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

**KAS Governing Board meeting**

Commonwealth Suite

Open to all KAS members

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**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.

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**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.

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

**Practice Room for Oral Presentations**

Tennessee Room, Curris Center

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

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

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.

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

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

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

Campus map

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

Tour - New Institute of Engineering facility
Meet in the lobby

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

Campus map

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

Posters: Agricultural Sciences
Curris Center

Chair: Jean Gumirakiza

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

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

**First Author**
Bernedette Chadwick  
*Murray State University*

**Co-author**
Michael Mercer  
*Murray State University*

**Co-author**
Bailey Webster  
*Murray State University*

**Co-author**
Brandon Clark  
*Murray State University*

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

**Co-author**
Changzheng Wang  
*Kentucky State University*

**Co-author**
Lingyu Huang  
*Kentucky State University*

**Co-author**
Cecil Butler  
*Kentucky State University*

**Co-author**
Bailey Webster  
*Kentucky State University*

**Co-author**
Brandon Clark  
*Kentucky State University*

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

---

### Dehydration of autumn olive berries for human consumption

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

**Co-author**
Lingyu Huang  
*Kentucky State University*

**Co-author**
Cecil Butler  
*Kentucky State University*

---

### Developing cold-hardy perennial ornamentals for Kentucky

**First Author**
Hideka Kobayashi  
*Kentucky State University*

---

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

**First Author**
Harry Franklin  
*Murray State University*

**Co-author**
Duncan Thomas  
*Murray State University*

**Co-author**
Connor Raymond  
*Murray State University*

**Co-author**
Jacob Flemming  
*Murray State University*

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

**Co-author**
Changzheng Wang  
*Kentucky State University*

**Co-author**
Lingyu Huang  
*Kentucky State University*

**Co-author**
Cecil Butler  
*Kentucky State University*

**Co-author**
Bailey Webster  
*Kentucky State University*

**Co-author**
Brandon Clark  
*Kentucky State University*

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

---

### Effects of fertilization on growth performance of lotus plants in containers

**First Author**
Changzheng Wang  
*Kentucky State University*
### Impact of Soil-Set®, Grain-Set®, and Liqui-Plex® Formulations on Hot Pepper Yield

<table>
<thead>
<tr>
<th>First Author</th>
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<td>GEORGE ANTONIOUS</td>
<td>Kirk Pomper</td>
<td>Eric Turley</td>
<td>Quinn Heist</td>
<td>Thomas Trivette</td>
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<td>Lusekelo Nkuwi</td>
<td>Yogendra Upadhyaya</td>
<td>Bjesh Mishra</td>
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### Online Shoppers; Who Attends Farmers’ Markets, Who Does Not, and Why?

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<tr>
<th>First Author</th>
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<tr>
<td>Jean Dominique Gumirakiza</td>
<td>Thomas Kingery</td>
<td>Stephen King</td>
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<td>Western Kentucky University</td>
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### Soil Distinguishing Factors in Pasture and Irrigated Soils in Tennessee, Kentucky, and Illinois

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<tr>
<td>Spencer Fulkerson</td>
<td>Joel Reddick</td>
<td>Landon Williams</td>
<td>Blake Remmert</td>
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<td>Brian Parr</td>
<td>Connor Moore</td>
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### Soil Properties in Varying Crop and Non-Crop Areas of Calloway County, Kentucky

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<td>Zack Eells</td>
<td>Canaan Wring</td>
<td>Clay Smotherman</td>
<td>Connor Moore</td>
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### The Impact of Cropping Systems on Soil properties in Fredonia and Princeton Kentucky

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### Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil
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<td>George Antonious</td>
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**Analyzing Quality and Quantity of Binary and Pure Stands of Low Lignin and Standard Alfalfa**

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

**Posters: Botany**

**Curris Center**

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

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

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<tr>
<td>Taylor Horton</td>
<td>Dayle Saar</td>
<td>D. Nicholas McLetchie</td>
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<td>Murray State University</td>
<td>Murray State University</td>
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**Is wintercreeper's (Euonymus fortunei) success as an invader due to avoidance of herbivory?**

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<tr>
<th>First Author</th>
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<tr>
<td>Nellie Heitzman</td>
<td>Sarah Bray</td>
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<tr>
<td>Transylvania University</td>
<td>Transylvania</td>
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**Building an interactive tree map for the Bellarmine University campus.**
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<tr>
<td>David Robinson</td>
<td>Kaitlyn Yates</td>
<td>Bellarmine University</td>
<td>Bellarmine University</td>
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</table>

**Posters: Cellular and Molecular Biology**

**Curris Center**

Chair: Emily Shifley  
Secretary: Gary ZeRuth

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

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<tr>
<td>Assessing the role of the gene, pebbled, in D. melanogaster ASP Invasive Behavior</td>
<td>First Author (Hasan Salim)</td>
<td>Co-author (Rebecca Petersen)</td>
<td>Co-author (Wen Wen)</td>
</tr>
<tr>
<td>Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye</td>
<td>First Author (Hadley Neal)</td>
<td>Co-author (Petersen)</td>
<td>Co-author (Wen Wen)</td>
</tr>
<tr>
<td>Characterizing the role of CP1 in Drosophila melanogaster and its effects on basement membrane degradation and signaling</td>
<td>First Author (Dane Flinchum)</td>
<td>Co-author (Ajay Srivastava)</td>
<td>Co-author (Wen Wen)</td>
</tr>
<tr>
<td>Examining Gene Expression during Xenopus Embryonic Development</td>
<td>First Author (Maria Stewart)</td>
<td>Co-author (Emily Shifley)</td>
<td>Co-author (Northern Kentucky)</td>
</tr>
<tr>
<td>Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster</td>
<td>First Author (Lee Kendall)</td>
<td>Co-author (Samuel White)</td>
<td>Co-author (Douglas Harrison)</td>
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<tr>
<td>Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy</td>
<td>First Author (Lee Kendall)</td>
<td>Co-author (Samuel White)</td>
<td>Co-author (Douglas Harrison)</td>
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</table>

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

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

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

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

Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos
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<tr>
<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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<tr>
<td>Annotation of Spock and Inky Mycobacteriophages</td>
<td>Brittany Farnsley</td>
<td>Spalding University</td>
<td>Spalding University</td>
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<tr>
<td>Direct detection of double-stranded DNA of Staphylococcus aureus</td>
<td>Jiyoung Shim</td>
<td>Barnabas Kim</td>
<td>Moon-Soo Kim</td>
</tr>
<tr>
<td>Functional and genetic studies of the tRNA modification protein Trm732</td>
<td>Hannah Sizemore</td>
<td>Daisy DiVita</td>
<td>Julia Ziebro</td>
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<tr>
<td>Exploring Small Molecule Drugs Binding To Ribosomal Protein L11</td>
<td>Swetaben Patel</td>
<td>Michal Hetman</td>
<td>Lukasz Slomnicki</td>
</tr>
<tr>
<td>IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY RELATIONSHIP</td>
<td>Issaac Domenech</td>
<td>Ambra Pozzi</td>
<td>Corina Borza</td>
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<tr>
<td></td>
<td>Vanderbilt University Medical Center</td>
<td>Vanderbilt University Medical Center</td>
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NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells

First Author
Morgan Bahnsen
KBRIN

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

First Author
Thomas Case
KBRIN

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

First Author
Melanie Couch
Western Kentucky University
Co-author
Getahun Agga
ARS USDA
Co-author
John Loughrin
ARS USDA
Co-author
Rohan Parekh
ARS USDA
Co-author
Eric Conte
Western Kentucky University

Identification of the enzyme responsible for the acp3U modification in bacteria

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

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

First Author
Samuel Ammerman
Northern Kentucky University
Co-author
Erin Strome
Northern Kentucky University
<table>
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<td>Analysis of Protein Conformations Using Computer Simulations</td>
<td>Jonnah McManus</td>
<td>Western Kentucky Chemistry / Gatton Academy</td>
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<td>GC-MS analysis of Volatile Organic Compounds in Metastatic and Non-Metastatic Breast Cancer Cells</td>
<td>Clara Reasoner</td>
<td>Amanda Siegel Indiana University</td>
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<td>Hiroki Yokota Indiana University</td>
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<td>Mangilal Agarwal Indian University</td>
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<td>Anaerobic Degradation of Tetracyclines in Agricultural Manure</td>
<td>Brandon Couch</td>
<td>John Kasumba Western Kentucky University</td>
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<td>John Loughrin usda Western Kentucky University</td>
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<td>Community Usage of Select Illicit and Prescribed Drugs and their Occurrence in the Clarks River</td>
<td>Allie Skees</td>
<td>Katelyn Foppe Department of Chemistry, Murray State University</td>
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<td>Bikram Subedi Department of Chemistry, Murray State University</td>
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<td>Towards the creation of turn-on fluorescent Schiff base probes for hydrogen sulfide detection</td>
<td>Maxwell Conte</td>
<td>Ali Abd-Elaal Department of Petrochemicals, Egypt Petroleum Research Inst.</td>
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<td>Aaron Kirtland The Carol Martin</td>
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<td>Yong-Ill Lee Department of Chemistry, Changwon National University, S.K.</td>
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<tr>
<td>Polyunsaturated Fatty Acid Profile in Hemp-Fed Chicken Egg</td>
<td>Cole Hulen</td>
<td>Cheyenne Hooks Department of Agriculture Science, Hutson School of Agric</td>
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</table>
From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation

First Author
Kevin Pierce
Murray State University

Co-author
Alex Thome
Murray State University

Co-author
Jill Cao
Murray State University

Co-author
Sebastian Jezowski
Murray State University

The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index

First Author
Rachel Bracker
Eastern Kentucky University

Co-author
Lori Wilson
Eastern Kentucky University

Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA

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Berea College

Co-author
Jay Baltisberger
Berea College

Co-author
Sara Garner
Berea College

Co-author
Shay Steele
College of Wooster

Sedimentation Fractionation

First Author
Michael Greiving
KYSU

Salt-Assisted Ultrasonicated De-aggregation and Advanced Electrochemistry of Detonation Nanodiamond.

First Author
Brendan Evans
Western Kentucky University

Co-author
Alex Henson
Western Kentucky University

Co-author
Sanju Gupta
Western Kentucky University

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

First Author
Nicole States
Murray State University

Co-author
Henry Pruett
Murray State University

Co-author
Bikram Subedi
Murray State University

Co-author
Susan Hendricks
Hancock Biological Station

Co-author
David White
Hancock Biological Station
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
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<tr>
<td>ZrO\textsuperscript{2-}\textsuperscript{-}Cyclodextrin (CD) catalyzed synthesis of 2,4,5-trisubstituted imidazoles and 1,2-disubstituted benzimidazoles</td>
<td>K.N. Thimmaiah</td>
<td>Mark Montgomery</td>
<td>Padma Thimmaiah</td>
<td>Ashish Pagare</td>
<td>Larry Sylvester</td>
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<td>Ray Cox</td>
<td>Paul Grisham</td>
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<td>Water Purification using Magnetic Biochar</td>
<td>Anne Carlisle</td>
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<td>A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms</td>
<td>Junjie Xiang</td>
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<td>Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification</td>
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</table>
Application of metal-organic framework materials in dye-sensitized solar cells

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

Effect of Iron charge state on P450 BM3 stability

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

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

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

Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors

First Author: Erin O'Donnell  
Co-author: Rachel Allenbaugh  
University: Murray State University

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

First Author: Haiyan Liu  
University: Western Kentucky University

Light Activated Ruthenium Peptide Hybrids

First Author: Lydia Millard  
University: Kentucky State University

N-Heterocyclic Carbene Complexes
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<th>Institution</th>
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<td>Mario Chavarria</td>
<td>Cheyenne Haynes</td>
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<td><strong>Optimization of lipid extraction from Scenedesmus acutus via in-situ transesterification</strong></td>
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<td>Vincent Kelly</td>
<td>Robert Pace</td>
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<td><strong>Photocatalytic reduction of carbon dioxide by metal-organic framework materials.</strong></td>
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<td>25.</td>
<td>Hannah Brooks</td>
<td>Bangbo Yan</td>
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<td><strong>Promotional Effect of Platinum on Nickel Catalysts in the Conversion of Lipids to Hydrocarbons in Diesel Range</strong></td>
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<td>Kelsey Huff</td>
<td>Ryan Loe</td>
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<td>Tonya Morgan</td>
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<td>Eduardo Santillan-Jimenez</td>
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<td>Mark Crocker</td>
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<td>Alexandra Redden</td>
<td>Rachel Whittaker</td>
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<td><strong>Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Kn?lker-type Catalyst</strong></td>
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<td>Luis Gonzalez Anguiar</td>
<td><strong>Selective C–O bond reductions in carbohydrate derivatives using boron based reagents</strong></td>
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<td>Solid-Phase Synthesis of Heteroatom-Activated Antibiotics</td>
<td>Morgan Uebelacker</td>
<td>Jacob Nanney</td>
<td>Kyle Watson</td>
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<td>Storage of Solar Energy in Strained Bis-Anthracene Cycloadducts and</td>
<td>Erin Calvert</td>
<td>Kasey Clear</td>
<td>Sebastian Jezowski</td>
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<td>Synthesis and catalytic studies of metalloporphyrin complexes as</td>
<td>Benjamin Kash</td>
<td>Haiyan Liu</td>
<td>Rui Zhang</td>
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<td>biomimetic models for cytochrome P450 enzymes</td>
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<td>Western Kentucky University</td>
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<td>Hannah Cope</td>
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<td>Synthesis of Cleavable Acetal Antibody Drug Conjugate</td>
<td>LUIS Salazar Guzman</td>
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<td>Synthesis of Platinum-Malonate-Luteinizing Hormone Releasing Hormone</td>
<td>Charles Greif</td>
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<td>(Pt-Mal-LHRH), an Anti-Cancer Agent</td>
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<td>Synthesis of Poly(4-hydroxystyrene) by Living Anionic Polymerization</td>
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<td>for Block Copolymer Lithography</td>
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Synthesizing Cleavable Acetal Antibody Drug Conjugates

First Author
Beau Schweitzer
Berea College

Co-author
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Berea College

Co-author
Sarah Tabor
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Co-author
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Friday, November 3, 2017  5:00pm - 8:00pm

Posters: Computer and Informational Sciences
Curris Center

Incorporating WeBWorK in a Mathematics Classroom

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

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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
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<th>Title</th>
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<td>Land Use Practices</td>
<td>Ellyn Anthony</td>
<td>Mamata Bashyal</td>
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<td>Oguz Sariyildiz</td>
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<td>Runchero Farms Kentucky State University</td>
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<td>Shawn Lucas</td>
<td>John Sedlacek</td>
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<td>Ant communities of temperate tree canopies along an urban-rural gradient</td>
<td>Heather Short</td>
<td>Daniella Prince</td>
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<td>Keegan Thompson</td>
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<td>Chlo Chles</td>
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<td>Is it enough? Passive Restoration in a Western Colorado Stream</td>
<td>Melody Feden</td>
<td>Howard Whitemand</td>
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<td>The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils</td>
<td>Vanetta Graves</td>
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<td>Christopher Frost</td>
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<td>Leaf Toughness in Tropical Rainforest Plants Depends on Leaf Age in Dicots but Not Monocots</td>
<td>Shelby Watkins</td>
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<td>Examining the Relationship Between Temperature and Vegetation Phenology: Is Soil a Better Predictor than Air?</td>
<td>Kevin &quot;Austin&quot;</td>
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Johnessee Murray State University
Monika Staszczak Murray State University

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

107.
First Author Co-author Co-author
Roma Karna Priya Karna Sunil Karna
Sunil Karna Union College Union College

Site selection by the Jefferson’s and spotted salamanders based on substrate pH

108.
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Assessing the effects of urban air pollution on lichens

109.
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The Effects of Stream Degradation on Food Web Stability

110.
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Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.

111.
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Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status

112.
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Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees

113.
Driver bias in intentional wildlife-vehicle collisions

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Using Hardiness Zones to Determine Phenological Variation

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

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

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

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Jacob Lawson Margaret Carreiro Lindsay Nason Perri Eason Amy Cherry
University of Louisville University of Louisville University of Louisville University of Louisville University of Louisville

Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.
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<td>Exploring the impact of body size variation on trophic cascades using mole salamanders (Ambystoma talpoideum)</td>
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<td>Robin Baker</td>
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<td>Katelyn May</td>
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<td>Sarah Bissmeyer</td>
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<td>Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.</td>
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<td>Andrew Nesselroade</td>
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Caterpillar Predation Rates Across an Urban-Suburban Gradient

First Author
Amy Cherry
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University of Louisville

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

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

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Ant tarsal adhesion on oak leaves differing in trichome density

First Author
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Alyssa Stark
Villanova University

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

First Author
### Assessing the diet of *Perimyotis subflavus* and *Nycticeius humeralis* bats before and after the occurrence of WNS

First Author: Summer Wheeler  
Co-author: Amie Towery  
Murray State University  

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

First Author: John Delfino  
Co-author: Guipsy Lopez  
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### Relationship between fish biomass and eDNA in central Kentucky streams.

First Author: Ramon Guivas  
Co-author: Kyle Laufenburger  
Asbury University  

### Effects of Roundup on Feeding Behavior of Larval Blue Dashers, *Pachydiplax longipennis*.

First Author: Kayleen Parker  
Co-author: Claire Fuller  
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### 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  
Co-author: Chris Frost  
University of Louisville  

### Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings
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<td>Chair: Aaron Daley</td>
<td>Secretary: Shen Liu</td>
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</table>

**Green Roofs: Synergistic Benefits to Energy and Environmental Building Design**  
39.  
First Author  
Emery Ginger  
Murray State  
University

**Automated Control System For Photo-bioreactor**  
40.  
First Author  
Madankrishna Acharya  
Kentucky State  
University

**Biomass Stove Design Project: Automated Fuel Feeder System**  
41.  
First Author  
Chance Davice  
Berea College  
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Constantine Botimer  
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Chris True  
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Co-author  
Jedidiah Radosevich  
Berea College

**Integrated Computational Design of Tunable 3D CNT/Graphene Hybrid Nanomaterials**  
42.  
First Author  
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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.)

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<td>Nathan Rayens</td>
<td>Tongguang Zhai</td>
<td>Pei Cai</td>
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Friday, November 3, 2017 5:00pm - 8:00pm

### Posters: Geography

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<td>Chair: Buddhi Gyawali</td>
<td>Secretary: Christopher Day</td>
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Comparing Vegetation Index and Classification methods for detecting agriculture conservation practice using Landsat imag

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<td>Kenneth Hancock</td>
<td>Jordan Wilson</td>
<td>Jeremy Sandifer</td>
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Unmarked Burial Identification at the Frankfort, KY Cemetery using Ground Penetrating Radar and LIDAR data

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<td>Jarod Jones</td>
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Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>Aman Bhatta</td>
<td>Saaruj Khadka</td>
<td>Bijesh Mishra</td>
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<td></td>
<td>Co-author</td>
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<tr>
<td></td>
<td>Jeremy Sandifer</td>
<td>Tilak Shrestha</td>
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<td>Kentucky State University</td>
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Friday, November 3, 2017 5:00pm - 8:00pm

### Posters: Geology

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<tr>
<th>Posters: Geology</th>
<th>Curris Center</th>
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<tbody>
<tr>
<td>Chair: Ann Harris</td>
<td>Secretary: David Dockstader</td>
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</tbody>
</table>
Using Sequential LiDAR to Monitor & Catalog Landslides in Kenton and Campbell Counties in Northern Kentucky

First Author
Roger Olson
Northern Kentucky University

Co-author
Benjamin Roenker
Northern Kentucky University

Co-author
Hawkins Warner
Northern Kentucky University

Co-author
Zachary Ivey
Northern Kentucky University

Co-author
Tim Faller
Northern Kentucky University

Co-author
Sarah Johnson
Northern Kentucky University

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

First Author
Benedict Ferguson
Murray State University: Department of Geosciences

Co-author
Gary Stinchcomb
Murray State University: Department of Geosciences

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

First Author
Christopher Stewart
Murray State University

Co-author
Gary Stinchcomb
Murray State University

Co-author
Steve Forman
Baylor University

Co-author
Lisa Davis
University of Alabama

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
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
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<tbody>
<tr>
<td>An Automatic Segmentation Method for the Thigh Muscles and Adipose Tissue of Spinal Cord Injured Patients</td>
<td>Carter Waugh</td>
<td>Kentucky Biomedical Research Network</td>
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<tr>
<td>Demographic/occupational/tumor characteristics &amp; extent of metastasis melanoma patients diagnosed in Florida, 1996-2010</td>
<td>Frederick Bebe</td>
<td>Shasa Hu</td>
<td>Tony Brown</td>
<td>Orien Tulp</td>
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<td>Effect of select phytochemicals on salivary and urinary pH</td>
<td>Ralphiel Payne</td>
<td>Sydney Leisure</td>
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<tr>
<td>Effects of salt on the textural characteristics of fish meatballs prepared from deboned Asian carp meat</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
<td>Changzheng Wang</td>
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<tr>
<td>Examining the Expression and Function of Septin Proteins in Human Pancreatic Cancer Cells</td>
<td>Danielle Upton</td>
<td>Maiyon Park</td>
<td>Valerie Dixon</td>
<td>Zachariah Slattery</td>
</tr>
<tr>
<td>Health Impact of a Shared Use Path in Rural Appalachia: A Pilot Study</td>
<td>Louisa Summers</td>
<td>Scott Heggen</td>
<td>Christopher Harris</td>
<td>Daryl Sullivan</td>
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<td>Berea College</td>
<td>Berea College</td>
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</tbody>
</table>
143. Immunogenicity of Novel Vaccines for Hepatitis C Virus

First Author: Donniesha Mason  
Co-author: Ashley Wentworth  
Co-author: Reese Triana  
Employer: Northern Kentucky University

Co-author: Joseph Mester  
Northern Kentucky University

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

First Author: Allison Harper  
Co-author: Tiffanie Markus  
Co-author: Gail Hughett  
Co-author: Danielle Ndi  
Co-author: Karen Leib  
Vanderbilt University

Co-author: H. Keipp Talbot  
Vanderbilt University

145. Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptive

First Author: Manoj Pathak  
Co-author: Cindy Austin  
Co-author: Simon Thompson  
Murray State University

Co-author: Trauma & Burn Research, Mercy Hospital  
Department of Trauma and Burn, Mercy Hospital

146. The Relationship Between Maternal Physical Activity and Infant Motor Development

First Author: Nikitha Rajendran  
Gatton Academy, Western Kentucky University

Co-author: Rachel Tinius  
Western Kentucky University

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

First Author: Bisola Asaolu  
Kentucky State University

Co-author: Avinash Tope  
Kentucky State University

148. Using engineered zinc finger proteins to detect pathogen-specific DNA

First Author: Caleb Sedlak  
Department of
Zinc, Dietary Fat, and Sex have Interacting Influences on BTBR Mice in the Open Field Test

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

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

Posters: Microbiology

Inactivation of Fungal Spores with Heat and UVC

First 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  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  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  Kentucky Wesleyan
College  College

The Prevalence of Bacteria Resistant to Vancomycin and Colistin in Waters Around Louisville
Isolation and Characterization of the Mycobacteriophage Acquire49

First Author
Rachel Mahbubani
University of Louisville

Co-author
Amy Priest
University of Louisville

Co-author
Annie Koenig
University of Louisville

Co-author
Easton Ford
University of Louisville

Co-author
Doug Krauth
University of Louisville

Co-author
Deborah Yoder-Himes
University of Louisville

Co-author
Paul Himes
University of Louisville

Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates

First Author
Charles Mosley
Somerset Community College

Co-author
Tyler Burton
Somerset Community College

Co-author
John Starnes
Somerset Community College

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

First Author
Easton Ford
University of Louisville

Co-author
Morgan Robinson
University of Louisville

Co-author
Amy Priest
University of Louisville

Co-author
Rachel Mahbubani
University of Louisville

Co-author
Doug Krauth
University of Louisville

Co-author
Paul Himes
University of Louisville

Co-author
Deborah Yoder-Himes
University of Louisville

Non-pathogenic Neisseria sicca ATCC 29256 undergoes natural transformation

First Author
Mark Sirianno
Transylvania University

Co-author
Paul Duffin
Transylvania University

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

First Author
Grayson Fuller
Western Kentucky University
Targeting Proteolytic Activity using protease inhibitors as natural therapeutics for human metapneumovirus (HMPV)

First Author
Amber Earlywine
Berea College
Department of Chemistry

Comparison of Period Finding Techniques to Identify RR Lyrae Stars

First Author
Connor Edwards
Northern Kentucky University
Co-author
Logan Hicks
Northern Kentucky University
Co-author
Tyler Labree
Northern Kentucky University
Co-author
Matthew Buelsing
Northern Kentucky University
Co-author
Nathan De Lee
Northern Kentucky University

Electromagnetic Wave Motion Around a Black Hole

First Author
Amanda Manning
Northern Kentucky University
Co-author
Sharmanthie Fernando
Northern Kentucky University

Analyzing Color Relations for RR Lyrae in KELT

First Author
Logan Hicks
Northern Kentucky University
Co-author
Connor Edwards
Northern Kentucky University
Co-author
Tyler Labree
Northern Kentucky University
Co-author
Matthew Buelsing
Northern Kentucky University
Co-author
Nathan De Lee
Northern Kentucky University

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

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<tr>
<th>First Author</th>
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<td>Alexander Banaszak</td>
<td>Tyler Smith</td>
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## Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination

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

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<td>Romney Meek</td>
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## Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistr

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

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<td>John Adamick</td>
<td>John Rademacher</td>
<td>Chari Ramkumar</td>
<td>Wayne Bresser</td>
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## The Study of Light Paths Around Black Holes

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<td>Abigail Campbell</td>
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**Friday, November 3, 2017  5:00pm - 8:00pm**

**Posters: Physiology and Biochemistry**
### An improved, 'green' tetramethylbenzidine-based assay for the quantification of hemoglobin

161.

**First Author**  
Johnathon Hurt  
**University of the Cumberlands**

Co-author  
Joan Hembree  
**University of the Cumberlands**

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

162.

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

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

163.

**First Author**  
Meagan Medley  
**KBRIN**

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

164.

**First Author**  
Emily Altman  
**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

165.

**First Author**  
Samuel Case  
**Morehead State University**

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

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

166.

**First Author**  
Elizabeth Grau  
**University of Kentucky**

Co-author  
Alec Bradley  
**University of Kentucky**

Co-author  
Danielle Cantrell  
**University of Kentucky**

Co-author  
Samantha Eversole  
**University of Kentucky**

Co-author  
Carolyn Grachen  
**University of Kentucky**

Co-author  
Kaylee Hall  
**University of Kentucky**

Co-author  
Claire Kinmon  
**University of Kentucky**

Co-author  
Paula Ortiz Guerrero  
**University of Kentucky**

Co-author  
Bhavik Patel
### Investigating the Synergistic Effects of Two Curcuminoids and Cisplatin on Cancer Cell Migration and ROS Release

167.

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

168.

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<tr>
<td>Elizabeth Collins</td>
<td>Sami Case</td>
<td>Brianna Ward</td>
<td>Ilsun White</td>
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<td>Morehead State</td>
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### Pharmacological identification of cholinergic receptor subtypes in Drosophila

169.

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<tr>
<td>Eashwar Somasundaram</td>
<td>Aya Omar</td>
<td>Cole Malloy</td>
<td>Robin Cooper</td>
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<td>University of Kentucky</td>
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<td>NIH</td>
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### The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.

170.

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<tr>
<td>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?**
Betta fish spontaneously use the combination of numerosity and surface area during discrimination learning

What influences recognition of emotion among college students

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

Implicit Gender Bias, Commercials, and Cooperation.

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

Maternal reflective functioning and dyadic synchrony
Maternal trauma and parenting sensitivity: Implications for attachment-based interventions

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

Affect Perseverance or Affect Momentum?

The POGIL Approach to Teaching

Using the POGIL Approach in Non-Stem Disciplines

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

**Chair:** Roy Scudder-Davis  
**Secretary:** Oliver Beckers  
**Curris Center**  

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

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

**First Author**  
Maddie Stanback  
**University of Kentucky**

**Co-author**  
Alexandra Stanback  
**uky**

**Co-author**  
Tristan Donovan  
**uky**

**Co-author**  
Priscilla Boachie  
**uky**

**Co-author**  
Brendon Stockwell  
**uky**

**Co-author**  
Carly Ballinger-Boone  
**uky**

**Co-author**  
Emma Higgins  
**uky**

**Co-author**  
Meaghan Labarre  
**uky**

**Co-author**  
Alexa Larson  
**uky**

**Co-author**  
Micaiah McNabb  
**uky**

**Characterization of mating behaviors and risk of cannibalism in Tigrosa georgicola wolf spiders**

**First Author**  
Talon Garman  
**Murray State University**

**Co-author**  
Laura Sullivan-Beckers  
**Murray State University**

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

**First Author**  
Katherine Cappel  
**Campbellsville University**

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

**First Author**  
Abigail Glass  
**Murray State University**
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

Judges conference room
Commonwealth Suite, Curris Center

Friday, November 3, 2017 5:00pm - 3:00pm
This room is available if judges wish to use it for conference.

Biology Social
Corvette Lanes, 1415 Main St.

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

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 - 10:30am
Practice Room for Oral Presentations
Cumberland Room, Curris Center

Practice Room for Oral Presentations
Tennessee Room, Curris Center

Oral Presentations: Cellular and Molecular Biology
Barkley Lecture Room, Curris Center

Chair: Emily Shifley
Secretary: Gary ZeRuth
Section meeting to follow presentations

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

8:00

First Author
Afolasayo Aromiwura
Western Kentucky University

Co-author
Ajay Srivastava
Western Kentucky University

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

8:15

First Author
Dylan Hammrich
Murray State University

Co-author
Gary ZeRuth
Murray State University

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

8:30

First Author
Tyler Hoard
Murray State University

Co-author
Gary ZeRuth
Murray State University

Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>8:45</td>
<td>Pancreatic beta cell dysfunction mediated by down regulation of Glis3</td>
<td>Jamison Burchett</td>
<td>Justen Mamaril</td>
<td>Maggie Thomas</td>
<td>Regan Bales</td>
<td>Michael Guy</td>
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<td>Northern Kentucky University</td>
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<tr>
<td>9:00</td>
<td>Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy</td>
<td>Erin Clayton</td>
<td>Gary ZeRuth</td>
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<td>Murray State University</td>
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<td>Berea College</td>
<td>Liver Disease Branch, NIDDK-National Institute of Health</td>
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<tr>
<td>9:30</td>
<td>PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.</td>
<td>Ahmed Fadil</td>
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<td>Brittani Hawkins</td>
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<td>Murray State University</td>
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<tr>
<td>9:45</td>
<td>Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration</td>
<td>Brittani Hawkins</td>
<td></td>
<td></td>
<td>Billy Hudson</td>
<td>Vadim Pedchenko</td>
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<td>Murray State University</td>
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<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
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<tr>
<td>10:15</td>
<td></td>
<td>Monica Moran</td>
<td></td>
<td></td>
<td>Division of Nephrology and Hypertensio</td>
<td>Division of Nephrology and Hypertensio</td>
</tr>
</tbody>
</table>
### Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and hypothalamic tissue

**10:30**

**First Author**  Keelee Pullum  
Gatton Academy, Western Kentucky University

**Co-author**  Noah Ashley  
Western Kentucky University

---

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

**10:45**

**First Author**  Dimond Shelton  
Western Kentucky University

**Co-author**  Nancy Rice  
Western Kentucky University

**Co-author**  Conner Hounshell  
Western Kentucky University

---

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

**11:00**

**First Author**  Alexandria Szalanczy  
Centre College

**Co-author**  Nitika Nitika  
University of North Carolina at Charlotte

**Co-author**  Andrew Truman  
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  
Northern Kentucky University

**Co-author**  Kelsey Klinefelter  
Northern Kentucky University

**Co-author**  Breann Colter  
Northern Kentucky University

**Co-author**  Alexandra Dailey  
Northern Kentucky University

**Co-author**  Christine Curran  
Northern Kentucky University

---

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

**8:00**

**First Author**
Thomas Pannuti  
_Morehead State University_

**The CREAM instrument on the ISS**

8:15

_First Author_
Scott Nutter  
_Northern Kentucky University_

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

8:30

_First Author_
Carter Kring  
_Northern Kentucky University_

**Calibration of the CREAM Calorimeter with CERN Beam Tests**

8:45

_First Author_  
_Co-author_
Tyler LaBree  
_Scott Nutter_
_Northern Kentucky University_

**Analysis of a Current-Mode Detector for the NOPTREX Experiment**

9:00

_First Author_  
_Co-author_
Daniela Olivera  
_Danielle Schaper_
_Velarde_  
_University of Kentucky_
_Berea College_

Josephson weak links with high characteristic voltage for THz radiation detection.

9:15

_First Author_
Luis Gomez  
_Northern Kentucky University_

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

9:30

_First Author_
Garrison Turner  
_Big Sandy Community and Technical College_

**Streamlining Predictions of Temperature-Dependent Changes in Defect Properties of Intermetallic Compounds**
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
<th>Co-author 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:45</td>
<td>Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258</td>
<td>Caleb Kirschman</td>
<td>Matthew Zacate</td>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
<td>University</td>
<td></td>
</tr>
<tr>
<td>10:15</td>
<td>The “Hotter” Side of an X-Ray Tube</td>
<td>Sierra Hauck</td>
<td>Dirk Grupe</td>
<td>Morehead State</td>
<td>Morehead State</td>
<td>University</td>
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</tr>
<tr>
<td>10:45</td>
<td>The Changing Look Active Galactic Nucleus IRAS 23226-3843</td>
<td>Ignacio Birriel</td>
<td>Joshua Allen</td>
<td>Anthony Dotson</td>
<td>Morehead State</td>
<td>University</td>
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</tr>
<tr>
<td>11:00</td>
<td>Understanding the Parameter Space of Keplerian Orbits in APOGEE</td>
<td>Nathan De Lee</td>
<td>Kyle Houston</td>
<td>Nicholas Troup</td>
<td>Salisbury University</td>
<td>Space Telescope</td>
<td>Science Institute</td>
</tr>
<tr>
<td>11:15</td>
<td>Redesign of Introductory Physics Labs Using Arduinos</td>
<td>Troy Messina</td>
<td>Berea College</td>
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</tbody>
</table>

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

Exhibitors tables  
3rd floor of Curris Center  
KBRIN (Kentucky Biomedical Research Infrastructure Network)
Oral Presentations: Ecology and Environmental Sciences
Curris Center Theatre

Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference
8:00
First Author: Audrey Alexander, Co-author: Leslie North, Western Kentucky University

Assessing the Carbon and Energy Balance of a Grazed Pasture in Central Kentucky Using the Eddy Covariance Method
8:15
First Author: Ian Ries, Co-author: Maheteme Gebremedhin, Kentucky State University

Comparison of the Kentucky Vegetation Index of Biotic Integrity (VIBI) to a rapid wetland condition assessment (KY-WRAM)
8:30
First Author
Comparative Risk Evaluation of Commercially Available Organic and Conventional Fertilizers for Potential Bacterial Pat

8:45

First Author
Meika Finger-Gray
Kentucky State University

Co-author
Avinash Tope
Kentucky State University

Co-author
shreya Patel
Kentucky State University

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

9:00

First Author
Sait Sarr
Kentucky State University

Co-author
Maheteme Gebremedhin
Kentucky State University

Co-author
Avinash Tope
Kentucky State University

Co-author
Mark Coyne
University of Kentucky

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

First Author
Rose Marks
University of Kentucky

Co-author
D. Nicholas McLetchie
University of Kentucky

Policy communication and the Impact of Agricultural Communities on Karst Landscapes: An Example from Phong Nha-Kẻ Bàn

9:30

First Author
Elizabeth Willenbrink
Center for Human GeoEnvironmental Studies at Western Kentucky

Co-author
Leslie North
Center for Human GeoEnvironmental Studies at Western Kentucky

Co-author
Vu Thi Minh Nguyet
Institute of Geological Sciences, Vietnam Academy of Science

Co-author
Jason Polk
Center for Human GeoEnvironmental Studies at Western Kentucky

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

9:45

First Author
Kaitlyn Kelly
Eastern Kentucky University

Co-author
David Brown
Eastern Kentucky University
Increased accuracy in population modeling using density-dependent Leslie matrices with steady-state distribution control

10:15

First Author: Bruce Kessler
Co-author: Andrew Davis
Western Kentucky University

Prey Resource Partitioning Between Sympatric Bat Species

10:30

First Author: Macy Kailing
Co-author: Terry Derting
Murray State University
Co-author: Gary ZeRuth
Murray State University

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

10:45

First Author: Hannah Elliott
Co-author: Muntathar Alshimary
Berea College
Co-author: Rebecca Klem
Berea College
Co-author: Jeremy Wilde
Berea College
Co-author: Roy Scudder-Davis
Berea College

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

11:00

First Author: Grace Freundlich
Co-author: Chris Frost
University of Louisville

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

11:15

First Author: Abhinav Maurya
Co-author: Christopher Frost
University of Louisville

Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods

11:30

First Author: Samantha Thomas
Co-author: Jarrett Johnson
Western Kentucky University

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

11:45
A Study of Mercury in Bald Eagle Feathers and Quills
1:00

First Author  Co-author
Jacob Hutton  Cate Webb
University of Kentucky  Western Kentucky University

Using Mobile Eye-Tracking to Inform the Development of nature tourism Destinations in Iceland
1:15

First Author  Co-author  Co-author  Co-author  Co-author
Wendy Cecil  Cate Webb  Edward Hujbens  Elizabeth Willenbrink  Jun Yan
Western Kentucky University  University  University of Akureyri  Western Kentucky University  Western Kentucky University

Who’s the boss: Social dynamics associated with leadership in endangered Toque Macaques.
1:30

First Author  Co-author  Co-author  Co-author  Co-author
Jeeva Patabendige  Rajnish Vandercone  Perrie Eason  Jun Yan  Jun Yan
Rathnaweera  University of Sri Lanka  University of Louisville  University of Louisville  Western Kentucky University
University of Louisville

An examination of fish and macroinvertebrate succession patterns after restoration of a novel stream system
1:45

First Author  Co-author
Patrick Vrablik  Michael B. Flinn
Murray State University  Murray State University

Movement patterns of Silver Carp Hypophthalmichthys molitrix in Kentucky Lake
2:00

First Author  Co-author  Co-author  Co-author  Co-author
Timothy Spier  Michael Flinn  Jessica Morris  Neal Jackson  Allison DeRose
Murray State University  Murray State University  Kentucky Department of Fish and Wildlife Resources  U. S. Fish and Wildlife Service  U. S. Fish and Wildlife Service
## Quantifying the Effects of Invasive Species on Fish Communities in Kentucky Lake: A Post-Invasion Approach

2:15

**First Author**  
Bradley Hartman  
*Murray State University*

**Co-author**  
Timothy Spier  
*Murray State University*

### Oral Presentations: Chemistry: Analytical & Physical

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

#### 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*

### Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy

8:45

**First Author**  
Ryan Lamb  
*Western Kentucky University*

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

### The removal of organic pollutants through buoyant photocatalyst

9:00

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

Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation  
9:15

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

Oxidative stability of fish oil-in-water emulsions stabilized by protein-polysaccharide complexes: Effect of salt and pH  
9:30

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

Temperature and electric field dependence of asymmetric stretching of nitrate ion  
9:45

First Author  
Konnor Jones  
Western Kentucky University  
Co-author  
Matthew Nee  
Western Kentucky University

Saturday, November 4, 2017  8:15am - 2:15pm

Oral Presentations: Agricultural Sciences  
The Stables, Curris Center  
1st floor

Chair: Jean Gumirakiza

Section meeting to follow presentations

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

**8:45**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>James Schwartz</td>
<td>Vikas Kumar</td>
<td>Waldemar Rossi</td>
<td>Katerina Kousoulaki</td>
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<tr>
<td>Kentucky State University</td>
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<td>Nofima</td>
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</table>

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

**9:00**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<th>Co-author</th>
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<tr>
<td>Amit Yadav</td>
<td>Waldemar Rossi</td>
<td>Hab Andemichael</td>
<td>Vikas Kumar</td>
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<td>university</td>
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### 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>First Author</th>
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<th>Co-author</th>
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<tr>
<td>Samuel Kessler</td>
<td>Vikas Kumar</td>
<td>Waldemar Rossi</td>
<td>Steve Still</td>
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<tr>
<td>Carol Martin Gatton Academy of Mathematics and Science, WKU</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td>University of Kentucky</td>
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<td></td>
<td>University, Aquaculture Research Center</td>
<td>University, Aquaculture Research Center</td>
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</table>

### Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky

**9:30**

<table>
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<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tr>
<td>Emily Cook</td>
<td>Lin Handayani</td>
<td>Jessica Pafford</td>
<td>Mark Coyne</td>
<td>Steve Still</td>
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<tr>
<td>Murray State University</td>
<td>Murray State University</td>
<td>University of Kentucky</td>
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### Spotted wing Drosophila, Drosophila suzukii, larvae in blackberries bordered by native perennial plants or pasture

**9:45**

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Sathy Govindasamy</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
<td>Mamata Bashyal</td>
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</tbody>
</table>
Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture and sp

10:00
First Author
Mamata Bashyal
Kentucky State University
Co-author
John Sedlacek
Kentucky State University
Co-author
Karen Friley
Kentucky State University
Co-author
E. Kyle Slusher
Kentucky State University
Co-author
Sathya Govindasamy
Kentucky State University
Co-author
Megan McCoun
Kentucky State University

Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

10:30
First Author
Rose Johnson
Kentucky State University

An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass

10:45
First Author
Gagan Kolimadu
Kentucky State University
Co-author
Jarod Jones
Kentucky State University
Co-author
Kristy Allen
Kentucky State University
Co-author
Waldemar Rossi
Kentucky State University
Co-author
Michael Habte-Tision
Kentucky State University
Co-author
Vikas Kumar
Kentucky State University

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

11:00
First Author
Ashmita Poudel
Kentucky State University
Co-author
Kathryn Mitchell
Kentucky State University
Co-author
Robert Durborow
Kentucky State University

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

11:15
Evaluation of Density in a Live Holding System for Food Size Channel Catfish, Ictalurus punctatus

11:30

First Author
Sujan Bhattarai
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

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

1:00

First Author
JEAN DOMINIQUE GUMIRAKIZA
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

Co-author
Tom Kingery
Western Kentucky University

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

1:15

First Author
JEAN DOMINIQUE GUMIRAKIZA
Western Kentucky University

Co-author
Thomas Kingery
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

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

1:30

First Author
Audrey Barnett
Western Kentucky University

Co-author
Dominique Gumirakiza
Western Kentucky University

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

1:45

First Author
Thomas Mason
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

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

2:00
Oral Presentations: Geography
Mississippi Room, Curris Center

Assessment of Vegetation Cover Change and Water Quality in Coal Mine Watersheds
8:30

First Author
Oguz Sariyildiz
Kentucky State University

Co-author
Buddhi Gyawali
Kentucky State University

Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar
8:45

First Author
D'Andre Garrison
Kentucky State University

Co-author
Jarod Jones
Kentucky State University

Co-author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Ken Bates
Kentucky State University

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
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Predicting the Adoption of Sustainable Agricultural Practices among Kentucky Farmers and Its Barriers</td>
<td><strong>Bijesh Mishra</strong></td>
<td><strong>Buddhi Gyawali</strong></td>
<td><strong>University</strong></td>
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<tr>
<td>Exploring Relationship between community Perception and landscape change in the Eastern Kentucky</td>
<td><strong>Buddhi Gyawali</strong></td>
<td><strong>Prabisha Shrestha</strong></td>
<td><strong>Tilak Shrestha</strong></td>
<td><strong>Jeremy Sandifer</strong></td>
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<tr>
<td>Association of land cover change trend with land ownership size at parcel level data in Breckinridge County, KY</td>
<td><strong>Prabisha Shrestha</strong></td>
<td><strong>Buddhi Gyawali</strong></td>
<td><strong>Tilak Shrestha</strong></td>
<td><strong>Jeremy Sandifer</strong></td>
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<tr>
<td>Land Cover Classification using LandSat, NAIP images, and Accuracy enhancements</td>
<td><strong>Tilak Shrestha</strong></td>
<td><strong>Buddhi Gyawali</strong></td>
<td><strong>Kenneth Bates</strong></td>
<td><strong>Jeremy Sandifer</strong></td>
<td><strong>Prabisha Shrestha</strong></td>
</tr>
<tr>
<td>Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology</td>
<td><strong>James Shelley</strong></td>
<td><strong>Jason Polk</strong></td>
<td><strong>Leslie North</strong></td>
<td><strong>Nicholas Crawford</strong></td>
<td><strong>Matt Powell</strong></td>
</tr>
<tr>
<td>Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky</td>
<td><strong>City of Bowling Green</strong></td>
<td><strong>Western Kentucky</strong></td>
<td><strong>University</strong></td>
<td></td>
<td><strong>Department of Public Works</strong></td>
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</tbody>
</table>
**Estimating the Approximate Age of Unmarked Burial Sites in The Frankfort Cemetery using Spatial Interpolation**

11:15

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Patricia Kambesis</td>
<td>Brittiny Moore-Kimmel</td>
</tr>
<tr>
<td>Western Kentucky</td>
<td>Texas State University</td>
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</tbody>
</table>

**Oral Presentations: Geology**

Blackburn 228

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

9:00

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

**Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University's Meadow**

9:15

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

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

9:30

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

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

10:00
Modeling the groundwater storage and the groundwater recharge rate of an ephemeral wetland with Hydrus-1D

10:15

First Author  Co-author
Addison Bell  Jonathan Malzone
Eastern Kentucky  Eastern Kentucky
University  University

Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY

10:30

First Author  Co-author  Co-author  Co-author
Laura Kelley  Sophia Chan  Jonathan Malzone  Walter Borowski
Eastern Kentucky  Eastern Kentucky  Eastern Kentucky  Eastern Kentucky
University  University  University  University

Runoff generation in an ephemeral agricultural watershed with thin soil

10:45

First Author  Co-author  Co-author  Co-author
Sophia Chan  Laura Kelley  Jonathan Malzone  Walter Borowski
Eastern Kentucky  Eastern Kentucky  Eastern Kentucky  Eastern Kentucky
University  University  University  University

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

Oral Presentations: Science Education
Blackburn 249

Chair: Shira Rabin  Secretary: Karen Hlinka

Section meeting to follow presentations

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

9:00

First Author  Co-author  Co-author  Co-author  Co-author  Co-author
Joseph Erskine  Jordan Dowdy  Stephen Denny  M Saleem  Akhtar Mahmood
Bellarmine University  Bellarmine University  Bellarmine University  Bellarmine University  Bellarmine University

Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology

9:15
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<tr>
<th>Time</th>
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<th>First Author</th>
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<tr>
<td>9:30</td>
<td>Hearing eclipses: Making astronomy events accessible to visually-impaired students.</td>
<td>Katherine Ray King</td>
<td>Linda Fuselier</td>
<td>Justin McFadden</td>
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<td>9:30</td>
<td>Should We Lie To Our Students?</td>
<td>Wilson Gonzalez-Espada</td>
<td>Laura Parker</td>
<td>Adam Stockhausen</td>
<td>Wanda Diaz-Merced</td>
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<td>Should We Lie To Our Students?</td>
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<td>Adaptive Learning Courseware in Majors Biology Course</td>
<td>Shira Rabin</td>
<td>University of Louisville</td>
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<td>10:30</td>
<td>Strengthening Student Foundations: Strategies for Active-Learning Classrooms</td>
<td>Kevin Revell</td>
<td>Murray State</td>
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<td>LOW-COST STUDENT RESEARCH IN A NON-MAJORS BIOLOGY LABORATORY CLASS</td>
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Saturday, November 4, 2017  9:00am - 11:15am
## Oral Presentations: Psychology

Section meeting to follow presentations

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<tr>
<td>Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.</td>
<td>9:00</td>
<td>Aaron Clark</td>
<td>Dave Porter</td>
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<td>Breaking the Prejudice Habit: A Longitudinal Assessment of Reducing Implicit Racial Bias</td>
<td>9:15</td>
<td>Laura Hopkins</td>
<td>Nicole Stumpp</td>
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<td>The Effects of Gender, Task Difficulty, and Emotional Arousal on Perceptual Sensitivity</td>
<td>9:30</td>
<td>Enkhjin Enkhbold</td>
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<td>Children's emotion understanding and regulation: Links with psychological symptoms</td>
<td>9:45</td>
<td>Karina Cole</td>
<td>Ashley Hamm</td>
<td>Shari Kidwell</td>
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<td>Initial Validation of the Hexaflex Process Assessment Instrument.</td>
<td>10:15</td>
<td>Aaron Ellis</td>
<td>John Blackledge</td>
<td>Shelby Humphrey</td>
<td>Kellen Crager</td>
<td>Isabella Gearhart</td>
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<td>Rebecca Ashley</td>
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<td>The Association of Parents' Emotion Philosophy with Adolescents' Mindful Approach to Affect.</td>
<td>10:30</td>
<td>Joseph Reese</td>
<td>Mary Blanton</td>
<td>Ashley Ball</td>
<td>Kory Phelps</td>
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</table>
What does your Tinder profile say about you? Correlates of Tinder profile features and extroversion
10:45

First Author  Co-author
Hunter Gatewood Lynn Haller
Morehead State University

Peer Mentoring Circles for Women STEM Faculty at Murray State University
11:00

First Author  Co-author  Co-author  Co-author  Co-author
Maeve McCarthy Paula Waddill Robin Zhang Echo Wu Steve Cobb
Murray State University
Murray State University
Murray State University
Murray State University
Murray State University

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

Breaks
Staggered in sessions - check schedule

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

Oral Presentations: Engineering
Ohio Room, Curris Center

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

Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts
10:00

First Author  Co-author  Co-author  Co-author  Co-author
Jordan Garcia Tyler Stoffel John Schmidt Alexander Bolin David Lu
University of Kentucky University of Kentucky University of Kentucky University of Kentucky University of Kentucky

Co-author
Charles Lu
University of Kentucky

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

Co-author
Seth Smith
Vanderbilt University
Institute of Imaging Science

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

Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms
10:45
First Author  Co-author  Co-author
Andrew Yee  Dylan Stewart  Gheorghe Bunget
Murray State  Murray State  Murray State
University  University  University

Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components
11:00
First Author  Co-author  Co-author  Co-author  Co-author
Cavir Gongora  Steven Treadaway  Chance Glass  Andrew Yee  Brevin Tilmon
Murray State  Murray State  Murray State  Murray State  Murray State
University  University  University  University  University

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 - 1:15pm

**Oral Presentations: Botany**
Mississippi Room, Curris Center

Chair: Lawrence Alice  
Secretary: Maggie Whitson

Botany and Zoology Section meetings to follow presentations, at 2:30

Far-Red light can induce sex structure development in the liverwort Marchantia inflexa Nees et Mont.  
1:00

*First Author*  
Nicholas McLetchie  
*University of Kentucky*

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

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

**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*

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

**First Author**  Co-author
Kory Stuessel  John Carmen
*Northern Kentucky*  *Northern Kentucky*
*University*  *University*

Inhibition of Fungal Colony Growth by UVC
1:15

**First Author**  Co-author  Co-author  Co-author  Co-author
Sarah Goodrich  Colin Hartman  Mitchel Lange  Zadah Coy  Joseph Mester
*Northern Kentucky*  *Northern Kentucky*  *Northern Kentucky*  *Northern Kentucky*  *Northern Kentucky*
*University*  *University*  *University*  *University*  *University*

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

**First Author**
Alexander Lai
*Kentucky State*
*University*

---

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

**Oral Presentations: Mathematics**  
**Blackburn 228**

Chair: R. Douglas Chatham  
Secretary: Andy Martin

Section meeting to follow presentations

---

Open Coverings of the Rationals Need Not Cover The Reals
1:00

**First Author**
Andy Martin
*Kentucky state*
*University*

The Cubic Equation
1:15

**First Author**
Dwight Smith
*Big Sandy CTC*

A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System
The n+k kings problem
1:45
First Author
R. Douglas Chatham
Morehead State University

Identification of tRNA modification enzymes in higher eukaryotes via primer extension
1:00
First Author
Justen Mamaril
Northern Kentucky University
Co-author
Regan Bales
Northern Kentucky University
Co-author
Michael Guy
Northern Kentucky University

Physiological Characteristics of Five Bladder Cancer Cell Lines
1:15
First Author
Kyle Damen
Wood Hudson Cancer Research Laboratory
Co-author
Ryan Moore
Wood Hudson Cancer Research Laboratory
Co-author
Alex White
Wood Hudson Cancer Research Laboratory
Co-author
Julia Carter
Wood Hudson Cancer Research Laboratory
Co-author
Bonnie Richmond
Wood Hudson Cancer Research Laboratory

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

1:45

First Author
Dat Thinh Ha
Western Kentucky University

Oral Presentations: Anthropology and Sociology
Ohio Room, Curris Center

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

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

First Author
Mason Gibson
Western Kentucky University

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

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

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

Section meeting to follow presentations
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 1:00pm - 2:30pm

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135

Chair: Kevin Revell
Secretary: Kyle Watson

Section meeting to follow presentations

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

1:00

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

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

1:15

First Author
Mike Winchester
Western Kentucky University

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

1:30

First Author
Ngo Fung Lee
Western Kentucky University

Recent Progress in the Investigation of the Bonding and Electronic Structure in Metal Chalcogenide Complexes
The Synthesis of Heteroatom-activated Antibiotics: ?-lactams

First Author
Jacob Nanney
Kentucky Wesleyan College

Co-author
Kyle Watson
Kentucky Wesleyan College

Visible Light Generation of High-Valent Iron-Oxo Intermediates

First Author
Malone Jonathan
WKU

Co-author
dharmesh Patel
WKU

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 1:15pm - 2:15pm

Oral Presentations: Computer and Informational Sciences
Blackburn 312

Cloud Computing for Hands-On Bioinformatics Education
1:15

First Author
Harrison Inocencio
University of Kentucky

Co-author
Deavin Hester
University of Kentucky

Secretary: Muzaffar Ali

Section meeting to follow presentations

Co-author
Laura Lodder
University of Kentucky

Co-author
Justin Moore
University of Kentucky

Co-author
Bailey Phan
University of Kentucky
Adaptive Topic Mining from Social Media Streams
1:30
First Author
Gopi Chand Nautaki
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
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Biology of the Cercaria of *Leuceruthrus micropteri* (Trematoda: Azygiidae) Recovered from the Snail, *Pleurocera semicarin*

1:45

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

2:00

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

2:15

Coffee & Tea

2:30pm - 4:30pm

Crow's Nest, Curris Center

Keynote Jeffrey Bennett: Communicating Science to the Public

3:00pm - 4:00pm

Curris Center Ballroom

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

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

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

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

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

Moderator: Wilson Gonzalez-Espada

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