

First Author
Hongyan Gao
CHEMISTRY
DEPARTMENT,
WESTERN
KENTUCKY
UNIVERSITY

Co-author
Yan Cao
CHEMISTRY
DEPARTMENT,
WESTERN
KENTUCKY
UNIVERSITY

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

First Author
Mike Winchester
Western Kentucky
University

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

First Author
Ngo Fung Lee
Western Kentucky
University

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

First Author
Jessie Brown
Transylvania
University

Co-author
Amelia Dickey
Transylvania
University

Co-author
Elias Hanna
Transylvania
University

Co-author
Christopher Samaan
Transylvania
University

Co-author
Hannah Williams
Transylvania
University
The Synthesis of Heteroatom-activated Antibiotics: \(\beta\)-lactams

2:00

First Author
Jacob Nanney
Kentucky Wesleyan

Co-author
Kyle Watson
Kentucky Wesleyan

Visible Light Generation of High-Valent Iron-Oxo Intermediates

2:15

First Author
Malone Jonathan
WKU

Co-author
dharmesh Patel
WKU

Co-author
Tse-hong Chen
Purdue University

Co-author
Ka Wai Kwong
WKU

Oral Presentations: Health Sciences

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

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

1:00

First Author
Patrick Trainor
University of Louisville

Co-author
Samantha Carlisle
University of Louisville

Co-author
Shesh Rai
University of Louisville

Co-author
Andrew DeFilippis
University of Louisville

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

1:15

First Author
Samantha M. Carlisle
University of Louisville

Co-author
Patrick J. Trainor
University of Louisville

Co-author
Mark A. Doll
University of Louisville

Co-author
David W. Hein
University of Louisville

Oral Presentations: Mathematics

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

Chair: R. Douglas Chatham

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

Cumberland Room, Curris Center

Chair: Lingyu Huang  
Secretary: Joseph Mester

Section meeting to follow presentations

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

First Author
Alexander Lai
Kentucky State University

Identification of tRNA modification enzymes in higher eukaryotes via primer extension

First Author
Justen Mamaril
Northern Kentucky University

Physiological Characteristics of Five Bladder Cancer Cell Lines

First Author
Kyle Damen
Wood Hudson Cancer Research Laboratory

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

First Author
Bonnie Richmond
Wood Hudson Cancer Research Laboratory
The fluorescence quenching ability of graphene oxide as a platform for pathogenic double-stranded DNA sensing

First Author
Dat Thinh Ha
Western Kentucky University

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

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

First Author
Mason Gibson
Western Kentucky University
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>University</th>
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<tbody>
<tr>
<td>Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin</td>
<td>1:45</td>
<td>Mallory Cox</td>
<td>University of Louisville</td>
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<tr>
<td>Shifting Agriculture's Effects on Lemurs in a Malagasy Gallery Forest</td>
<td>2:00</td>
<td>Benjamin Freed</td>
<td>Nathanael Bartosch</td>
<td>Eastern Kentucky University</td>
</tr>
<tr>
<td>Cloud Computing for Hands-On Bioinformatics Education</td>
<td>1:15</td>
<td>Harrison Inocencio</td>
<td>Deavin Hester</td>
<td>University of Kentucky</td>
</tr>
<tr>
<td>Adaptive Topic Mining from Social Media Streams</td>
<td>1:30</td>
<td>Gopi Chand Nutakki</td>
<td>Olfa Nasraoui</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>BayesianGLasso: software for integrating a priori knowledge and empirical data utilizing a graphical model framework</td>
<td>1:45</td>
<td>Patrick Trainor</td>
<td>Andrew DeFilippis</td>
<td>University of Louisville</td>
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Saturday, November 4, 2017  1:15pm - 2:15pm
Password cracking performance testing comparing GPU vs CPU performance using Hashcat

First Author
Deven Rataiczak
Bellarmine University

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

Oral Presentations: Zoology

Mississippi Room, Curris Center

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

Botany and Zoology Section meetings to follow presentations

Phenotypic plasticity of mating calls in the katydid Neconocephalus triops

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

First Author
Samuel White
Murray State University
Co-author
Talon Garman
Murray State University
Co-author
Laura Sullivan-Beckers
Murray State University
Co-author
Emma Reasoner
Berea College
Co-author
Marah Zeidan
Berea College

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

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).

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

2:15

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