2017 Annual Meeting Program
November 3-4, 2017

Murray State University

Thank you to our Platinum Sponsor

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

Poster presentations are all on Friday

Oral Presentations are all on Saturday

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

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

KAS Business meeting
Mississippi Room, Curris Center

President: Darrin Smith

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

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

Poster presenters Check-In
3rd floor of Curris Center

Chair: Kevin Revell  Co-chair: ANGELA GUYTON

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

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

Tour - Biology Building
Meet in the lobby

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

Campus map

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

Tour - Chemistry Building
Meet in the lobby

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

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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

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Tour - New Institute of Engineering facility
Meet in the lobby

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

Campus map

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Judges conference room
Commonwealth Suite, Curris Center

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

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

61.

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

62.

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Dehydration of autumn olive berries for human consumption

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<td>Cecil Butler</td>
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Developing cold-hardy perennial ornamentals for Kentucky

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

65.

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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

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Eric Turley Kentucky State University
Quinn Heist Kentucky State University
Thomas Trivette Kentucky State University
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?

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Co-author
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Stephen King Western Kentucky University

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

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Landon Williams Murray State University
Blake Remmert Murray State University
iin Handayani Murray State University
Brian Parr Murray State University

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

First Author
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Clay Smotherman Murray State University
Connor Moore Murray State University

The Impact of Cropping Systems on Soil properties in Fredonia and Princeton Kentucky
Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil

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Co-author
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Co-author
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Kentucky State University

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

First Author
Kelly Hagan
Asbury University

Co-author
Ray Smith
University of Kentucky

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

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

Co-author
Justin Cornett
University of Kentucky

Co-author
D. Nicholas McLetchie
University of Kentucky

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

First Author
Taylor Horton
Murray State University

Co-author
Dayle Saar
Murray State University

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

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

**Posters: Cellular and Molecular Biology**

Curris Center

**Chair:** Emily Shifley  
**Secretary:** Gary ZeRuth

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

78.

**First Author**  
Hasan Salim  
**WKU**

---

**Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye**

79.

**First Author**  
Hadley Neal  
**KBRIN**

---

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

80.

**First Author**  
Dane Flinchum  
**Western Kentucky University**

---

**Examining Gene Expression during Xenopus Embryonic Development**

81.

**First Author**  
Maria Stewart  
**Northern Kentucky University**

---

**Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster**

82.
Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

First Author
Lee Kendall
Centre College

Co-author
Samuel White
Murray State University

Co-author
Douglas Harrison
University of Kentucky

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

First Author
Amber Follin
Biology Department, Berea College

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Kyla Britson
Neuroscience and Neurology, Johns Hopkins Medicine

Co-author
Tom Llyod
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The effect of benzo[a]pyrene on motor function in neonatal mice

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Co-author
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Co-author
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Northern Kentucky University

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

First Author
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Lan Wu
Vanderbilt University Medical Center

Co-author
Luc Van Kaer
Vanderbilt University Medical Center

Co-author
Luke Postoak
Vanderbilt University Medical Center

Co-author
Margaret Sabourin
Vanderbilt University Medical Center

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

First Author
Kendall Collins
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<tr>
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<td>Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos</td>
<td>Conner Hounshell</td>
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<td>Sex Specific Gene Control of Cardiac Fibrosis</td>
<td>Bruce Northington</td>
<td>Jennifer Doyle</td>
<td>Moria Magre</td>
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<td>Annotation of Spock and Inky Mycobacteriophages</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
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<td>Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins</td>
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<td>Barnabas Kim</td>
<td>Moon-Soo Kim</td>
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<td>Functional and genetic studies of the tRNA modification protein Trm732 in yeast</td>
<td>Hannah Sizemore</td>
<td>Daisy DiVita</td>
<td>Julia Ziebro</td>
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<td>Exploring Small Molecule Drugs Binding To Ribosomal Protein L11</td>
<td>Swetaben Patel</td>
<td>Michal Hetman</td>
<td>Lukasz Slomnicki</td>
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<td>IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY</td>
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NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells

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<th>Morgan Bahnsen</th>
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SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis

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<th>Thomas Case</th>
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Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days

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<tr>
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Identification of the enzyme responsible for the acp3U modification in bacteria

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<td>Jamison Burchett</td>
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Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces cerevisiae

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

**Posters: Chemistry: Analytical & Physical**

Curris Center

Chair: Harry Fannin  
Secretary: Bommann Loganathan

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**Analysis of Protein Conformations Using Computer Simulations**

1.

*First Author*
Jonnah McManus  
*Western Kentucky University Chemistry / Gatton Academy*

---

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

2.

*First Author*
Clara Reasoner  
*Berea College*

*Co-author*
Amanda Siegel  
*Indiana University*

*Co-author*
Hiroki Yokota  
*Indiana University*

*Co-author*
Mangilal Agarwal  
*Indiana University*

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**Anaerobic Degradation of Tetracyclines in Agricultural Manure**

3.

*First Author*
Brandon Couch  
*Western Kentucky University*

*Co-author*
John Kasumba  
*Western Kentucky University*

*Co-author*
John Loughrin  
*usda*

*Co-author*
Eric Conte  
*Western Kentucky University*

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

4.

*First Author*
Allie Skees  
*Department of Chemistry, Murray State University*

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

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

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

5.

*First Author*
Maxwell Conte
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<td>Polyunsaturated Fatty Acid Profile in Hemp-Fed Chicken Egg</td>
<td>Cole Hulen</td>
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<td>Department of Agriculture Science, Hutson School of Agric</td>
<td>Kentucky 21st Century Agriculture</td>
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<td>From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation</td>
<td>Kevin Pierce</td>
<td>Alex Thome</td>
<td>Jill Cao</td>
<td>Sebastian Jezowski</td>
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<td>The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index</td>
<td>Rachel Bracker</td>
<td>Lori Wilson</td>
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<td>Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA</td>
<td>Tomas Flores</td>
<td>Jay Baltisberger</td>
<td>Sara Garner</td>
<td>Shay Steele</td>
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<td>Brendan Evans</td>
<td>Alex Henson</td>
<td>Sanju Gupta</td>
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### 12. Comparison of Inorganic Elemental Concentrations in Water Samples and Occurrence of Zebra Mussels in Kentucky Lake, USA

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<th>Co-author</th>
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<td>Henry Pruett</td>
<td>Bikram Subedi</td>
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<tr>
<td>Co-author</td>
<td>Bommanna</td>
<td>Loganathan</td>
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### 13. ZrO2-?-Cyclodextrin (CD) catalyzed synthesis of 2,4,5-trisubstituted imidazoles and 1,2-disubstituted benzimidazoles u

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>K.N. Thimmaiah</td>
<td>Mark Montgomery</td>
<td>Padma Thimmaiah</td>
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<td>Northwest MS</td>
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<td>Community College</td>
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<tr>
<td>Co-author</td>
<td>Ray Cox</td>
<td>Ashish Pagare</td>
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<tr>
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### 14. Water Purification using Magnetic Biochar

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<tr>
<th>First Author</th>
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<tr>
<td>Anne Carlisle</td>
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<td>University</td>
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### 16. A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms

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<th>First Author</th>
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<td>Poster Title</td>
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<tr>
<td>Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification</td>
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<tr>
<td>First Author: Demetrius Davis</td>
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<tr>
<td>Posters: Chemistry: Organic/Inorganic</td>
</tr>
<tr>
<td>Application of metal-organic framework materials in dye-sensitized solar cells</td>
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<tr>
<td>First Author: Ryan Boggess</td>
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<tr>
<td>Effect of Iron charge state on P450 BM3 stability</td>
</tr>
<tr>
<td>First Author: Catherine Denning</td>
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<tr>
<td>Fluorescence properties of metal-organic frameworks containing ruthenium and copper ions</td>
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<tr>
<td>First Author: Bangbo Yan</td>
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<tr>
<td>Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors</td>
</tr>
<tr>
<td>First Author: Erin O'Donnell</td>
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</table>
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

First Author
Haiyan Liu
Western Kentucky University

Light Activated Ruthenium Peptide Hybrids

First Author
Lydia Millard
Kentucky State University

N-Heterocyclic Carbene Complexes

First Author
Mario Chavarria
Co-author
Cheyenne Haynes
Berea College

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

First Author
Vincent Kelly
Co-author
Robert Pace
Kentucky State University
University of Kentucky

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

First Author
Hannah Brooks
Co-author
Bangbo Yan
Western Kentucky University

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

First Author
Kelsey Huff
Co-author
Ryan Loe
University of Kentucky's Center for Applied Energy Research

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

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

Co-author
Mark Crocker
### Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Kn?lker-type Catalyst

27.

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

28.

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

29.

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

30.

<table>
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<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tbody>
<tr>
<td>Erin Calvert</td>
<td>Kasey Clear</td>
<td>Sebastian Jezowski</td>
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<tr>
<td>Murray State</td>
<td>Murray State</td>
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<td>University</td>
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</table>

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

31.

<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>Benjamin Kash</td>
<td>Haiyan Liu</td>
<td>Rui Zhang</td>
</tr>
<tr>
<td>Gatton Academy, Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
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</table>

### Synthesis and Properties of a Ruthenium Polypyridyl Complex

32.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Hannah Cope</td>
<td>Bangbo Yan</td>
</tr>
<tr>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
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<td>University</td>
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</tbody>
</table>
Synthesis of Cleavable Acetal Antibody Drug Conjugate

First Author
Luis Salazar Guzman
Berea College

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

First Author
Charles Greif
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Synthesis of Poly(4-hydroxy styrene) by Living Anionic Polymerization for Block Copolymer Lithography

First Author
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Synthesizing Cleavable Acetal Antibody Drug Conjugates

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

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

Posters: Computer and Informational Sciences
Curris Center

Incorporating WeBWorK in a Mathematics Classroom

First Author
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Co-author
Kyle Besing
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Open Science Grid (OSG) Tier2 Grid Site at Bellarmine University for the LSST (Large Synoptic Survey Telescope) Project.

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

First Author
Jacob Pease
Murray State University

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

First Author
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Co-author
Oguz Sariyildiz
Kentucky State University
Co-author
Mamata Bashyal
Kentucky State University
Co-author
Tony Silvernail
Runchero Farms
Co-author
John Sedlacek
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Co-author
Shawn Lucas
Kentucky State University

Ant communities of temperate tree canopies along an urban-rural gradient

First Author
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Co-author
Benjamin Adams
University of Louisville
Co-author
Keegan Thompson
University of Louisville
Co-author
Chloe Lash
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Co-author
Stephen Yanoviak
University of Louisville

Is it enough? Passive Restoration in a Western Colorado Stream

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

111.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Spencer Phillips</td>
<td>Nathan Tillotson</td>
<td>Ben Tumolo</td>
<td>Michael Flinn</td>
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### Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status

112.

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<tr>
<th>First Author</th>
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<tr>
<td>Alishea Brown</td>
<td>Farida Olden</td>
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<td>Kentucky State</td>
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### Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees

113.

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<tr>
<td>Maria Shields</td>
<td>Christopher Frost</td>
<td>Stephen Yanoviak</td>
<td>University of Louisville</td>
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### Driver bias in intentional wildlife-vehicle collisions

114.

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<td>Mary Wilkinson</td>
<td>Terry Derting</td>
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### Using Hardiness Zones to Determine Phenological Variation

115.

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<td>Whitney Buechler</td>
<td>Bassil El Masri</td>
<td>Paul Gagnon</td>
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### Assessing Stormwater Impacts and Hydrogeological Influences on Water Quality in an Urban Karst Lake

116.

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<tr>
<td>Rachel Kaiser</td>
<td>James Shelley</td>
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<td>Western Kentucky</td>
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<td>University</td>
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</table>

Is aboveground pathogen load influenced by belowground pathogen presence, plant community
### Diversity, or Precipitation

**First Author**  
Aspen Workman  
*University of Louisville*

**Co-author**  
Claudia Stein  
*Washington University in St. Louis*

**Co-author**  
Scott Mangan  
*Washington University in St. Louis*

---

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

**First Author**  
Jacob Lawson  
*University of Louisville*

**Co-author**  
Margaret Carreiro  
*University of Louisville*

**Co-author**  
Lindsay Nason  
*University of Louisville*

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

**Co-author**  
Amy Cherry  
*University of Louisville*

---

### Sensing and Educating the NEXUS to Sustain Ecosystems (SENSE): A Kentucky-West Virginia Partnership

**First Author**  
David White  
*Murray State University*

**Co-author**  
Susan Hendricks  
*Murray State University*

**Co-author**  
Mindy Armstead  
*Marshall University*

**Co-author**  
Bill Ford  
*University of Kentucky*

**Co-author**  
Jimmy Fox  
*University of Kentucky*

---

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

**First Author**  
Michaela Lambert  
*University of Kentucky*

---

### Exploring the Impact of Body Size Variation on Trophic Cascades Using Mole Salamanders (Ambystoma talpoideum)

**First Author**  
Robin Baker  
*Murray State University*

**Co-author**  
Cy Mott  
*Eastern Kentucky University*

**Co-author**  
Katelyn May  
*Murray State University*

**Co-author**  
Howard Whiteman  
*Murray State University*

---

### Ability of Bald Cypress (Taxodium distichum) to Enhance Aquatic Structure in Backwater Embayments of Reservoirs

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

First Author: Sarah Bissmeyer  
University: University of Louisville  
Co-authors: Chris Frost, Grace Freundlich

Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

First Author: Andrew Nesselroade  
University: Asbury University  
Co-authors: Ronald Sams, Cierla McGuire, Sumathi Sankaran-Walters, Mike McGrann, Malinda Stull, Ben Brammell

Caterpillar Predation Rates Across an Urban-Suburban Gradient

First Author: Amy Cherry  
University: University of Louisville  
Co-authors: Jacob Lawson, Lindsay Nason, Margaret Carreiro, Perri Eason

Proliferation of Zebra Mussels (Dreissena polymorpha) in Kentucky Lake during 2017

First Author: Michael Flinn  
University: Murray State University  
Co-authors: Melody Feden, Ben Ferguson, Bradley Hartman, Kayleen Parker, Spencer Phillips, Ivan Roe, Christy Soldo, Susan Hendricks
### Detection of Percopsis omiscomaycus (trout-perch) using eDNA in eastern Kentucky streams.

127.

<table>
<thead>
<tr>
<th>First Author</th>
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<tr>
<td>Andrew Nesselroade</td>
<td>Harold Brabon</td>
<td>David Eisenhour</td>
<td>Brooke Washburn</td>
<td>Lynn Eisenhour</td>
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<td>Morehead State University</td>
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Co-author

Ben Brammell

Asbury University

### Ant tarsal adhesion on oak leaves differing in trichome density

128.

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

129.

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<td>Virginia Nunamaker</td>
<td>Chris Nunamaker</td>
<td>Steve Yanoviak</td>
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<td>University of Louisville</td>
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### Assessing the diet of Perimyotis subflavus and Nycticeius humeralis bats before and after the occurrence of WNS

130.

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

131.

<table>
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<th>First Author</th>
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<tr>
<td>John Delfino</td>
<td>Guipsy Lopez</td>
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<tr>
<td>Midway University</td>
<td>None</td>
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### Relationship between fish biomass and eDNA in central Kentucky streams.

132.

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

First Author
Kayleen Parker
Murray State University

Co-author
Claire Fuller
Murray State 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
Jeffrey Fox
University of Louisville

Co-author
Chris Frost
University of Louisville

Co-author
Steve Yanoviak
University of Louisville

Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

First Author
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Northern Kentucky University

Co-author
Sarah Farrar
Northern Kentucky University

Co-author
Kimberly Wolfe
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Co-author
Steven Castellano
Northern Kentucky University

Co-author
Richard Boyce
Northern Kentucky University

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

Posters: Engineering

Curris Center

Chair: Aaron Daley
Secretary: shen liu

Green Roofs: Synergistic Benefits to Energy and Environmental Building Design

First Author
Emery Ginger
Murray State University

Automated Control System For Photo-bioreactor

First Author

Biomass Stove Design Project: Automated Fuel Feeder System

41.
First Author
Chance Davice
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Co-author
Mark Mahoney
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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

42.
First Author
Tyler Stoffel
University of Kentucky

Co-author
Jordan Garcia
University of Kentucky

Co-author
Charles Lu
University of Kentucky

Co-author
Johnson Joseph
Fiat Chrysler Automobiles

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

43.
First Author
Nathan Rayens
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Co-author
Tongguang Zhai
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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

44.
First Author
Kenneth Hancock
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Unmarked Burial Identification at the Frankfort, KY Cemetery using Ground Penetrating Radar and LIDAR data

45.
First Author
Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

First Author
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KYSU

Co-author
Saaruj Khadka
KYSU

Co-author
Bijesh Mishra
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Co-author
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Co-author
Jeremy Sandifer
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Co-author
Tilak Shrestha
Kentucky State University

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

First Author
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Co-author
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Northern Kentucky University

Co-author
Hawkins Warner
Northern Kentucky University

Co-author
Zachary Ivey
Northern Kentucky University

Co-author
Tim Faller
Northern Kentucky University

Co-author
Sarah Johnson
Northern Kentucky University

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

First Author
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Murray State University: Department of Geosciences

Co-author
Gary Stinchcomb
Murray State University:

Department of Geosciences

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

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

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

First Author
Molly Karnes
Murray State University

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

Posters: Health Sciences
Curris Center

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

First Author
Carter Waugh
Kentucky Biomedical Research Infrastructure Network

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

First Author
Frederick Bebe
Kentucky State University

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

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

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

Effect of select phytochemicals on salivary and urinary pH

First Author
Frederick Bebe
Kentucky State University

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

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

Co-author
Orien Tulp
USAT College of Medicine & graduate School
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Effects of salt on the textural characteristics of fish meatballs prepared from deboned Asian carp meat</td>
<td>Ralphiel Payne</td>
<td>Sydney Leisure</td>
<td>Kentucky Wesleyan College</td>
<td>Kentucky Wesleyan</td>
<td>Kentucky Wesleyan College</td>
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<tr>
<td>Examining the Expression and Function of Septin Proteins in Human Pancreatic Cancer Cells</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
<td>Changzheng Wang</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
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<tr>
<td>Health Impact of a Shared Use Path in Rural Appalachia: A Pilot Study</td>
<td>Danielle Upton</td>
<td>Maiyon Park</td>
<td>Valerie Dixon</td>
<td>Zachariah Slattery</td>
<td>KYCOM-UPIKE</td>
</tr>
<tr>
<td>Immunogenicity of Novel Vaccines for Hepatitis C Virus</td>
<td>Donniesha Mason</td>
<td>Ashley Wentworth</td>
<td>Reese Triana</td>
<td>Joseph Mester</td>
<td>Employer</td>
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<tr>
<td>Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptiv</td>
<td>Louisa Summers</td>
<td>Scott Heggen</td>
<td>Christopher Harris</td>
<td>Daryl Sullivan</td>
<td>Peter Hackbert</td>
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</tr>
</tbody>
</table>
The Relationship Between Maternal Physical Activity and Infant Motor Development
146.
First Author  Co-author  Co-author
Manoj Pathak  Cindy Austin  Simon Thompson
Murray State  Trauma & Burn  Department of Trauma
University  Research, Mercy and Burn, Mercy

Urinary 8-OHdG as a Non-Invasive Biomarker of Oxidative Stress in Metabolic Syndrome (MetS)
147.
First Author  Co-author
Nikitha Rajendran  Rachel Tinius
Gatton Academy, Western Kentucky University

Using engineered zinc finger proteins to detect pathogen-specific DNA
148.
First Author  Co-author
Bisola Asaolu  Avinash Tope
Kentucky State University  Kentucky State University

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

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

Posters: Microbiology

Curris Center

Chair: Lingyu Huang  Secretary: Joseph Mester

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

**First Author** | Co-author | Co-author  
--- | --- | ---  
Moria Magre | Brittany Farnsley | Jennifer Doyle  
Spalding University | Spalding University | Spalding University

### Antifungal Endophytes as a Source of Novel Bioactive Compounds

**First Author** | Co-author  
--- | ---  
Katie Sawvell | John Carmen  
Northern Kentucky University

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

**First Author** | Co-author  
--- | ---  
Zackery Newton | Rachel Pritchard  
Kentucky Wesleyan College

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

**First Author** | Co-author | Co-author | Co-author | Co-author | Co-author  
--- | --- | --- | --- | --- | ---  
Rachel Mahbubani | Amy Priest | Annie Koenig | Easton Ford | Doug Krauth | Deborah Yoder-Himes | Paul Himes  
University of Louisville | University of Louisville | University of Louisville | University of Louisville | University of Louisville | University of Louisville

### Isolation and Characterization of the Mycobacteriophage Acquire49

**First Author** | Co-author | Co-author  
--- | --- | ---  
Charles Mosley | Tyler Burton | John Starnes  
Somerset Community College | Somerset Community College | Somerset Community College

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

**First Author** | Co-author  
--- | ---  
Zaria Elery | John Carmen  
Northern Kentucky University | University

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

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

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

Comparison of Period Finding Techniques to Identify RR Lyrae Stars
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<tr>
<td>Electromagnetic Wave Motion Around a Black Hole</td>
<td>Amanda Manning</td>
<td>Sharmanthie Fernando</td>
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<td>Analyzing Color Relations for RR Lyrae in KELT</td>
<td>Logan Hicks</td>
<td>Connor Edwards Tyler Labree Matthew Buelsing Nathan De Lee</td>
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<td>Gold and Silver Nanoparticles Decorated Graphene as 'smart' Surface Enhanced Raman Scattering (SERS) Platforms</td>
<td>Alexander Banaszak</td>
<td>Tyler Smith        Sanju Gupta</td>
<td>Western Kentucky University</td>
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<tr>
<td>Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination</td>
<td>Alex Henson WLefter Kentucky Department of Physics and Astronomy</td>
<td>Brendan Evans       Sanju Gupta</td>
<td>WKU Department of Physics and Astronomy WKU Department of Astronomy</td>
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<td>Nanoparticles-grafted functionalized graphene coated with nanostructured polyaniline layered nanocomposites as high-perf</td>
<td>Romney Meek Western Kentucky University</td>
<td>Sanju Gupta</td>
<td>Western Kentucky University</td>
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<tr>
<td>Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistr</td>
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</table>
Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GexSe1-x Glass System

The Study of Light Paths Around Black Holes

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

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

Developing TALE proteins as a sensor for detecting pathogens

Examining the role of muscarinic acetylcholine receptors in regulation of larval Drosophila melanogaster feeding and locomotion
### Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling

**First Author**  
Emily Altman  
**Georgetown College**

**Co-author**  
JoBeth Bingham  
**University of Pikeville**

**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**  
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**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**

**Co-author**  
Bhavik Patel  
**University of Kentucky**

### 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.

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<th>First Author</th>
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<tbody>
<tr>
<td>Alex Stanback</td>
<td>Hunter Maxwell</td>
<td>Clare Cole</td>
<td>Katherine Johnson</td>
<td>Jenni Ho</td>
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<td>La Shay Byrd</td>
<td>Samantha Danyi</td>
<td>Sushovan Dixit</td>
<td>Madan Subheeswar</td>
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<td></td>
<td>Maddie Stanback</td>
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Friday, November 3, 2017 5:00pm - 8:00pm

**Posters: Psychology**

**Curris Center**

Chair: Richard Osbaldiston  
Secretary: KatieAnn Skogsberg

Can nicotine improve scopolamine-induced behavioral deficit?

<table>
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<tr>
<th>First Author</th>
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<tr>
<td>Brianna Ward</td>
<td>Elizabeth Collins</td>
<td>Ilsun White</td>
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<td>Morehead State</td>
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Betta fish spontaneously use the combination of numerosity and surface area during discrimination learning

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

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

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<td>Suzanne Savard</td>
<td>Ilsun White</td>
<td>Kinetta Crisp</td>
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<tr>
<td>Implicit Gender Bias, Commercials, and Cooperation.</td>
<td>Rick Holland</td>
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<td>Berea College</td>
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<tr>
<td>Let's Face It: The Effects of Disclosure Type and Modality on Student Comfort</td>
<td>Caitlin Taulbee</td>
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<tr>
<td>Maternal reflective functioning and dyadic synchrony</td>
<td>Madison Raymer</td>
<td>Megan Conn</td>
<td>Morehead State University</td>
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<tr>
<td>Maternal trauma and parenting sensitivity: Implications for attachment-based interventions</td>
<td>Ashley Hamm</td>
<td>Madison Raymer</td>
<td>Morehead State University</td>
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<tr>
<td>The Effect of Noise, Intention, and Time of Day on Memory</td>
<td>Alicia Bedolla</td>
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<td>Berea College</td>
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<tr>
<td>Affect Perseverance or Affect Momentum?</td>
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### Posters: Science Education

**Curris Center**

<table>
<thead>
<tr>
<th>Chair: Shira Rabin</th>
<th>Secretary: Karen Hlinka</th>
</tr>
</thead>
</table>

#### The POGIL Approach to Teaching

187.

*First Author*
Lucas Collett
*Berea College*

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

188.

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

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

189.

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

---

### Posters: Zoology

**Curris Center**

<table>
<thead>
<tr>
<th>Chair: Roy Scudder-Davis</th>
<th>Secretary: Oliver Beckers</th>
</tr>
</thead>
</table>

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

171.

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

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

First Author
Talon Garman
Murray State University

Co-author
Micaiah McNabb

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

First Author
Katherine Cappel
Campbellsville University

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

First Author
Abigail Glass
Murray State University

Co-author
Rachel Racicot
Vanderbilt University

Co-author
Michelle Casey
Murray State University

Co-author
Simon Darroch
Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author
Natalie Mercer
Kentucky Wesleyan College

Co-author
Shannon Finerty
Kentucky Wesleyan College

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author
Benjamin Conkright
Western Kentucky University

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

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

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

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

Saturday, November 4, 2017  8:00am - 3:00pm
Exhibitors tables
3rd floor of Curris Center

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

**10:30**

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

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

**10:45**

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

### Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone

**11:00**

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

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

**11:15**

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

---

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

### Oral Presentations: Ecology and Environmental Sciences

**Curris Center Theatre**

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

Section meeting to follow presentations at 2:30

**Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference**

**8:00**

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

8:15

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

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

8:30

First Author: Elizabeth Malloy
Co-authors: David Brown, Stephen Richter, Barbara Scott, Michelle Cook
University: Eastern Kentucky University

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

8:45

First Author: Meika Finger-Gray
Co-authors: Avinash Tope, shreya Patel
University: Kentucky State University

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

9:00

First Author: Sait Sarr
Co-authors: Maheteme Gebremedhin, Avinash Tope, Mark Coyne
University: Kentucky State University

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

First Author: Rose Marks
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
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<th>Co-author 4</th>
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<tr>
<td>9:30</td>
<td>Policy communication and the Impact of Agricultural Communities on Karst Landscapes: An Example from Phong Nha-Kê Băng</td>
<td>Elizabeth Willenbrink</td>
<td>Leslie North</td>
<td>Vu Thi Minh Nguyet</td>
<td>Jason Polk</td>
<td>D. Nicholas McLetchie</td>
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<td></td>
<td>Development and Analysis of Avian Index of Biological Integrity for Kentucky Wetlands</td>
<td>Kaitlyn Kelly</td>
<td>David Brown</td>
<td>Eastern Kentucky</td>
<td>Western Kentucky University</td>
<td>Eastern Kentucky University</td>
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<td>Increased accuracy in population modeling using density-dependent Leslie matrices with steady-state distribution control</td>
<td>Bruce Kessler</td>
<td>Andrew Davis</td>
<td>Western Kentucky</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
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<tr>
<td>10:30</td>
<td>Prey Resource Partitioning Between Sympatric Bat Species</td>
<td>Macy Kailing</td>
<td>Terry Derting</td>
<td>Gary ZeRuth</td>
<td>Roy Scudder-Davis</td>
<td>Rebecca Klem</td>
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<td>Factors Affecting the Diversity of Stream Salamanders in Two Watershed Systems in Central Kentucky</td>
<td>Hannah Elliott</td>
<td>Muntathar Alshimary</td>
<td>Rebecca Klem</td>
<td>Jeremy Wilde</td>
<td>Roy Scudder-Davis</td>
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<td>Plant-Derived Volatiles Alter Plant Fitness in a Species-Specific Manner</td>
<td>Hannah Elliott</td>
<td>Muntathar Alshimary</td>
<td>Rebecca Klem</td>
<td>Jeremy Wilde</td>
<td>Roy Scudder-Davis</td>
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<td>11:15</td>
<td>Memory of seeds: Effect of plant volatile exposure to seeds on plant growth, development and defense across generations</td>
<td>Grace Freundlich</td>
<td>Chris Frost</td>
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<tr>
<td>11:30</td>
<td>Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods</td>
<td>Abhinav Maurya</td>
<td>Christopher Frost</td>
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<td>11:45</td>
<td>OCCUPANCY AND ALLOCHTHONY THRESHOLD RESPONSES OF PLETHODONTID STREAM SALAMANDERS TO STREAM CONDUCTIVITY</td>
<td>Samantha Thomas</td>
<td>Jarrett Johnson</td>
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<td>1:00</td>
<td>A Study of Mercury in Bald Eagle Feathers and Quills</td>
<td>Wendy Cecil</td>
<td>Cate Webb</td>
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<tr>
<td>1:15</td>
<td>Using Mobile Eye-Tracking to Inform the Development of nature tourism Destinations in Iceland</td>
<td>James Graham</td>
<td>Leslie North</td>
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<tr>
<td>1:30</td>
<td>Who’s the boss: Social dynamics associated with leadership in endangered Toque Macaques.</td>
<td>Abhinav Maurya</td>
<td>Edward Hujbens</td>
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<td>University of Louisville</td>
<td>Western Kentucky</td>
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<td>University of Louisville</td>
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</tbody>
</table>
An examination of fish and macroinvertebrate succession patterns after restoration of a novel stream system

First Author
Patrick Vrablik
Murray State University

Co-author
Michael B. Flinn
Murray State University

Movement patterns of Silver Carp Hypophthalmichthys molitrix in Kentucky Lake

First Author
Timothy Spier
Murray State University

Co-author
Michael Flinn
Murray State University

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

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

Co-author
Allison DeRose
Murray State University

Co-author
Brad Hartman
Murray State University

Co-author
Dalton Lebeda
Murray State University

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

First Author
Bradley Hartman
Murray State University

Co-author
Timothy Spier
Murray State University

Oral Presentations: Physics and Astronomy
Blackburn 312

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

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

First Author
Thomas Pannuti
Morehead State University

Chair: Troy Messina
Secretary: Marilyn Akins

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

10:15

First Author  Co-author
Sierra Hauck  Dirk Grupe
Morehead State  Morehead State
University  University

The “Hotter” Side of an X-Ray Tube

10:30

First Author  Co-author  Co-author
Ignacio Birriel  Joshua Allen  Anthony Dotson
Morehead State  Morehead State  Morehead State
University  University  University

The Changing Look Active Galactic Nucleus IRAS 23226-3843

10:45

First Author  Dirk Grupe
Morehead State  University

Understanding the Parameter Space of Keplerian Orbits in APOGEE

11:00

First Author  Co-author  Co-author  Co-author
Nathan De Lee  Kyle Houston  Nicholas Troup  Joleen Carlberg
Northern Kentucky  Northern Kentucky  Salisbury University  Space Telescope
University  University  Science Institute  Science Institute

Redesign of Introductory Physics Labs Using Arduinos

11:15

First Author  Troy Messina
Berea College

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

Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320

Chair: Harry Fannin
Secretary: Bommanna Loganathan

Section meeting to follow presentations

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

**8:15**

*First Author*
Jessica Dove  
*Eastern Kentucky University*

**Kinetic Modeling of Relevant Atmospheric Sulfur and Nitrogen Containing Compounds to Understand Particle Formation**

**8:30**

*First Author*  
Jesus Berlanga  
*Western Kentucky University*

*Co-author*  
Matthew Nee  
*Western Kentucky University*

*Co-author*  
Philip J. Silva  
*USDA - ARS*

**8:45**

*First Author*  
Ryan Lamb  
*Western Kentucky University*

*Co-author*  
Matthew Nee  
*Western Kentucky University*

**9:00**

*First Author*  
Kayla Steward  
*Western Kentucky University*

*Co-author*  
Matthew Nee  
*Western Kentucky University*

**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*

**9:30**

*First Author*  
Mara Krempel  
*Western Kentucky University*

*Co-author*  
Hayley Moss  
*Western Kentucky University*

*Co-author*  
Hanna (John) Khouryieh  
*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
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<tr>
<th>Title</th>
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<tr>
<td>Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky</td>
<td>Emily Cook</td>
<td>Lin Handayani</td>
<td>Jessica Pafford</td>
<td>Steve Still</td>
<td>John Grove</td>
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<td>Mark Coyne</td>
<td>Ann Freytag</td>
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<td>Spotted wing Drosophila, Drosophila suzukii, larvae in blackberries bordered by native perennial plants or pasture</td>
<td>Sathya Govindasamy</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
<td>Mamata Bashyal</td>
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<td>Megan McCoun</td>
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<td>Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture and sp</td>
<td>Mamata Bashyal</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
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<td>Optimizing Hemp Production through Cultivar Selection and Soil Management Practices</td>
<td>Rose Johnson</td>
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</table>
# An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass

**10:45**

<table>
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<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>Gagan Kolimadu</td>
<td>Jarod Jones</td>
<td>Kristy Allen</td>
<td>Waldemar Rossi</td>
<td>Michael Habte-Tision</td>
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<tr>
<td>Vikas Kumar</td>
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# ANTIBIOTIC SUSCEPTIBILITIES OF BACTERIA ISOLATED FROM THE SAME FISH IN CASES EXAMINED AT THE KENTUCKY STATE UNIVERSITY F

**11:00**

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Ashmita Poudel</td>
<td>Kathryn Mitchell</td>
<td>Robert Durborow</td>
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# Investigating the Impact of Low-Cost Organic Fertilizers on Tomato Yield

**11:15**

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<th>First Author</th>
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<tbody>
<tr>
<td>Lusekelo Nkuwi</td>
<td>George Antonious</td>
<td>Eric Turley</td>
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# Evaluation of Density in a Live Holding System for Food Size Channel Catfish, Ictalurus punctatus

**11:30**

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<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tbody>
<tr>
<td>Sujan Bhattarai</td>
<td>Ken Semmens</td>
<td>Vikas Kumar</td>
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<td>Kentucky State University</td>
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# Are Online Shoppers Aware and/or Interested In Learning About Direct-To-Consumer Market Outlets?

**1:00**

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

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

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

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

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

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

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

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

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

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

Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar

First Author: Jean Dominique Gumirakiza
Co-author: Stephen King
Western Kentucky University

Mississippi Room, Curris Center
Saturday, November 4, 2017 8:30am - 11:15am
The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan
9:00

First Author
Tori Farrow
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

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

First Author
Jason Fox
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

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

First Author
Bijesh Mishra
Kentucky State University

Co-author
Buddhi Gyawali
KYSU

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

First Author
Buddhi Gyawali
Kentucky State University

Co-author
Prabisha Shrestha
Kentucky State University

Co-author
Tilak Shrestha
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

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

First Author
Prabisha Shrestha
Kentucky State University

Co-author
Buddhi Gyawali
Kentucky State University

Co-author
Tilak Shrestha
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

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

10:45

First Author
James Shelley
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Nicholas Crawford
Western Kentucky University

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

Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

11:00

First Author
Patricia Kambesis
Western Kentucky University

Co-author
Brittiny Moore-Kimmel
Texas State University

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

11:15

First Author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Kenneth Bates
Kentucky State University

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

Oral Presentations: Geology

Blackburn 228

Chair: Ann Harris
Secretary: David Dockstader

Section meeting to follow presentations

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

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

10:45 Runoff generation in an ephemeral agricultural watershed with thin soil
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 State University
Co-author
Rebecca Ashley
Morehead State University
The Association of Parents' Emotion Philosophy with Adolescents' Mindful Approach to Affect.
10:30

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<tr>
<th>First Author</th>
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<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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What does your Tinder profile say about you? Correlates of Tinder profile features and extroversion
10:45

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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Hunter Gatewood</td>
<td>Lynn Haller</td>
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Peer Mentoring Circles for Women STEM Faculty at Murray State University
11:00

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<th>First Author</th>
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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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Saturday, November 4, 2017  9:00am - 11:00am

Oral Presentations: Science Education
Blackburn 249

<table>
<thead>
<tr>
<th>Chair: Shira Rabin</th>
<th>Secretary: Karen Hlinka</th>
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<tbody>
<tr>
<td>Section meeting to follow presentations</td>
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Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes
9:00

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<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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<tr>
<td>Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology</td>
<td>Katherine Ray King</td>
<td>Linda Fuselier</td>
<td>Justin McFadden</td>
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<tr>
<td>Hearing eclipses: Making astronomy events accessible to visually-impaired students.</td>
<td>Wilson Gonzalez-Espada</td>
<td>Laura Parker</td>
<td>Adam Stockhausen</td>
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<tr>
<td>Should We Lie To Our Students?</td>
<td>Andy Martin</td>
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<tr>
<td>Adaptive Learning Courseware in Majors Biology Course</td>
<td>Shira Rabin</td>
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<tr>
<td>Strengthening Student Foundations: Strategies for Active-Learning Classrooms</td>
<td>Kevin Revell</td>
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<tr>
<td>LOW-COST STUDENT RESEARCH IN A NON-MAJORS BIOLOGY LABORATORY CLASS</td>
<td>Norm Strobel</td>
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</table>
### Technical College

**Saturday, November 4, 2017  9:30am - 10:30am**

<table>
<thead>
<tr>
<th>Breaks</th>
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<td>Staggered in sessions - check schedule</td>
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**Saturday, November 4, 2017  10:00am - 11:15am**

<table>
<thead>
<tr>
<th>Oral Presentations: Engineering</th>
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<tbody>
<tr>
<td>Chair: Aaron Daley</td>
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<tr>
<td>Secretary: Shen Liu</td>
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<tr>
<td>Ohio Room, Curris Center</td>
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<tr>
<td>Section meeting to follow presentations</td>
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</tbody>
</table>

#### 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  
  John Schmidt  
  University of Kentucky  
  Alexander Bolin  
  University of Kentucky  
  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  
  Aashim Bhatia  
  Vanderbilt University  
  Bryson Reynolds  
  Vanderbilt University  
  Patrick Couture  
  Vanderbilt University

- **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  
  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  Co-author
Nicholas McLetchie  Maddison Hatton
University of Kentucky  University of Kentucky

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

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135

Chair: Kevin Revell  Secretary: Kyle Watson
Section meeting to follow presentations

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

First Author  Co-author
Hongyan Gao  Yan Cao
CHEMISTRY  CHEMISTRY
DEPARTMENT,  DEPARTMENT,
WESTERN  WESTERN
KENTUCKY  KENTUCKY
UNIVERSITY  UNIVERSITY

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

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  Co-author  Co-author  Co-author  Co-author
Jessie Brown  Amelia Dickey  Elias Hanna  Christopher Samaan  Hannah Williams
Transylvania  Transylvania  Transylvania  Transylvania  Transylvania
University  University  University  University  University
Oral Presentations: Health Sciences

Blackburn 155

Chair: Bruce Branan
Secretary: Avinash Tope

Section meeting to follow presentations

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

1:00

First Author
Patrick Trainor
University of Louisville

Co-author
Samantha Carlisle
University of Louisville

Co-author
Shesh Rai
University of Louisville

Co-author
Andrew DeFilippis
University of Louisville

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

1:15

First Author
Samantha M. Carlisle
University of Louisville

Co-author
Patrick J. Trainor
University of Louisville

Co-author
Mark A. Doll
University of Louisville

Co-author
David W. Hein
University of Louisville

Oral Presentations: Mathematics

Blackburn 228

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

**Oral Presentations: Microbiology**

Cumberland Room, Curris Center

Chair: Lingyu Huang  
Secretary: Joseph Mester

Section meeting to follow presentations

**Antimicrobial activity from bacteria found around downtown Cincinnati** | 1:00 | Kory Stuessel | John Carmen |
| Advanced Kentucky University | Northern Kentucky University |

Inhibition of Fungal Colony Growth by UVC
Emergence and divergence of influenza virus: A current perspective

First Author
Alexander Lai
Kentucky State University

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

Oral Presentations: Physiology and Biochemistry
Barkley Lecture Room, Curris Center

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

Oral Presentations: Anthropology and Sociology
Saturday, November 4, 2017 1:00pm - 2:00pm
Ohio Room, Curris Center

Chair: Benjamin Freed
Secretary: Amanuel Beyin
Section meeting to follow presentations

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

First Author
Mason Gibson
Western Kentucky University

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

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

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

First Author
Mallory Cox
University of Louisville

Shifting Agriculture's Effects on Lemurs in a Malagasy Gallery Forest
2:00

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

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

Oral Presentations: Computer and Informational Sciences
Blackburn 312

Chair: Jerzy Jaromczyk
Secretary: Muzaffar Ali

Section meeting to follow presentations

Cloud Computing for Hands-On Bioinformatics Education
1:15

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

Adaptive Topic Mining from Social Media Streams
1:30

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

BayesianGLasso: software for integrating a priori knowledge and empirical data utilizing a graphical model framework
1:45

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

2:00

First Author
Deven Rataiczak
Bellarmine University

Oral Presentations: Zoology

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

Mississippi Room, Curris Center

Phenotypic plasticity of mating calls in the katydid Neconocephalus triops

1:15

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

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

1:30

First Author
Samuel White
Murray State University

Co-author
Talon Garman
Murray State University

Co-author
Laura Sullivan-Beckers
Murray State University

Co-author
Talon Garman
Murray State University

Co-author
Laura Sullivan-Beckers
Murray State University

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

1:45

First Author
chi peng
Berea College

Co-author
Chi Peng
Berea College

Co-author
Hanna Abe
Yale University

Co-author
Ron Rosen
Berea College

Co-author
Brian Traw
Berea College

Co-author
Emma Reasoner
Berea College

Co-author
Marah Zeidan
Berea College

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

2:00

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

First Author
Cassandra Scalf
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

Saturday, November 4, 2017 2:15

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
Quick links
Annual Meeting Overview
WKU Info
Registration & Abstracts
Friday Plenary & Reception
Parking & Maps
Food options
Hotel Accommodations
Photo contest
Exhibitors
Sponsors
Student Competitions
Submit your research to the

Journal of the Kentucky Academy of Science

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* Theme issues encouraged.
* Available in print and electronic form.
* Articles are archived and searchable.
* New co-Editors (Kelly Watson and Walter Borowski) strive for thorough review and rapid publication.

For more information, see the webpage:
https://www.kyscience.org/about_our_publications.php