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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**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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**3:00pm - 9:30pm**

**Practice Room for Oral Presentations**

Tennessee Room, Curris Center

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**3:00pm - 9:30pm**

**Practice Room for Oral Presentations**

Cumberland Room, Curris Center

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**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
KAS Business meeting

Mississippi Room, Curris Center

President: Darrin Smith

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

Poster presenters Check-In

3rd floor of Curris Center

Chair: Kevin Revell
Co-chair: ANGELA GUYTON

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

Tour - Biology Building

Meet in the lobby

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

Campus map

Tour - Chemistry Building

Meet in the lobby

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

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

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

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

[Campus map](#)

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

Tour - New Institute of Engineering facility
Meet in the lobby

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

[Campus map](#)

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

Judges conference room
Commonwealth Suite, Curris Center

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

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

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

61.
First Author: Cora Teets
Co-author: Waldemar Rossi
Co-author: Vikas Kumar
Kentucky State University
University
University

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

62.
First Author: Bernedette Chadwick
Co-author: Michael Mercer
Co-author: Bailey Webster
Co-author: Brandon Clark
Co-author: Lin Handayani
Murray State University
University
University
University
University

Dehydration of autumn olive berries for human consumption

63.
First Author: Changzheng Wang
Co-author: Lingyu Huang
Co-author: Cecil Butler
Kentucky State University
University
University

Developing cold-hardy perennial ornamentals for Kentucky

64.
First Author: Hideka Kobayashi
Kentucky State University

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

65.
First Author: Harry Franklin
Co-author: Duncan Thomas
Co-author: Connor Raymond
Co-author: Jacob Flemming
Co-author: Lin Handayani
Murray State University
University
University
University
University

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

First Author
Changzheng Wang
Kentucky State University

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

First Author
GEORGE ANTONIOUS
KENTUCKY STATE UNIVERSITY

Co-author
Kirk Pomper
Kentucky State University

Co-author
Eric Turley
Kentucky State University

Co-author
Quinn Heist
Kentucky State University

Co-author
Thomas Trivette
Kentucky State University

Co-author
Lusekelo Nkuwi
Kentucky State University

Co-author
Yogendra Upadhyaya
Kentucky State University

Co-author
Bjesh Mishra
Kentucky State University

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

First Author
Jean Dominique Gumirakiza
Western Kentucky University

Co-author
Thomas Kingery
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

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

First Author
Spencer Fulkerson
Murray State University

Co-author
Joel Reddick
Murray State University

Co-author
Landon Williams
Murray State University

Co-author
Blake Remmert
Murray State University

Co-author
Iin Handayani
Murray State University

Co-author
Brian Parr
Murray State University

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

First Author
Zack Eells
Murray State University

Co-author
Canaan Wring
Murray State University

Co-author
Clay Smotherman
Murray State University

Co-author
Connor Moore
Murray State University

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

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

72.

First Author
Yogendra Upadhyaya
Kentucky State University

Co-author
Thomas Trivette
Kentucky State University

Co-author
Lusekelo Nkuwi
Kentucky State University

Co-author
Bijesh Mishra
Kentucky State University

Co-author
George Antonious
Kentucky State University

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

73.

First Author
Kelly Hagan
Asbury University

Co-author
Ray Smith
University of Kentucky

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

74.

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

Co-author
Justin Cornett
University of Kentucky

Co-author
D. Nicholas McLetchie
University of Kentucky

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

75.

First Author
Taylor Horton
Murray State University

Co-author
Dayle Saar
Murray State University

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

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

77.

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

78.

Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye

79.

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

80.

Examining Gene Expression during Xenopus Embryonic Development

81.

Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster

82.
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Lee Kendall</td>
<td>Samuel White</td>
<td>Douglas Harrison</td>
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<td>Centre College</td>
<td>Murray State University</td>
<td>University of Kentucky</td>
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Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

83.

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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Amber Follin</td>
<td>Kyla Britson</td>
<td>Tom Llyod</td>
</tr>
<tr>
<td>Biology Department,</td>
<td>Neuroscience and</td>
<td>Neuroscience and</td>
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<td>Berea College</td>
<td>Neology, Johns</td>
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<td>Hopkins Medicine</td>
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FGF and RA signaling pathways interact during development of the Xenopus pharynx

84.

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

85.

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<tr>
<td>Katelyn Dunn</td>
<td>Tamika Chappell</td>
<td>Lisa Massie</td>
<td>Shelby Caudill</td>
<td>Pamela Dickson</td>
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<td>Nicholas Brinkman</td>
<td>Christine Curran</td>
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<td>Rachel Dempsey</td>
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<td>Northern Kentucky University</td>
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<td>University</td>
<td>Northern Kentucky University</td>
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Role of autophagy-related protein Vps34 in the function of adipose tissues and interactions with the immune system

86.

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<tr>
<td>Henry Kwan</td>
<td>Lan Wu</td>
<td>Luc Van Kaer</td>
<td>Luke Postoak</td>
<td>Margaret Sabourin</td>
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<td>Vanderbilt University Medical Center</td>
<td>Vanderbilt University Medical Center</td>
<td>Vanderbilt University Medical Center</td>
<td>Vanderbilt University Medical Center</td>
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Using gene expression to better understand macrophages' role in tissue regeneration

87.

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<th>First Author</th>
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<tr>
<td>Kendall Collins</td>
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</table>
**Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos**

88.

*First Author*
Conner Hounshell

*Co-author*
Courtney Waterbury

*Co-author*
Jeremiah Smith

**University/ KBRIN, McNair**

---

**Sex Specific Gene Control of Cardiac Fibrosis**

89.

*First Author*
Bruce Northington

**Eastern Kentucky University/ KBRIN, McNair**

---

**Annotation of Spock and Inky Mycobacteriophages**

90.

*First Author*
Brittany Farnsley

*Co-author*
Jennifer Doyle

*Co-author*
Moria Magre

**Spalding University**

---

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

91.

*First Author*
Jiyoung Shim

*Co-author*
Barnabas Kim

*Co-author*
Moon-Soo Kim

**Western Kentucky University**

---

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

92.

*First Author*
Hannah Sizemore

*Co-author*
Daisy DiVita

*Co-author*
Julia Ziebro

*Co-author*
Michael Guy

**Northern Kentucky University**

---

**Exploring Small Molecule Drugs Binding To Ribosomal Protein L11**

93.

*First Author*
Swetaben Patel

*Co-author*
Michal Hetman

*Co-author*
Lukasz Slomnicki

**University of Louisville**

---

**IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY**
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
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Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days

First Author
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ARS USDA
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John Loughrin
ARS USDA
Co-author
Rohan Parekh
ARS USDA
Co-author
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Identification of the enzyme responsible for the acp3U modification in bacteria

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
### Analysis of Protein Conformations Using Computer Simulations

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

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

2. **First Author**  
   Clara Reasoner  
   *Berea College*

### Anaerobic Degradation of Tetracyclines in Agricultural Manure

3. **First Author**  
   Brandon Couch  
   *Western Kentucky University*

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

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

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

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

**First Author**
 Cole Hulen  
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**Department of Agriculture Science, Hutson School of Agriculture**  
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**Department of Agriculture Science, Hutson School of Agriculture**  
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Bommantha Loganathan  
**Murray State University**  
**Co-author**  
Brian Parr  
**Department of Chemistry, Murray State University,**  
**Co-author**  
Bikram Subedi  
**Department of Chemistry, Murray State University,**

### 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

**First Author**
 Tomas Flores  
**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.

11.

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

12.

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

Co-author
Bommanna Loganathan
Murray State University

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

13.

First Author
K.N. Thimmaiah
Northwest MS Community College

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Mark Montgomery
Northwest MS Community College

Co-author
Padma Thimmaiah
Northwest MS Community College

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Ashish Pagare
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Co-author
Ray Cox
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Paul Grisham
Northwest MS Community College

Co-author
Piya Adris
Northwest MS Community College

Co-author
Lindsay Massie
Northwest MS Community College

Water Purification using Magnetic Biochar

14.

First Author
Anne Carlisle
Western Kentucky University

A DRIFT Plus TG Device Reveling Unknown Chemicals Reaction Mechanisms

16.
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
</tr>
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<tbody>
<tr>
<td>17.</td>
<td>Application of metal-organic framework materials in dye-sensitized solar cells</td>
<td>Ryan Boggess</td>
<td>Bangbo Yan Western Kentucky University</td>
</tr>
<tr>
<td>18.</td>
<td>Effect of Iron charge state on P450 BM3 stability</td>
<td>Catherine Denning</td>
<td>Co-author David Heidary University of Kentucky</td>
</tr>
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<td></td>
<td></td>
<td>Co-author Edith Glazer University of Kentucky</td>
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<tr>
<td>19.</td>
<td>Fluorescence properties of metal-organic frameworks containing ruthenium and copper ions.</td>
<td>Bangbo Yan Western Kentucky University Department of Chemistry</td>
<td>Co-author Robert Spears Western Kentucky University</td>
</tr>
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<td>Co-author Rachel Allenbaugh University</td>
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<tr>
<td>20.</td>
<td>Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors</td>
<td>Erin O'Donnell Murray State University</td>
<td>Co-author</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-author Rachel Allenbaugh Murray State University</td>
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</table>
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

First Author
Haiyan Liu
Western Kentucky University

Light Activated Ruthenium Peptide Hybrids

First Author
Lydia Millard
Kentucky State University

N-Heterocyclic Carbene Complexes

First Author
Mario Chavarria
Berea College
Co-author
Cheyenne Haynes
Berea College

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

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

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

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

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

First Author
Kelsey Huff
Kentucky State University
Co-author
Ryan Loe
University of Kentucky's Center for Applied Energy Research
Co-author
Tonya Morgan
University of Kentucky's Center for Applied Energy Research
Co-author
Eduardo Santillan-Jimenez
University of Kentucky's Center for Applied Energy Research
Co-author
Mark Crocker
<table>
<thead>
<tr>
<th>Project Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tr>
<td>Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Kn?lker-type Catalyst</td>
<td>Alexandra Redden</td>
<td>Rachel Whittaker</td>
<td>Kane Ferguson</td>
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<tr>
<td>Selective C–O bond reductions in carbohydrate derivatives using boron based reagents</td>
<td>Luis Gonzalez Anguiar</td>
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<td>Solid-Phase Synthesis of Heteroatom-Activated Antibiotics</td>
<td>Morgan Uebelacker</td>
<td>Jacob Nanney</td>
<td>Kyle Watson</td>
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<tr>
<td>Storage of Solar Energy in Strained Bis-Anthracene Cycloadducts and Release as Heat by Mechanical Grinding</td>
<td>Erin Calvert</td>
<td>Kasey Clear</td>
<td>Sebastian Jezowski</td>
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<tr>
<td>Synthesis and catalytic studies of metalloporphyrin complexes as biomimetic models for cytochrome P450 enzymes</td>
<td>Benjamin Kash</td>
<td>Haiyan Liu</td>
<td>Rui Zhang</td>
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<td>Synthesis and Properties of a Ruthenium Polypyridyl Complex</td>
<td>Hannah Cope</td>
<td>Bangbo Yan</td>
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University of Kentucky's Center for Applied Energy Research
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<tr>
<th>Title</th>
<th>First Author</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Synthesis of Cleavable Acetal Antibody Drug Conjugate</td>
<td>Luis Salazar Guzman</td>
<td>Berea College</td>
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<tr>
<td>Synthesis of Platinum-Malonate-Luteinizing Hormone Releasing Hormone (Pt-Mal-LHRH), an Anti-Cancer Agent</td>
<td>Charles Greif</td>
<td>Eastern Kentucky University</td>
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<tr>
<td>Synthesis of Poly(4-hydroxystyrene) by Living Anionic Polymerization for Block Copolymer Lithography</td>
<td>Beau Schweitzer</td>
<td>Berea College</td>
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<tr>
<td>Synthesizing Cleavable Acetal Antibody Drug Conjugates</td>
<td>Michael James</td>
<td>Berea College</td>
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<td>Sarah Tabor</td>
<td>Berea College</td>
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<td>Elizabeth Thomas</td>
<td>Berea College</td>
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Friday, November 3, 2017  5:00pm - 8:00pm

**Posters: Computer and Informational Sciences**

Curris Center

Chair: Jerzy Jaromczyk  
Secretary: Muzaffar Ali

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<tr>
<th>Title</th>
<th>First Author</th>
<th>Institution</th>
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<tr>
<td>Incorporating WeBWorK in a Mathematics Classroom</td>
<td>Haley Replogle</td>
<td>Kentucky Wesleyan College</td>
</tr>
<tr>
<td></td>
<td>Kyle Besing</td>
<td>Kentucky Wesleyan College</td>
</tr>
</tbody>
</table>

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

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

**100.**

**First Author**

Jacob Pease  
*Murray State University*

---

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

**101.**

**First Author**

Ellyn Anthony  
*Kentucky State University*

---

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

**102.**

**First Author**

Heather Short  
*University of Louisville*

---

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

**103.**

**First Author**

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

111.

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

112.

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

113.

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

114.

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<th>First Author</th>
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<tbody>
<tr>
<td>Mary Wilkinson</td>
<td>Terry Derting</td>
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<td>Murray State University</td>
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Using Hardiness Zones to Determine Phenological Variation

115.

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<th>First Author</th>
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<tr>
<td>Whitney Buechler</td>
<td>Bassil El Masri</td>
<td>Paul Gagnon</td>
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<td>Murray State University</td>
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</table>

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

116.

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

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

First Author
Jacob Lawson
University of Louisville

Co-author
Margaret Carreiro
University of Louisville

Co-author
Lindsay Nason
University of Louisville

Co-author
Perri Eason
University of Louisville

Co-author
Amy Cherry
University of Louisville

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

First Author
David White
Murray State University

Co-author
Susan Hendricks
Murray State University

Co-author
Mindy Armstead
Marshall University

Co-author
Bill Ford
University of Kentucky

Co-author
Jimmy Fox
University of Kentucky

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

First Author
Michaela Lambert
University of Kentucky

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

First Author
Robin Baker
Murray State University

Co-author
Cy Mott
Eastern Kentucky University

Co-author
Katelyn May
Murray State University

Co-author
Howard Whiteman
Murray State University

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

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

**First Author**
Sarah Bissmeyer  
**University of Louisville**

**Co-author**
Chris Frost  
**University of Louisville**
Grace Freundlich  
**University of Louisville**

### Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

**First Author**
Andrew Nesselroade  
**Asbury University**

**Co-author**
Ronald Sams  
**Asbury University**
Cierla McGuire  
**Asbury University**
Sumathi Sankaran-Walters  
**William Jessup University**
Mike McGrann  
**William Jessup University**
Malinda Stull  
**Asbury University**
Ben Brammell  
**Asbury University**

### Caterpillar Predation Rates Across an Urban-Suburban Gradient

**First Author**
Amy Cherry  
**University of Louisville**

**Co-author**
Jacob Lawson  
**University of Louisville**
Lindsay Nason  
**University of Louisville**
Margaret Carreiro  
**University of Louisville**
Perri Eason  
**University of Louisville**

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

**First Author**
Michael Flinn  
**Murray State University**

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

**First Author**  
Andrew Nesselroade  
Asbury University

**Co-author**  
Harold Brabon  
Asbury University

**Co-author**  
David Eisenhour  
Morehead State University

**Co-author**  
Brooke Washburn  
Morehead State University

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

**Co-author**  
Ben Brammell  
Asbury University

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

**First Author**  
Keegan Thompson  
University of Louisville

**Co-author**  
Alyssa Stark  
Villanova University

**Co-author**  
Steve Yanoviak  
University of Louisville

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

**First Author**  
Virginia Nunamaker  
University of Louisville

**Co-author**  
Chris Nunamaker  
University of Louisville

**Co-author**  
Steve Yanoviak  
University of Louisville

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

**First Author**  
Summer Wheeler  
Murray State University

**Co-author**  
Amie Towery  
Murray State University

**Co-author**  
None  
University

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

**First Author**  
John Delfino  
Midway University

**Co-author**  
Guipsy Lopez  
None

### Relationship between fish biomass and eDNA in central Kentucky streams.

**First Author**  
Ramon Guivas  
Asbury University

**Co-author**  
Kyle Laufenburger  
Asbury University

**Co-author**  
Ben Brammell  
Asbury University

**Co-author**  
None  
Asbury University
## Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.

<table>
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<tr>
<th>First Author</th>
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<tr>
<td>Kayleen Parker</td>
<td>Claire Fuller</td>
<td>Murray State</td>
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</table>

## 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

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<tr>
<td>Jeffrey Fox</td>
<td>Chris Frost</td>
<td>Steve Yanoviak</td>
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<td>University of Louisville</td>
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## Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

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<tr>
<td>Onyinye Uwolloh</td>
<td>Sarah Farrar</td>
<td>Kimberly Wolfe</td>
<td>Steven Castellano</td>
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## Posters: Engineering

**Curris Center**

| Chair: Aaron Daley | Secretary: shen liu |

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

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

First Author
Emery Ginger
Murray State University

### Automated Control System For Photo-bioreactor

40.
<table>
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<tr>
<th>Title</th>
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<tbody>
<tr>
<td><strong>Biomass Stove Design Project: Automated Fuel Feeder System</strong></td>
<td>Chance Davice</td>
<td>Mark Mahoney</td>
<td>Constantine Botimer</td>
<td>Chris True</td>
<td>Jedidiah Radosevich</td>
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<tr>
<td><strong>Integrated Computational Design of Tunable 3D CNT/Graphene Hybrid Nanomaterials</strong></td>
<td>Tyler Stoffel</td>
<td>Jordan Garcia</td>
<td>Charles Lu</td>
<td>Johnson Joseph</td>
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<td>University of Kentucky</td>
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<td>Fiat Chrysler Automobiles</td>
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<tr>
<td><strong>Quantification of Cast Aluminum Pores using MATLAB</strong></td>
<td>Nathan Rayens</td>
<td>Tongguang Zhai</td>
<td>Pei Cai</td>
</tr>
<tr>
<td>by Rayens, N., Cai, P., and Zhai, T.</td>
<td>University of Kentucky</td>
<td>University of Kentucky</td>
<td>University of Kentucky</td>
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</table>

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

**Posters: Geography**

<table>
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<tr>
<th>Title</th>
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<tr>
<td><strong>Comparing Vegetation Index and Classification methods for detecting agriculture conservation practice using Landsat imag</strong></td>
<td>Kenneth Hancock</td>
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<td></td>
<td>Murray State</td>
</tr>
<tr>
<td></td>
<td>University</td>
</tr>
</tbody>
</table>
Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

46.

First Author
Aman Bhatta
KYSU

Co-author
Saaru Khadka
KYSU

Co-author
Bijesh Mishra
KYSU

Co-author
Buddhi Gyawali
KYSU

Co-author
Prabisha Shrestha
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Tilak Shrestha
Kentucky State University

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

48.

First Author
Benedict Ferguson
Murray State University: Department of Geosciences

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

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

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

50.

First Author
Mallory Gerzan
Murray State
University

Co-author
Gary Stinchcomb
Murray State
University

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

51.

First Author
Molly Karnes
Murray State
University

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

Posters: Health Sciences
Curris Center
Chair: Bruce Branan
Secretary: Avinash Tope

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

137.

First Author
Carter Waugh
Kentucky Biomedical Research Infrastructure Network

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

138.

First Author
Frederick Bebe
Kentucky State University

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

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

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

Effect of select phytochemicals on salivary and urinary pH

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

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

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

First Author: Danielle Upton  
Co-author: Maiyon Park  
Co-author: Valerie Dixon  
Co-author: Zachariah Slattery  
*UPIKE*  

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

First Author: Louisa Summers  
Co-author: Scott Heggen  
Co-author: Christopher Harris  
Co-author: Daryl Sullivan  
Co-author: Peter Hackbert  
*Berea College*  

### Immunogenicity of Novel Vaccines for Hepatitis C Virus

First Author: Donniesha Mason  
Co-author: Ashley Wentworth  
Co-author: Reese Triana  
Co-author: Joseph Mester  
*Northern Kentucky University*  

### 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  
*Berea College*  

### Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptiv
<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Manoj Pathak</td>
<td>Cindy Austin</td>
<td>Simon Thompson</td>
</tr>
<tr>
<td>Murray State University</td>
<td>Trauma &amp; Burn Research, Mercy Hospital</td>
<td>Department of Trauma and Burn, Mercy Hospital</td>
</tr>
</tbody>
</table>

The Relationship Between Maternal Physical Activity and Infant Motor Development

146.

First Author            Co-author
Nikitha Rajendran       Rachel Tinius
Gatton Academy, Western Kentucky University

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

147.

First Author            Co-author
Bisola Asaolu           Avinash Tope
Kentucky State University

Using engineered zinc finger proteins to detect pathogen-specific DNA

148.

First Author
Caleb Sedlak
Department of Chemistry WKU

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

149.

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

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

Posters: Microbiology

| Chair: Lingyu Huang | Curris Center | Secretary: Joseph Mester |

Inactivation of Fungal Spores with Heat and UVC

150.

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

Mycobacteriophages: Inky and Spock

First Author: Moria Magre
Co-author: Brittany Farnsley
Spalding University: Spalding University

Antifungal Endophytes as a Source of Novel Bioactive Compounds

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

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

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

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

First Author: Rachel Mahbubani
Co-author: Amy Priest
University of Louisville: University of Louisville

Isolation and Characterization of the Mycobacteriophage Acquire49

First Author: Charles Mosley
Co-author: Tyler Burton
Somerset Community College: Somerset Community College

Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates

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

SURVEY OF VANCOMYCIN- AND COLISTIN-RESISTANT BACTERIA IN ENVIRONMENTAL WATER SAMPLES ACROSS 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
Electromagnetic Wave Motion Around a Black Hole

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

Analyzing Color Relations for RR Lyrae in KELT

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

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

First Author  Co-author  Co-author  Co-author
Alexander Banaszak  Tyler Smith  Sanju Gupta
Western Kentucky University  Western Kentucky University  Western Kentucky University

Large-Area Graphene Membranes and Mesoporous Deionization Electrodes for Water Desalination

First Author  Co-author  Co-author
Alex Henson  Brendan Evans  Sanju Gupta
WKU Department of Physics and Astronomy  WKU Department of Physics and Astronomy  Western Kentucky University

Nanoparticles-grafted functionalized graphene coated with nanostructured polyaniline layered nanocomposites as high-perf

First Author  Co-author
Romney Meek  Sanju Gupta
Western Kentucky University  Western Kentucky University

Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistr
58. **Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GexSe1-x Glass System**

<table>
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<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tr>
<td>Brendan Evans</td>
<td>Alex Henson</td>
<td>Sanju Gupta</td>
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<td>Western Kentucky University</td>
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59. **The Study of Light Paths Around Black Holes**

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<th>First Author</th>
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<tr>
<td>John Adamick</td>
<td>John Rademacher</td>
<td>Chari Ramkumar</td>
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<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
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<td>Wayne Bresser</td>
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60. **Friday, November 3, 2017 5:00pm - 8:00pm**

**Posters: Physiology and Biochemistry**

**Curris Center**

<table>
<thead>
<tr>
<th>Chair: Michael Smith</th>
<th>Secretary: Julia Carter</th>
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**An improved, 'green' tetramethylbenzidine-based assay for the quantification of hemoglobin**

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<tr>
<td>Johnathon Hurt</td>
<td>Joan Hembree</td>
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<tr>
<td>University of the Cumberlands</td>
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</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Kathrine Gaiko</td>
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<tr>
<td>Western Kentucky University</td>
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</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Meagan Medley</td>
</tr>
<tr>
<td>KBRIN</td>
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</tbody>
</table>
### Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling

**First Author**  
Emily Altman  
Georgetown College

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

**Co-author**  
Dr. Lewis Watson  
University of Pikeville

---

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

**First Author**  
Samuel Case  
Morehead State University

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

---

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

**First Author**  
Elizabeth Grau  
University of Kentucky

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

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

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

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

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

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

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

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

**Co-author**  
Robin Cooper  
University of Kentucky

---

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

**First Author**  
Blaine Patty  
Western Kentucky University

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

**Co-author**  
Jerry Monroe  
Western Kentucky University

**Co-author**  
Michael Smith  
Western Kentucky University

**Co-author**  
Michael Smith  
University

---

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

**First Author**  
Elizabeth Collins  
Morehead State University

**Co-author**  
Sami Case  
Morehead State University

**Co-author**  
Briana Ward  
Morehead State University

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

---

### Pharmacological identification of cholinergic receptor subtypes in Drosophila

**First Author**  
Eashwar Somasundaram  
University of Kentucky

**Co-author**  
Aya Omar  
University of Kentucky

**Co-author**  
Cole Malloy  
NIH

**Co-author**  
Robin Cooper  
University of Kentucky
The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.

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

**Posters: Psychology**

**Curris Center**

Chair: Richard Osbaldiston  
Secretary: KatieAnn Skogsberg

Can nicotine improve scopolamine-induced behavioral deficit?

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

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

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

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170.

177.

178.

179.

180.
Implicit Gender Bias, Commercials, and Cooperation.
181.
First Author
Rick Holland
Berea College

Let's Face It: The Effects of Disclosure Type and Modality on Student Comfort
182.
First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony
183.
First Author
Madison Raymer
Morehead State University
Co-author
Megan Conn
Morehead State University

Maternal trauma and parenting sensitivity: Implications for attachment-based interventions
184.
First Author
Ashley Hamm
Morehead State University Psychology Department
Co-author
Madison Raymer
Morehead State University Psychology Department
Co-author
Dr. Shari Kidwell
Morehead State University Psychology Department

The Effect of Noise, Intention, and Time of Day on Memory
185.
First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?
186.
First Author
### Posters: Science Education

**Curris Center**

**Chair:** Shira Rabin  
**Secretary:** Karen Hlinka

#### The POGIL Approach to Teaching

187.

**First Author**
Lucas Collett  
*Berea College*

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

188.

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

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

189.

**First Author**
Martin Brock  
*Eastern Kentucky University*

### Posters: Zoology

**Curris Center**

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

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

171.

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

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

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

First Author: Talon Garman  
Murray State University  

Co-author: Laura Sullivan-Beckers  
Murray State University

---

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

First Author: Katherine Cappel  
Campbellsville University

---

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

First Author: Abigail Glass  
Murray State University  

Co-author: Rachel Racicot  
Vanderbilt University  

Co-author: Michelle Casey  
Murray State University  

Co-author: Simon Darroch  
Vanderbilt University

---

Heritable Behavioral Tendencies of the African Lion

First Author: Natalie Mercer  
Kentucky Wesleyan College  

Co-author: Shannon Finerty  
Kentucky Wesleyan College

---

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author: Benjamin Conkright  
Western Kentucky University

---

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

**Biology Social**  
Corvette Lanes, 1415 Main St.  

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

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

Coffee & Tea
Crows Nest, Curris Center

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

Coffee & Tea
Blackburn 2nd floor lobby

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

Practice Room for Oral Presentations
Cumberland Room, Curris Center

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

Practice Room for Oral Presentations
Tennessee Room, Curris Center

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

Exhibitors tables
3rd floor of Curris Center

KBRIN (Kentucky Biomedical Research Infrastructure Network)
Kentucky Organization of Field Stations
University of Kentucky Chemistry Department
Oral Presentations: Cellular and Molecular Biology
Barkley Lecture Room, Curris Center

Characterization of Reagents Developed Against Two Basement Membrane Degraders in Drosophila melanogaster
8:00
First Author: Afolasayo Aromiwura
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
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
Co-author: Gary ZeRuth
Murray State University

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

First Author
Erin Clayton
Murray State University

Co-author
Gary ZeRuth
Murray State University

Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy
9:15

First Author
Jazmin Escamilla
Berea College

Co-author
Zongyi Hu
Liver Disease Branch, NIDDK-National Institute of Health

Co-author
Jake Liang
Liver Disease Branch, NIDDK-National Institute of Health

Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula
9:30

First Author
Ahmed Fadil
Western Kentucky University

PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.
9:45

First Author
Brittani Hawkins
Murray State University

Co-author
Chris Trzepacz
Murray State University

Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration
10:15

First Author
Monica Moran
Vanderbilt University
Division of Nephrology and Hypertension

Co-author
Billy Hudson
Vanderbilt University
Division of Nephrology and Hypertension

Co-author
Vadim Pedchenko
Vanderbilt University
Division of Nephrology and Hypertension

Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and
Oral Presentations: Ecology and Environmental Sciences
Curris Center Theatre

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

Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference
8:00
First Author
Audrey Alexander

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
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
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
Breann Colter
Northern Kentucky University
Alexandra Dailey
Northern Kentucky University
Christine Curran
Northern Kentucky University

Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference
8:00
First Author
Audrey Alexander
Assessing the Carbon and Energy Balance of a Grazed Pasture in Central Kentucky Using the Eddy Covariance Method

8:15
First Author  | Co-author
Ian Ries  | Maheteme
Kentucky State University  | Eastern Kentucky University

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

8:30
First Author  | Co-author  | Co-author  | Co-author  | Co-author
Elizabeth Malloy  | David Brown  | Stephen Richter  | Barbara Scott  | Michelle Cook
Eastern Kentucky University  | Eastern Kentucky University  | Eastern Kentucky University  | Kentucky State University  | Kentucky Division of Engineers

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

8:45
First Author  | Co-author  | Co-author
Meika Finger-Gray  | Avinash Tope  | shreya Patel
Kentucky State University  | Kentucky State University  | Kentucky State University

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

9:00
First Author  | Co-author  | Co-author  | Co-author
Sait Sarr  | Maheteme  | Avinash Tope  | Mark Coyne
Kentucky State University  | Kentucky State University  | Kentucky State University  | University of Kentucky

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15
First Author
Rose Marks
### Policy communication and the Impact of Agricultural Communities on Karst Landscapes: An Example from Phong Nha-Kẻ Bàng

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

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

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

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

---

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

**First Author**
Kaitlyn Kelly  
**Eastern Kentucky University**

**Co-author**
David Brown  
**Eastern Kentucky University**

---

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

**First Author**
Bruce Kessler  
**Western Kentucky University**

**Co-author**
Andrew Davis  
**Western Kentucky University**

---

### Prey Resource Partitioning Between Sympatric Bat Species

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

**Co-author**
Terry Derting  
**Murray State University**

**Co-author**
Gary ZeRuth  
**Murray State University**

---

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

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

**Co-author**
Muntathar Alshimary  
**Berea College**

**Co-author**
Rebecca Klem  
**Berea College**

**Co-author**
Jeremy Wilde  
**Berea College**

**Co-author**
Roy Scudder-Davis  
**Berea College**

---

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

**First Author**

**Co-author**

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

11:15

First Author
Abhinav Maurya
University of Louisville

Co-author
Christopher Frost
University of Louisville

Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods

11:30

First Author
Samantha Thomas
University of Kentucky

Co-author
Jarrett Johnson
Western Kentucky University

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

11:45

First Author
Jacob Hutton
University of Kentucky

A Study of Mercury in Bald Eagle Feathers and Quills

1:00

First Author
Wendy Cecil
University of Kentucky

Co-author
Cate Webb
Western Kentucky University

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

1:15

First Author
James Graham
University of Kentucky

Co-author
Leslie North
Western Kentucky University

Co-author
Edward Hujbens
University of Akureyri

Co-author
Elizabeth Willenbrink
Western Kentucky University

Co-author
Jun Yan
Western Kentucky University

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

1:30

First Author
An examination of fish and macroinvertebrate succession patterns after restoration of a novel stream system

1:45

First Author
Patrick Vrablik
Murray State University

Co-author
Michael B. Flinn
Murray State University

Movement patterns of Silver Carp Hypophthalmichthys molitrix in Kentucky Lake

2:00

First Author
Timothy Spier
Murray State University

Co-author
Michael Flinn
Murray State University

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

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

Co-author
Allison DeRose
Murray State University

Co-author
Brad Hartman
Murray State University

Co-author
Dalton Lebeda
Murray State University

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

2:15

First Author
Bradley Hartman
Murray State University

Co-author
Timothy Spier
Murray State University

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

8:00

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

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

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

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

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

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

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

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

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

Understanding the Parameter Space of Keplerian Orbits in APOGEE
11:00
First Author: Nathan De Lee
Co-author: Kyle Houston
Northern Kentucky University

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

Saturday, November 4, 2017  8:15am - 10:00am
Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320

Chair: Harry Fannin
Secretary: Bommanna Loganathan

Section meeting to follow presentations

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

First Author
Jessica Dove
Eastern Kentucky University

Co-author
Matthew Nee
Western Kentucky University

Co-author
Philip J. Silva
USDA - ARS

Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy

First Author
Ryan Lamb
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

The removal of organic pollutants through buoyant photocatalyst

First Author
Kayla Steward
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation

First Author
Rosemary Calabro
University of Kentucky

Co-author
Dong-Sheng Yang
University of Kentucky

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

First Author
Mara Krempel
Western Kentucky University

Co-author
Hayley Moss
Western Kentucky University

Co-author
Hanna (John) Khourieh
Western Kentucky University

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

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

Chair: Jean Gumirakiza
Section meeting to follow presentations

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

First Author
Srijana Thapa Magar
Kentucky State University

Co-author
Kirk Pomper
Kentucky State University

Co-author
Jeremiah Lowe
Kentucky State University

Co-author
Sheri Crabtree
Kentucky State University

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

First Author
GEORGE ANTONIOUS
KENTUCKY STATE UNIVERSITY

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

First Author
James Schwartz
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

Co-author
Waldemar Rossi
Kentucky State University

Co-author
Katerina Kousoulaki
Nofima

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

First Author
Amit Yadav
Kentucky State University

Co-author
Waldemar Rossi
Kentucky State University

Co-author
Hab Andemichael
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

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

**9:30**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Emily Cook</td>
<td>Lin Handayani</td>
<td>Jessica Pafford</td>
<td>Steve Still</td>
<td>John Grove</td>
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<td>Murray State</td>
<td>University</td>
<td>Murray State University</td>
<td>Murray State University</td>
<td>University of Kentucky</td>
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<tr>
<td></td>
<td>Mark Coyne</td>
<td>Ann Freytag</td>
<td>Mamata Bashyal</td>
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<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**

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<td>Sathya Govindasamy</td>
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## Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture and sp

**10:00**

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## Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

**10:30**

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<td>Rose Johnson</td>
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<tr>
<td>An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass</td>
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<td>Gagan Kolimadu</td>
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<td>Vikas Kumar</td>
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**ANTIBIOTIC SUSCEPTIBILITIES OF BACTERIA ISOLATED FROM THE SAME FISH IN CASES EXAMINED AT THE KENTUCKY STATE UNIVERSITY F**

11:00

<table>
<thead>
<tr>
<th>Session Title</th>
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<tbody>
<tr>
<td>Investigating the Impact of Low-Cost Organic Fertilizers on Tomato Yield</td>
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<td>Lusekelo Nkuwi</td>
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<td>George Antonious</td>
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<td>Eric Turley</td>
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**Evaluation of Density in a Live Holding System for Food Size Channel Catfish, Ictalurus punctatus**

11:30

<table>
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<tr>
<th>Session Title</th>
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<tr>
<td>Are Online Shoppers Aware and/or Interested In Learning About Direct-To-Consumer Market Outlets?</td>
<td>1:00</td>
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<tr>
<td><strong>First Author</strong></td>
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<td>JEAN DOMINIQUE GUMIRAKIZA</td>
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<td>Stephen King</td>
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<td>Thomas Kingery</td>
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As online shopping becomes popular, will consumers still be interested in direct-to-consumer offline market outlets?

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

1:30

First Author
Audrey Barnett
Western Kentucky University

Co-author
Dominique Gumirakiza
Western Kentucky University

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

1:45

First Author
Thomas Mason
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

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

2:00

First Author
Shreya Patel
Kentucky State University

Co-author
Avinash Tope
Kentucky State University

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

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

Oral Presentations: Geography

Mississippi Room, Curris Center

Chair: Buddhi Gyawali
Secretary: Christopher Day

Section meeting to follow presentations
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<td>D’Andre Garrison</td>
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<td>Jordan Wilson</td>
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<td>9:00</td>
<td>The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan</td>
<td>Tori Farrow</td>
<td>Jeremy Sandifer</td>
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<td>9:15</td>
<td>Networks of Sustainability within the Iceland Whale Watching Industry</td>
<td>Jason Fox</td>
<td>Leslie North</td>
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<td>9:30</td>
<td>Predicting the Adoption of Sustainable Agricultural Practices among Kentucky Farmers and Its Barriers</td>
<td>Bijesh Mishra</td>
<td>Buddhi Gyawali</td>
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<td>10:00</td>
<td>Exploring Relationship between community Perception and landscape change in the Eastern Kentucky</td>
<td>Buddhi Gyawali</td>
<td>Prabisha Shrestha</td>
<td>Til Shrestha</td>
<td>Jeremy Sandifer</td>
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<td>10:15</td>
<td>Association of land cover change trend with land ownership size at parcel level data in Breckinridge County, KY</td>
<td>Prabisha Shrestha</td>
<td>Buddhi Gyawali</td>
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<td>Land Cover Classification using LandSat, NAIP images, and Accuracy enhancements</td>
<td>Prabisha Shrestha</td>
<td>Buddhi Gyawali</td>
<td>Til Shrestha</td>
<td>Jeremy Sandifer</td>
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Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology

10:45

First Author
James Shelley
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Nicholas Crawford
Western Kentucky University

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

Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

11:00

First Author
Patricia Kambesis
Western Kentucky University

Co-author
Brittiny Moore-Kimmel
Texas State University

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

11:15

First Author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Kenneth Bates
Kentucky State University

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

Oral Presentations: Geology

Blackburn 228

Chair: Ann Harris

Secretary: David Dockstader

Section meeting to follow presentations

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

9:00
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<td>Randal Roberson</td>
<td>Michelle Casey</td>
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<td>Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University's Meadow</td>
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<td>Reid Buskirk</td>
<td>Walter Borowski</td>
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<td>Patterns of nutrient export for a typical non-point source, Meadowbrook Farm, Madison County, Kentucky.</td>
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<td>James Winter</td>
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<tr>
<td>How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetops in Kentucky's Daniel Boone National Forest?</td>
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<td>Modeling the groundwater storage and the groundwater recharge rate of an ephemeral wetland with Hydrus-1D</td>
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<td>Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY</td>
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<td>Laura Kelley</td>
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<td>Runoff generation in an ephemeral agricultural watershed with thin soil</td>
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10:45
### Oral Presentations: Psychology

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

**9:00**

**First Author**  
Aaron Clark  
*Berea College*

**Co-author**  
Dave Porter  
*Berea College*

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

**9:15**

**First Author**  
Laura Hopkins  
*Centre College*

**Co-author**  
Nicole Stumpp  
*Centre College*

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

**9:30**

**First Author**  
Enkhjin Enkhbold  
*Berea College*

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

**9:45**

**First Author**  
Karina Cole  
*Morehead State University*

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

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

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

**10:15**

**First Author**  
Aaron Ellis  
*Morehead State University*

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

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

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

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

**Co-author**  
Rebecca Ashley  
*Morehead State University*
Oral Presentations: Science Education
Blackburn 249

Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes
9:00

First Author
Joseph Erskine
Bellarmine University

Co-author
Jordan Dowdy
Bellarmine University

Co-author
Stephen Denny
Bellarmine University

Co-author
M Saleem
Bellarmine University

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

**First Author**
Katherine Ray King  
*University of Louisville*

**Co-author**
Linda Fuselier  
*University of Louisville*

**Co-author**
Justin McFadden  
*University of Louisville*

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

**First Author**
Wilson Gonzalez-Espada  
*Morehead State University*

**Co-author**
Laura Parker  
*Kentucky School for the Blind*

**Co-author**
Adam Stockhausen  
*Kentucky School for the Blind*

**Co-author**
Wanda Diaz-Merced  
*Office of Astronomy for Development*

**Co-author**
Allyson Bieryla  
*Dept. of Astronomy, Harvard University*

**Co-author**
Robert Hart  
*Dept. of Physics, Harvard University*

**Co-author**
Daniel Davis  
*Natural Sciences Lecture Demonstrations, Harvard University*

### Should We Lie To Our Students?

**First Author**
Andy Martin  
*Kentucky State University*

### Adaptive Learning Courseware in Majors Biology Course

**First Author**
Shira Rabin  
*University of Louisville*

### Strengthening Student Foundations: Strategies for Active-Learning Classrooms

**First Author**
Kevin Revell  
*Murray State University*

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

**First Author**
Norm Strobel  
*KCTCS/Blugrass Community and*
Saturday, November 4, 2017  9:30am - 10:30am

**Breaks**

Staggered in sessions - check schedule

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

**Oral Presentations: Engineering**

Ohio Room, Curris Center

Chair: Aaron Daley  
Secretary: shen liu

Section meeting to follow presentations

---

### Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts

10:00

**First Author**  
Jordan Garcia  
*University of Kentucky*

**Co-author**  
Tyler Stoffel  
*University of Kentucky*

**Co-author**  
John Schmidt  
*University of Kentucky*

**Co-author**  
Alexander Bolin  
*University of Kentucky*

**Co-author**  
David Lu  
*University of Kentucky*

**Co-author**  
Charles Lu  
*University of Kentucky*

---

### Imaging of the spinal cord in pediatric patients.

10:15

**First Author**  
Bhavesh Ramkorun  
*Berea College*

**Co-author**  
Samantha By  
*Vanderbilt University*

**Co-author**  
Aashim Bhatia  
*Vanderbilt University*

**Co-author**  
Bryson Reynolds  
*Vanderbilt University*

**Co-author**  
Institute of Imaging Science

**Co-author**  
Patrick Couture  
*Vanderbilt University*

**Co-author**  
Medical Center

**Co-author**  
Seth Smith  
*Vanderbilt University*

**Co-author**  
Institute of Imaging Science

---

### Hands-on Robotics Lab at Bellarmine University

10:30

**First Author**  
Christopher Steitz  
*Bellarmine University*

**Co-author**  
Stephen Brown  
*Bellarmine University*

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

---

### Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms

10:45
Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components

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

Mentor-Matching

Winslow Dining Hall

Mentor matching: Looking for a future graduate advisor?
If you are a biology undergraduate/graduate student and looking for a future biology advisor for your M.S. or Ph.D., please come to Winslow dining on Saturday at lunch time. Biology faculty who are interested in recruiting students will be present in the cafeteria (look for signs on the tables) and will be happy to talk to you about possibilities in their labs.

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

KAS-KCTCS Science Faculty meeting

Blackburn 249

An annual meeting of KCTCS Science faculty. A general meeting of all disciplines is followed by break-out meetings for faculty in Biology, Chemistry, and Physics. Breakouts will be in Blackburn 249 and 320.

Saturday, November 4, 2017  1:00pm - 1:15pm

Oral Presentations: Botany

Mississippi Room, Curris Center

Chair: Lawrence Alice  
Secretary: Maggie Whitson

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

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

Oral Presentations: Chemistry: Organic/Inorganic

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

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

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

Recent Progress in the Investigation of the Bonding and Electronic Structure in Metal Chalcogenide Complexes
The Synthesis of Heteroatom-activated Antibiotics: $\beta$-lactams
2:00
First Author
Jacob Nanney
Kentucky Wesleyan
College
Co-author
Kyle Watson
Kentucky Wesleyan
College

Visible Light Generation of High-Valent Iron-Oxo Intermediates
2:15
First Author
Malone Jonathan
WKU
Co-author
dharmesh Patel
WKU
Co-author
Tse-hong Chen
Purdue University
Co-author
Ka Wai Kwong
WKU

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 - 2:00pm

Oral Presentations: Mathematics
Blackburn 228
Chair: R. Douglas Chatham
Secretary: Andy Martin
# 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 of ODEs.

**1:30**

*First Author*

Austin Gabhart  
*Gatton Academy, Western Kentucky University*

---

# The n+k kings problem

**1:45**

*First Author*

R. Douglas Chatham  
*Morehead State University*

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

## Oral Presentations: Microbiology

*Cumberland Room, Curris Center*

**Chair:** Lingyu Huang  
**Secretary:** Joseph Mester

Section meeting to follow presentations

---

# Antimicrobial activity from bacteria found around downtown Cincinnati

**1:00**

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

---

# Inhibition of Fungal Colony Growth by UVC

---
Emergence and divergence of influenza virus: A current perspective

1:30

First Author
Alexander Lai
Kentucky State University

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

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

Chair: Michael Smith  Secretary: Julia Carter

Section meeting to follow presentations

Identification of tRNA modification enzymes in higher eukaryotes via primer extension

1:00

First Author
Justen Mamaril
Northern Kentucky University

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
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

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

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

1:00

First Author
Mason Gibson
Western Kentucky University
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin</td>
<td>1:45</td>
<td>Mallory Cox</td>
<td>University of Louisville</td>
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<td>Shifting Agriculture's Effects on Lemurs in a Malagasy Gallery Forest</td>
<td>2:00</td>
<td>Benjamin Freed</td>
<td>Nathanael Bartosch</td>
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<td>Oral Presentations: Computer and Informational Sciences</td>
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<td>Harrison Inocencio</td>
<td>Deavin Hester</td>
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<td>Laura Lodder</td>
<td>Justin Moore</td>
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<td>Neil Moore</td>
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<td>Jerzy Jaromczyk</td>
<td>Luke Decastro</td>
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<td>University of Kentucky</td>
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<tr>
<td>Adaptive Topic Mining from Social Media Streams</td>
<td>1:30</td>
<td>Gopi Chand Nutakki</td>
<td>Olfa Nasraoui</td>
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<td>University of Louisville</td>
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<td>BayesianGLasso: software for integrating a priori knowledge and empirical data utilizing a graphical model framework</td>
<td>1:45</td>
<td>Patrick Trainor</td>
<td>Andrew DeFilippis</td>
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<td>Shesh Rai</td>
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</tbody>
</table>
Password cracking performance testing comparing GPU vs CPU performance using Hashcat

First Author
Deven Rataiczak
Bellarmine University

Oral Presentations: Zoology
Mississippi Room, Curris Center

Phenotypic plasticity of mating calls in the katydid Neconocephalus triops

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

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

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

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

First Author
chi peng
Berea College
Co-author
Chi Peng
Berea College
Co-author
Hanna Abe
Yale University
Co-author
Ron Rosen
Berea College
Co-author
Brian Traw
Berea College

Co-author
Emma Reasoner
Berea College
Co-author
Marah Zeadan
Berea College

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

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

First Author
Cassandra Scalf
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

Saturday, November 4, 2017 2:30pm - 4:30pm
Coffee & Tea
Crow's Nest, Curris Center

Saturday, November 4, 2017 3:00pm - 4:00pm
Keynote Jeffrey Bennett: Communicating Science to the Public
Curris Center Ballroom

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

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

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

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

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

Moderator: Wilson Gonzalez-Espada

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