2017 Annual Meeting Program
November 3-4, 2017

Murray State University

Thank you to our Platinum Sponsor

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

Poster presentations are all on Friday

Oral Presentations are all on Saturday

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAS Governing Board meeting</td>
<td>Friday, November 3, 2017</td>
<td>1:00pm - 3:00pm</td>
</tr>
<tr>
<td>Commonwealth Suite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open to all KAS members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting for Section Leaders and Judges</td>
<td>Friday, November 3, 2017</td>
<td>3:00pm - 4:00pm</td>
</tr>
<tr>
<td>The Stables, Curris Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you are serving as a Judge or Section leader, please attend this</td>
<td></td>
<td></td>
</tr>
<tr>
<td>meeting for a brief orientation to the student competition process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and to pick up materials.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017</td>
<td>3:00pm - 9:30pm</td>
</tr>
<tr>
<td>Tennessee Room, Curris Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017</td>
<td>3:00pm - 9:30pm</td>
</tr>
<tr>
<td>Cumberland Room, Curris Center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tour - Hancock Biological Station</td>
<td>Friday, November 3, 2017</td>
<td>3:00pm - 5:00pm</td>
</tr>
<tr>
<td>Meet in front of Curris Center</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2 hour round trip

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

---

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

**KAS Business meeting**

Mississippi Room, Curris Center

President: Darrin Smith

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

---

**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, 712 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 meter, and two viscometers; the DMA makes Murray State the only university in the region to have such capabilities for polymer and materials characterization.

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

Chair: Jean Gumirakiza

<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>effects of excess dietary branched chain amino acids (leucine and isoleucine) on growth and health of Nile tilapia</td>
<td>Cora Teets Kentucky State</td>
<td>waldemar Rossi</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>University</td>
</tr>
<tr>
<td>A Comparison of the Characteristics of Kentucky and Illinois Soils Under Various Land Cover</td>
<td>Bernedette Chadwick Murray State</td>
<td>Michael Mercer</td>
<td>Bailey Webster</td>
<td>Brandon Clark</td>
<td>Iin Handayani</td>
</tr>
<tr>
<td>Dehydration of autumn olive berries for human consumption</td>
<td>Changzheng Wang Kentucky State</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
</tr>
<tr>
<td>Developing cold-hardy perennial ornamentals for Kentucky</td>
<td>Hideka Kobaayashi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Distinguishing Differences of Soil Physical Properties in Irrigated and Non-Irrigated Corn-soybean Rotation and Pastur

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harry Franklin</td>
<td>Duncan Thomas</td>
<td>Connor Raymond</td>
<td>Jacob Flemming</td>
<td>Lin Handayani</td>
</tr>
<tr>
<td>Murray State</td>
<td>Murray State</td>
<td>Murray State</td>
<td>Murray State</td>
<td>Murray State</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
<tr>
<td></td>
<td>Brian Parr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murray State</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changzheng Wang</td>
<td>Kirk Pomper</td>
<td>Eric Turley</td>
<td>Quinn Heist</td>
<td>Thomas Trivette</td>
</tr>
<tr>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
<tr>
<td></td>
<td>Lusekelo Nkuwi</td>
<td>Yogendra Upadhyaya</td>
<td>B Jess Mishra</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEORGE ANTONIOUS</td>
<td>Kirk Pomper</td>
<td>Eric Turley</td>
<td>Quinn Heist</td>
<td>Thomas Trivette</td>
</tr>
<tr>
<td>KENTUCKY STATE</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
</tr>
<tr>
<td>UNIVERSITY</td>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
<tr>
<td></td>
<td>Lusekelo Nkuwi</td>
<td>Yogendra Upadhyaya</td>
<td>B Jess Mishra</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jean Dominique</td>
<td>Thomas Kingery</td>
<td>Stephen King</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GUMIRAKIZA</td>
<td>Western Kentucky</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WESTERN KENTUCKY</td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Soil Distinguishing Factors in Pasture and Irrigated Soils in Tennessee, Kentucky, and Illinois
Soil Properties in Varying Crop and Non-Crop Areas of Calloway County, Kentucky
70.
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
71.
First Author
Bailey Webster
Murray State University
Co-author
iin Handayani
Murray State University
Co-author
Brian Parr
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.
First Author  
Nellie Heitzman  
Transylvania University

Co-author  
Sarah Bray  
Transylvania University

Building an interactive tree map for the Bellarmine University campus.

77.
First Author  
David Robinson  
Bellarmine University

Co-author  
Kaitlyn Yates  
Bellarmine University

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

78.
First Author  
Hasan Salim

Friday, November 3, 2017 5:00pm - 8:00pm
Elucidating the Relationship Between sox4a and sox4b in the Zebrafish Eye

First Author: Hadley Neal
KBRIN: Rebecca Petersen
Co-author: Wen Wen
University of Kentucky: Ann Morris
University of Kentucky: University of Kentucky

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

First Author: Dane Flinchum
Western Kentucky University: Ajay Srivastava
Western Kentucky University: University

Examining Gene Expression during Xenopus Embryonic Development

First Author: Maria Stewart
Northern Kentucky University: Emily Shifley
Northern Kentucky University: University

Functional Analysis of Signaling Molecules Involved in Spermiogenesis of Drosophila melanogaster

First Author: Lee Kendall
Centre College: Samuel White
Murray State: Douglas Harrison
University of Kentucky: University of Kentucky

Identifying genetic modifiers in a Drosophila model of Inclusion Body Myopathy

First Author: Amber Follin
Biology Department, Berea College: Kyla Britson
Neuroscience and Neurology, Johns Hopkins Medicine: Tom Lloyd
Neuroscience and Neurology, Johns Hopkins Medicine: University of Kentucky

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

First Author: Sarah Kunkler
Northern Kentucky University: Emily Shifley
Northern Kentucky University: University
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>The effect of benzo[a]pyrene on motor function in neonatal mice</td>
<td>Katelyn Dunn</td>
<td>Tamika Chappell</td>
<td>Lisa Massie</td>
<td>Shelby Caudill</td>
<td>Pamela Dickson</td>
</tr>
<tr>
<td>Role of autophagy-related protein Vps34 in the function of adipose</td>
<td>Henry Kwan</td>
<td>Lan Wu</td>
<td>Luc Van Kaer</td>
<td>Luke Postoak</td>
<td>Margaret Sabourin</td>
</tr>
<tr>
<td>tissues and interactions with the immune system</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
<td>Vanderbilt University</td>
</tr>
<tr>
<td>Using gene expression to better understand macrophages’ role in</td>
<td>Kendall Collins</td>
<td>Jennifer Simkin</td>
<td>Ashely Seifert</td>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
</tr>
<tr>
<td>tissue regeneration</td>
<td>Kentucky Biomedical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visualizing Programmed Genome Arrangement in Live Sea Lamprey</td>
<td>Conner Hounshell</td>
<td>Courtney Waterbury</td>
<td>Jeremiah Smith</td>
<td>University of Kentucky</td>
<td>University of Kentucky</td>
</tr>
<tr>
<td>embryos</td>
<td>Kentucky Biomedical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex Specific Gene Control of Cardiac Fibrosis</td>
<td>Bruce Northington</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eastern Kentucky</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annotation of Spock and Inky Mycobacteriophages

90.

First Author: Brittany Farnsley
Co-author: Jennifer Doyle
Spalding University: Spalding University
Co-author: Moria Magre
Spalding University: 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
Western Kentucky University: Western Kentucky University
Co-author: Moon-Soo Kim
Western Kentucky University: Western Kentucky University

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

92.

First Author: Hannah Sizemore
Co-author: Daisy DiVita
Northern Kentucky University: Northern Kentucky University
Co-author: Julia Ziebro
Northern Kentucky University: Northern Kentucky University
Co-author: Michael Guy
Northern Kentucky University: Northern Kentucky University

Exploring Small Molecule Drugs Binding To Ribosomal Protein L11

93.

First Author: Swetaben Patel
Co-author: Michal Hetman
University of Louisville: University of Louisville
Co-author: Lukasz Slomnicki
University of Louisville: University of Louisville

IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY RELATIONSHIP

94.

First Author: Issac Domenech
Co-author: Ambra Pozzi
Vanderbilt University Medical Center: Vanderbilt University Medical Center
Co-author: Corina Borza
Vanderbilt University Medical Center: Vanderbilt University Medical Center
Co-author: Craig Lindsley
Vanderbilt University Medical Center: Vanderbilt University Medical Center
Co-author: Daniel Jeffries
Vanderbilt University Medical Center: Vanderbilt University Medical Center

NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells

95.
SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis

First Author
Thomas Case
KBRIN

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

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

Identification of the enzyme responsible for the acp3U modification in bacteria

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

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

First Author
Samuel Ammerman
Northern Kentucky University
Co-author
Erin Strome
Northern Kentucky University

Friday, November 3, 2017 5:00pm - 8:00pm
Posters: Chemistry: Analytical & Physical
Curris Center
Chair: Harry Fannin
Secretary: Bommanna Loganathan
Analysis of Protein Conformations Using Computer Simulations

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

First Author
Clara Reasoner
Berea College

Co-author
Amanda Siegel
Indiana University

Co-author
Hiroki Yokota
Indiana University

Co-author
Mangilal Agarwal
Indiana University

Co-author
Amanda Siegel
Purdue University

Co-author
Hiroki Yokota
Purdue University

Co-author
Mangilal Agarwal
Purdue University

Co-author
Indiana University

Co-author
Purdue University

Co-author
Indiana University

Anaerobic Degradation of Tetracyclines in Agricultural Manure

First Author
Brandon Couch
Western Kentucky University

Co-author
John Kasumba
Western Kentucky University

Co-author
John Loughrin
usda

Co-author
Eric Conte
Western Kentucky University

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

First Author
Allie Skees
Department of Chemistry, Murray State University

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

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

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

First Author
Maxwell Conte
Western Kentucky University

Co-author
Ali Abd-Elaal
Department of Petrochemicals, Egypt Petroleum Research Inst.

Co-author
Aaron Kirtland
The Carol Martin Gatton Academy of Mathematics and Science

Co-author
Yong-Il Lee
Department of Chemistry, Changwon National University, S.K.

Polyunsaturated Fatty Acid Profile in Hemp-Fed Chicken Egg

First Author
Cole Hulen
Murray State
From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation

7.

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

8.

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

9.

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

10.

First Author
Michael Greiving
KYSU

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

11.

First Author
Brendan Evans
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
Bommanna Loganathan
Murray State University

Co-author
Ray Cox
Northwest MS Community College

Co-author
Paul Grisham
Northwest MS Community College

Co-author
Piya Adris
Northwest MS Community College

Co-author
Lindsay Massie
Northwest MS Community College

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

Co-author
Mark Montgomery
Northwest MS Community College

Co-author
Padma Thimmaiah
Northwest MS Community College

Co-author
Ashish Pagare
Northwest MS Community College

Co-author
Larry Sylvester
Northwest MS Community College

Co-author
Ray Cox
Northwest MS Community College

Co-author
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 Revealing Unknown Chemicals Reaction Mechanisms

16.
First Author
Junjie Xiang
Western Kentucky University

Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification
190.

First Author
Demetrius? Davis
Kentucky State University/University of Kentucky

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

Posters: Chemistry: Organic/Inorganic
Curris Center

Chair: Kevin Revell  Secretary: Kyle Watson

Application of metal-organic framework materials in dye-sensitized solar cells
17.
First Author  Co-author
Ryan Boggess  Bangbo Yan
Western Kentucky University  Western Kentucky University

Effect of Iron charge state on P450 BM3 stability
18.
First Author  Co-author  Co-author
Catherine Denning  David Heidary  Edith Glazer
University of Kentucky  University of Kentucky  University of Kentucky

Fluorescence properties of metal-organic frameworks containing ruthenium and copper ions.
19.
First Author  Co-author
Bangbo Yan  Robert Spears
Western Kentucky University  Western Kentucky University

Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors
20.
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

First Author
Erin O'Donnell
Murray State University

Light Activated Ruthenium Peptide Hybrids

First Author
Haiyan Liu
Western Kentucky University

N-Heterocyclic Carbene Complexes

First Author
Mario Chavarria
Berea College

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

First Author
Vincent Kelly
Kentucky State University

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

First Author
Hannah Brooks
Western Kentucky University

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

First Author
Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Knöllker-type Catalyst

27. First Author
Alexandra Redden
Murray State University
Co-author
Rachel Whittaker
Murray State University
Co-author
Kane Ferguson
Murray State University

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

28. First Author
Luis Gonzalez Anguiar
Berea College

Solid-Phase Synthesis of Heteroatom-Activated Antibiotics

29. First Author
Morgan Uebelacker
Kentucky Wesleyan College
Co-author
Jacob Nanney
Kentucky Wesleyan College
Co-author
Kyle Watson
Kentucky Wesleyan College

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

30. First Author
Erin Calvert
Murray State University
Co-author
Kasey Clear
Murray State University
Co-author
Sebastian Jezowski
Murray State University

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

31.
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benjamin Kash</td>
<td>Haiyan Liu</td>
<td>Rui Zhang</td>
</tr>
<tr>
<td>Gatton Academy, Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
</tr>
</tbody>
</table>

**Synthesis and Properties of a Ruthenium Polypyridyl Complex**

32.

First Author
Hannah Cope
Western Kentucky University

Co-author
Bangbo Yan
Western Kentucky University

**Synthesis of Cleavable Acetal Antibody Drug Conjugate**

33.

First Author
Luis Salazar Guzman
Berea College

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

34.

First Author
Charles Greif
Eastern Kentucky University

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

35.

First Author
Beau Schweitzer
Berea College

**Synthesizing Cleavable Acetal Antibody Drug Conjugates**

36.

First Author
Michael James
Berea College

Co-author
Sarah Tabor
Berea College

Co-author
Elizabeth Thomas
Berea College

---

**Posters: Computer and Informational Sciences**

Curris Center

Friday, November 3, 2017  5:00pm - 8:00pm
Incorporating WeBWorK in a Mathematics Classroom

37.

First Author: Haley Replogle
Co-author: Kyle Besing
Kentucky Wesleyan College

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

38.

First Author: Russell Sexton
Co-author: Stephen Denny
Bellarmine University
Co-author: Akhtar Mahmood
Bellarmine University
Co-author: M. Saleem
Bellarmine University

Posters: Ecology and Environmental Sciences
Curris Center

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

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

Ant communities of temperate tree canopies along an urban-rural gradient
<table>
<thead>
<tr>
<th>Page</th>
<th>First Author</th>
<th>Co-author</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Heather Short</td>
<td>Daniella Prince</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benjamin Adams</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keegan Thompson</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chloe Lash</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stephen Yanoviak</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>103</td>
<td>Melody Feden</td>
<td>Howard Whitemand</td>
<td>Murray State</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University</td>
</tr>
<tr>
<td>104</td>
<td>Vanetta Graves</td>
<td>Stephen Yanoviak</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Christopher Frost</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>105</td>
<td>Shelby Watkins</td>
<td>Monika Staszczak</td>
<td>Murray State</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University</td>
</tr>
<tr>
<td>106</td>
<td>Kevin &quot;Austin&quot; Johnessee</td>
<td></td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Priya Karna</td>
<td>University of Louisville</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sunil Karna</td>
<td>Union College</td>
</tr>
<tr>
<td>107</td>
<td>Roma Karna</td>
<td></td>
<td>Union College</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Union College</td>
</tr>
</tbody>
</table>
Site selection by the Jefferson's and spotted salamanders based on substrate pH
First Author: Tosha Shokes
Co-author: Jarrett Johnson
Institution: Western Kentucky University

Assessing the effects of urban air pollution on lichens
First Author: Austin Adam
Co-author: Roberta Challener
Institution: Bellarmine University

The Effects of Stream Degradation on Food Web Stability
First Author: Hannah Moore
Co-author: Howard Whiteman
Institution: Murray State University

Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.
First Author: Spencer Phillips
Co-author: Ben Tumolo
Institution: Murray State University

Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status
First Author: Alishea Brown
Co-author: Farida Olden
Institution: Kentucky State University

Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees
First Author: Maria Shields
Co-author: Stephen Yanoviak
Institution: University of Louisville

Driver bias in intentional wildlife-vehicle collisions
First Author:
### Using Hardiness Zones to Determine Phenological Variation

115.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whitney Buechler</td>
<td>Bassil El Masri</td>
<td>Paul Gagnon</td>
</tr>
<tr>
<td>Murray State University</td>
<td>Murray State University</td>
<td>Murray State University</td>
</tr>
</tbody>
</table>

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

116.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel Kaiser</td>
<td>James Shelley</td>
</tr>
<tr>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

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

117.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspen Workman</td>
<td>Claudia Stein</td>
<td>Scott Mangan</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>Washington University in St. Louis</td>
<td>Washington University in St. Louis</td>
</tr>
</tbody>
</table>

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

118.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacob Lawson</td>
<td>Margaret Carreiro</td>
<td>Lindsay Nason</td>
<td>Perri Eason</td>
<td>Amy Cherry</td>
<td></td>
</tr>
<tr>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td></td>
</tr>
</tbody>
</table>

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

119.

<table>
<thead>
<tr>
<th>First Author</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>David White</td>
<td></td>
</tr>
<tr>
<td>Murray State</td>
<td></td>
</tr>
</tbody>
</table>
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
Murray State University
Co-author
Michael Flinn
Murray State University

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
Co-author
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
Co-author
Cierla McGuire
Asbury University
Co-author
Sumathi Sankaran-Walters
University of Kentucky
Co-author
Mike McGrann
University of Kentucky
Caterpillar Predation Rates Across an Urban-Suburban Gradient

125.

First Author
Amy Cherry
University of Louisville

Co-author
Jacob Lawson
University of Louisville

Co-author
Lindsay Nason
University of Louisville

Co-author
Margaret Carreiro
University of Louisville

Co-author
Perri Eason
University of Louisville

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

126.

First Author
Michael Flinn
Murray State University

Co-author
Melody Feden
Murray State University

Co-author
Ben Ferguson
Murray State University

Co-author
Bradley Hartman
Murray State University

Co-author
Kayleen Parker
Murray State University

Co-author
Spencer Phillips
Murray State University

Co-author
Ivan Roe
Murray State University

Co-author
Christy Soldo
Murray State University

Co-author
Susan Hendricks
Murray State University

Co-author
Ivan Roe
Murray State University

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

127.

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

128.
Body Size of Leaf-Carrying and Hitchhiking Leafcutter Ants in a Tropical Forest

129.

First Author: Virginia Nunamaker
Co-author: Chris Nunamaker
Co-author: Steve Yanoviak
University of Louisville
University of Louisville
University of Louisville

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

130.

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

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

131.

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

Relationship between fish biomass and eDNA in central Kentucky streams.

132.

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

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

133.

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

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

134.

First Author: Lauren Mayton
Campbellsville University
Herbivory rates of Amazonian melastomes are unaffected by the presence of domatia-inhabiting ants

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

Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

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

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

Posters: Engineering

Curris Center

Chair: Aaron Daley
Secretary: shen liu

Green Roofs: Synergistic Benefits to Energy and Environmental Building Design

First Author: Emery Ginger
Murray State University

Automated Control System For Photo-bioreactor

First Author: Madankrishna Acharya
Kentucky State University

Biomass Stove Design Project: Automated Fuel Feeder System

First Author: Chance Davice
Berea College

Co-author: Mark Mahoney
Berea College

Co-author: Constantine Botimer
Berea College

Co-author: Chris True
Berea College

Co-author: Jedidiah Radosevich
Berea College
Integrated Computational Design of Tunable 3D CNT/Graphene Hybrid Nanomaterials

First Author
Tyler Stoffel
University of Kentucky

Co-author
Jordan Garcia
University of Kentucky

Co-author
Charles Lu
University of Kentucky

Co-author
Johnson Joseph
Fiat Chrysler Automobiles

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

First Author
Nathan Rayens
University of Kentucky

Co-author
Tongguang Zhai
University of Kentucky

Co-author
Pei Cai
University of Kentucky

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

Posters: Geography
Curris Center

Chair: Buddhi Gyawali
Secretary: Christopher Day

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

First Author
Kenneth Hancock
Murray State University

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

First Author
Jarod Jones
Kentucky State University

Co-author
Jordan Wison
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Ken Bates
Kentucky State University

Land Cover Change Assessment in Five Major Watersheds of Central Kentucky

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

### 47.

**First Author**
Roger Olson  
**Northern Kentucky University**

**Co-author**
Benjamin Roenker  
**Northern Kentucky University**

**Co-author**
Hawkins Warner  
**Northern Kentucky University**

**Co-author**
Zachary Ivey  
**Northern Kentucky University**

**Co-author**
Tim Faller  
**Northern Kentucky University**

**Co-author**
Sarah Johnson  
**Northern Kentucky University**

---

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

### 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.

**First Author**
Christopher Stewart  
**Murray State University**

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

**Co-author**
Steve Forman  
**Baylor University**

**Co-author**
Lisa Davis  
**University of Alabama**
# SITE FORMATION OF THE MIDDLE PLEISTOCENE FARRE ARCHAEOLOGICAL SITE, NORTHERN KENYA

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

# Posters: Health Sciences  
Friday, November 3, 2017 5:00pm - 8:00pm

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

137.

First Author: Carter Waugh  
Kentucky Biomedical Research Infrastructure Network

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

138.

First Author: Frederick Bebe  
Kentucky State University

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

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

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

## Effect of select phytochemicals on salivary and urinary pH

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

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

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

Immunogenicity of Novel Vaccines for Hepatitis C Virus

Measurement of Influenza Severity in Tennessee Hospitalized Patients, 2016-2017
Secondary Traumatic Stress and Resilience in Emergency Medical Service Providers: A Look at the Adaptive and Maladaptiv

First Author  Co-author  Co-author
Manoj Pathak  Cindy Austin  Simon Thompson
Murray State  Trauma & Burn  Department of Trauma
University  Research, Mercy  and Burn, Mercy
            Hospital  Hospital

The Relationship Between Maternal Physical Activity and Infant Motor Development

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

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

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

Using engineered zinc finger proteins to detect pathogen-specific DNA

First Author
Caleb Sedlak
Department of
Chemistry WKU

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

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

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

Posters: Microbiology
Curris Center
Chair: Lingyu Huang  Secretary: Joseph Mester
Inactivation of Fungal Spores with Heat and UVC

First Author: Colin Hartman  
Co-author: Sarah Goodrich  
Northern Kentucky University

First Author: Mitchel Lange  
Co-author: Zadah Coy  
Northern Kentucky University

First Author: Joseph Mester  
Co-author: Northern Kentucky University

Mycobacteriophages: Inky and Spock

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

Co-author: Jennifer Doyle  
Spalding University

Antifungal Endophytes as a Source of Novel Bioactive Compounds

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

Anti fungal 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

Co-author: 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

Co-author: Annie Koenig  
University of Louisville

Co-author: Easton Ford  
University of Louisville

Co-author: Doug Krauth  
University of Louisville

Isolation and Characterization of the Mycobacteriophage Acquire49

First Author: Deborah Yoder-Himes  
Co-author: Paul Himes  
University of Louisville

Co-author: University of Louisville
Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates

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

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

First Author: Easton Ford
Co-authors: Morgan Robinson, Amy Priest, Rachel Mahbubani, Doug Krauth, Paul Himes, Deborah Yoder-Himes
University of Louisville

Non-pathogenic Neisseria sicca ATCC 29256 undergoes natural transformation

First Author: Mark Sirianno
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
Comparison of Period Finding Techniques to Identify RR Lyrae Stars  

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

Electromagnetic Wave Motion Around a Black Hole  

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

Analyzing Color Relations for RR Lyrae in KELT  

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

Gold and Silver Nanoparticles Decorated Graphene as ‘smart’ Surface Enhanced Raman Scattering (SERS) Platforms
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Banaszak</td>
<td>Tyler Smith</td>
<td>Sanju Gupta</td>
</tr>
<tr>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex Henson</td>
<td>Brendan Evans</td>
<td>Sanju Gupta</td>
</tr>
<tr>
<td>WKU Department of</td>
<td>WKU Department of</td>
<td>WKU Department of</td>
</tr>
<tr>
<td>Physics and</td>
<td>Physics and</td>
<td>Physics and</td>
</tr>
<tr>
<td>Astronomy</td>
<td>Astronomy</td>
<td>Astronomy</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romney Meek</td>
<td>Sanju Gupta</td>
</tr>
<tr>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

Surface Functionality Of Graphene-family Nanomaterials On Electronic And Phononic Properties For Applied Electrochemistry

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brendan Evans</td>
<td>Alex Henson</td>
<td>Sanju Gupta</td>
</tr>
<tr>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
<td>Western Kentucky</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

Systematic Study of the Effects of Incorporation of Carbon Nanotubes into the GeXSe1-x Glass System

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Adamick</td>
<td>John Rademacher</td>
<td>Chari Ramkumar</td>
<td>Wayne Bresser</td>
</tr>
<tr>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
<td>Northern Kentucky</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

The Study of Light Paths Around Black Holes

<table>
<thead>
<tr>
<th>First Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abigail Campbell</td>
</tr>
<tr>
<td>Northern Kentucky</td>
</tr>
<tr>
<td>University</td>
</tr>
</tbody>
</table>
An improved, 'green' tetramethylbenzidine-based assay for the quantification of hemoglobin

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

Developing TALE proteins as a sensor for detecting pathogens

First Author
Kathrine Gaiko
Western Kentucky University

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

First Author
Meagan Medley
KBRIN

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

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

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

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

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

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

167.

**First Author**
Blaine Patty
Western Kentucky University

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

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

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

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

168.

**First Author**
Elizabeth Collins
Morehead State University

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

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

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

Pharmacological identification of cholinergic receptor subtypes in Drosophila

169.

**First Author**
Eashwar Somasundaram
University of Kentucky

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

**Co-author**
Cole Malloy
University of Kentucky

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

The effects of a ketogenic diet on behavior and synaptic transmission in a Drosophila model.

170.

**First Author**
Alex Stanback
University of Kentucky

**Co-author**
Hunter Maxwell
University of Kentucky

**Co-author**
Clare Cole
University of Kentucky

**Co-author**
Katherine Johnson
University of Kentucky

**Co-author**
Jenni Ho
University of Kentucky

**Co-author**
La Shay Byrd
University of Kentucky

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

**Co-author**
Sushovan Dixit
University of Kentucky

**Co-author**
Madan Subheeswar
University of Kentucky
**Can nicotine improve scopolamine-induced behavioral deficit?**

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brianna Ward</td>
<td>Elizabeth Collins</td>
<td>Ilsun White</td>
<td>I. White</td>
<td>Morehead State</td>
</tr>
<tr>
<td>Morehead State</td>
<td>Morehead State</td>
<td>Morehead State</td>
<td></td>
<td>University</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alicia Bedolla</td>
<td>Evelyne Rivera Perez</td>
<td>Joseph Barger</td>
<td>Jasmine Roman</td>
<td>Sarah Jones</td>
</tr>
<tr>
<td>Berea College</td>
<td>Berea College</td>
<td>Berea College</td>
<td>Berea College</td>
<td>Berea College</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shannon Mapes</td>
<td>Suzanne Savard</td>
<td>Ilsun White</td>
<td>Kinetta Crisp</td>
<td>Morehead State</td>
</tr>
<tr>
<td>Morehead State</td>
<td>Morehead State</td>
<td>Morehead State</td>
<td>University</td>
<td>University</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Morris</td>
<td>Vanessa Jones</td>
<td>Stephani Prince</td>
<td>Nicholas Kelling</td>
<td>Gregory Corso</td>
</tr>
<tr>
<td>Morehead State</td>
<td>Morehead State</td>
<td>Morehead State</td>
<td>University of Houston</td>
<td>Clear Lake</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Implicit Gender Bias, Commercials, and Cooperation.

First Author
Rick Holland
Berea College

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

First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony

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

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

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
Co-author
Madison Raymer
Morehead State University Psychology Department

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

First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?

First Author
Stephanie Temple
Berea College

Friday, November 3, 2017  5:00pm - 8:00pm
Posters: Science Education

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

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

First Author
Martin Brock
Eastern Kentucky University

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

Posters: Zoology

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

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

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

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

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

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

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

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

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

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

   **Co-author**
   Rachel Racicot
   **University**
   Vanderbilt University

   **Co-author**
   Michelle Casey
   **University**
   Murray State

   **Co-author**
   Simon Darroch
   **University**
   Vanderbilt University

4. **Heritable Behavioral Tendencies of the African Lion**

   **First Author**
   Natalie Mercer
   **College**
   Kentucky Wesleyan

   **Co-author**
   Shannon Finerty
   **College**
   Kentucky Wesleyan

5. **The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology**

   **First Author**
   Benjamin Conkright
   **University**
   Western Kentucky
<table>
<thead>
<tr>
<th>Event Description</th>
<th>Date and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biology Social: Let’s get to know each other a bit better.</strong></td>
<td>Saturday, November 4, 2017 7:30am - 10:30am</td>
</tr>
<tr>
<td>Biologists of all disciplines (incl. students), join us for a round of bowling,</td>
<td></td>
</tr>
<tr>
<td>arcade games, and/or drinks at Corvette Lanes (1415 Main St - in close walking</td>
<td></td>
</tr>
<tr>
<td>distance). Half-price bowling specials for the first bowlers in line!</td>
<td></td>
</tr>
<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>Saturday, November 4, 2017 7:30am - 10:30am</td>
</tr>
<tr>
<td>Crows Nest, Curris Center</td>
<td></td>
</tr>
<tr>
<td><strong>Coffee &amp; Tea</strong></td>
<td>Saturday, November 4, 2017 7:30am - 10:30am</td>
</tr>
<tr>
<td>Blackburn 2nd floor lobby</td>
<td></td>
</tr>
<tr>
<td><strong>Practice Room for Oral Presentations</strong></td>
<td>Saturday, November 4, 2017 7:30am - 12:00pm</td>
</tr>
<tr>
<td>Cumberland Room, Curris Center</td>
<td></td>
</tr>
<tr>
<td><strong>Practice Room for Oral Presentations</strong></td>
<td>Saturday, November 4, 2017 7:30am - 2:30pm</td>
</tr>
<tr>
<td>Tennessee Room, Curris Center</td>
<td></td>
</tr>
<tr>
<td><strong>Exhibitors tables</strong></td>
<td>Saturday, November 4, 2017 8:00am - 3:00pm</td>
</tr>
<tr>
<td>3rd floor of Curris Center</td>
<td></td>
</tr>
<tr>
<td>KBRIN (Kentucky Biomedical Research Infrastructure Network)</td>
<td></td>
</tr>
<tr>
<td>Kentucky Organization of Field Stations</td>
<td></td>
</tr>
<tr>
<td>University of Kentucky Chemistry Department</td>
<td></td>
</tr>
</tbody>
</table>
Saturday, November 4, 2017  8:00am - 11:30am

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

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

---

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

8:00  
**First Author**  
Afolasayo Aromiwura  
**Co-author**  
Ajay Srivastava  
**University**  
Western Kentucky University

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

8:15  
**First Author**  
Dylan Hammrich  
**Co-author**  
Gary ZeRuth  
**University**  
Murray State University

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

8:30  
**First Author**  
Tyler Hoard  
**Co-author**  
Gary ZeRuth  
**University**  
Murray State University
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes</td>
<td>Jamison Burchett</td>
<td>Justen Mamaril</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td></td>
<td>Regan Bales</td>
<td>Maggie Thomas</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td></td>
<td>Michael Guy</td>
<td></td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Pancreatic beta cell dysfunction mediated by down regulation of Glis3</td>
<td>Erin Clayton</td>
<td>Gary ZeRuth</td>
<td>Murray State University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy</td>
<td>Jazmin Escamilla</td>
<td>Zongyi Hu</td>
<td>Liver Disease Branch, NIDDK-National Institute of Health</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jake Liang</td>
<td>Liver Disease Branch, NIDDK-National Institute of Health</td>
</tr>
<tr>
<td>Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula</td>
<td>Ahmed Fadil</td>
<td></td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.</td>
<td>Brittani Hawkins</td>
<td>Chris Trzepacz</td>
<td>Murray State University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and hypothalamic tissue

10:30

First Author
Keelee Pullum
Gatton Academy,
Western Kentucky University

Co-author
Noah Ashley
Western Kentucky University

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

10:45

First Author
Dimond Shelton
Western Kentucky University

Co-author
Nancy Rice
Western Kentucky University

Co-author
Conner Hounshell
Western Kentucky University

Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone

11:00

First Author
Alexandria Szalanczy
Centre College

Co-author
Nitika Nitika
University of North Carolina at Charlotte

Co-author
Andrew Truman
University of North Carolina at Charlotte

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

11:15

First Author
Yislain Villalona
Northern Kentucky University

Co-author
Kelsey Klinefelter
Northern Kentucky University

Co-author
Breann Colter
Northern Kentucky University

Co-author
Alexandra Dailey
Northern Kentucky University

Co-author
Christine Curran
Northern Kentucky University
## Techniques in Carbon Footprinting: Achieving a Carbon Neutral Conference

- **Time:** 8:00
- **First Author:** Audrey Alexander
- **Co-author:** Leslie North
- **Institution:** Western Kentucky University

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

- **Time:** 8:15
- **First Author:** Ian Ries
- **Co-author:** Maheteme Gebremedhin
- **Institution:** Kentucky State University

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

- **Time:** 8:30
- **First Author:** Elizabeth Malloy
- **Co-author:** David Brown, Stephen Richter, Barbara Scott, Michelle Cook
- **Institution:** Eastern Kentucky University, US Army Corps of Engineers, Kentucky Division of Water

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

- **Time:** 8:45
- **First Author:** Meika Finger-Gray
- **Co-author:** Avinash Tope, shreya Patel
- **Institution:** Kentucky State University

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

- **Time:** 9:00
<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sait Sarr</td>
<td>Maheteme</td>
<td>Avinash Tope</td>
<td>Mark Coyne</td>
</tr>
<tr>
<td>Kentucky State</td>
<td>Gebremedhin</td>
<td>Kentucky State</td>
<td>University</td>
</tr>
<tr>
<td>University</td>
<td>University</td>
<td>University</td>
<td>University</td>
</tr>
</tbody>
</table>

**Genomics of dehydration tolerance in the liverwort, Marchantia inflexa**

9:15

First Author
Rose Marks
University of Kentucky

Co-author
D. Nicholas McLetchie

**Policy communication and the Impact of Agricultural Communities on Karst Landscapes: An Example from Phong Nha-K? Ban**

9:30

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

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

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

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

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

9:45

First Author
Kaitlyn Kelly
Eastern Kentucky University

Co-author
David Brown
Eastern Kentucky University

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

10:15

First Author
Bruce Kessler
Western Kentucky University

Co-author
Andrew Davis
Western Kentucky University

**Prey Resource Partitioning Between Sympatric Bat Species**

10:30

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

First Author
Grace Freundlich
University of Louisville

Co-author
Chris Frost
University of Louisville

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

First Author
Abhinav Maurya
University of Louisville

Co-author
Christopher Frost
University of Louisville

Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods

First Author
Samantha Thomas
Western Kentucky University

Co-author
Jarrett Johnson
Western Kentucky University

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

First Author
Jacob Hutton
University of Kentucky

A Study of Mercury in Bald Eagle Feathers and Quills

First Author
Wendy Cecil
Western Kentucky University

Co-author
Cate Webb
Western Kentucky University

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

First Author
Wendy Cecil
Western Kentucky University

Co-author
Cate Webb
Western Kentucky University
Who’s the boss: Social dynamics associated with leadership in endangered Toque Macaques.

1:30

First Author
Jeeva Patabendige Rathnaweera
University of Louisville

Co-author
Rajnish Vandercone
Rajarata University of Sri Lanka

Co-author
Perrie Eason
University of Louisville

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
Oral Presentations: Physics and Astronomy
Blackburn 312

Chair: Troy Messina
Secretary: Marilyn Akins
Section meeting to follow presentations

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

9:15

First Author
Daniela Olivera
Velarde
Berea College

Co-author
Danielle Schaper
University of Kentucky

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

9:30

First Author
Luis Gomez
Northern Kentucky
University

Streamlining Predictions of Temperature-Dependent Changes in Defect Properties of Intermetallic Compounds

9:45

First Author
Caleb Kirschman
Northern Kentucky
University

Co-author
Matthew Zacate
Northern Kentucky
University

Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258

10:15

First Author
Sierra Hauck
Morehead State
University

Co-author
Dirk Grupe
Morehead State
University

The “Hotter” Side of an X-Ray Tube

10:30

First Author
Ignacio Birriel
Morehead State
University

Co-author
Joshua Allen
Morehead State
University

Co-author
Anthony Dotson
Morehead State
University

The Changing Look Active Galactic Nucleus IRAS 23226-3843

10:45

First Author
### Understanding the Parameter Space of Keplerian Orbits in APOGEE

**11:00**

**First Author**
Nathan De Lee  
**Northern Kentucky University**

**Co-author**
Kyle Houston  
**Northern Kentucky University**

**Co-author**
Nicholas Troup  
**Salisbury University**

**Co-author**
Joleen Carlberg  
**Space Telescope Science Institute**

### Redesign of Introductory Physics Labs Using Arduinos

**11:15**

**First Author**
Troy Messina  
**Berea College**

### Oral Presentations: Chemistry: Analytical & Physical

**Blackburn 320**

Chair: Harry Fannin  
Secretary: Bommanna Loganathan

Section meeting to follow presentations

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

**8:15**

**First Author**
Jessica Dove  
**Eastern Kentucky University**

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

**8:30**

**First Author**
Jesus Berlanga  
**Western Kentucky University**

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

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

### Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy

**8:45**
The removal of organic pollutants through buoyant photocatalyst
9:00

First Author
Kayla Steward
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

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

First Author
Rosemary Calabro
University of Kentucky Department of Chemistry

Co-author
Dong-Sheng Yang
University of Kentucky Department of Chemistry

Co-author
Doo Young Kim
University of Kentucky Department of Chemistry

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

First Author
Mara Krempel
Western Kentucky University

Co-author
Hayley Moss
Western Kentucky University

Co-author
Hanna (John) Khourieh
Western Kentucky University

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

First Author
Konnor Jones
Western Kentucky University

Co-author
Matthew Nee
Western Kentucky University

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

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

Chair: Jean Gumirakiza

Section meeting to follow presentations
Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw

8:15

First Author
Srijana Thapa Magar
Kentucky State University

Co-author
Kirk Pomper
Kentucky State University

Co-author
Jeremiah Lowe
Kentucky State University

Co-author
Sheri Crabtree
Kentucky State University

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

8:30

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

First Author
Samuel Kessler
Carol Martin Gatton Academy of Mathematics and Science, WKU

Co-author
Vikas Kumar
Kentucky State University

Co-author
Waldemar Rossi
Kentucky State University

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

9:30

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

9:45
First Author
Sathya Govindasamy
Kentucky State University
Co-author
John Sedlacek
Kentucky State University
Co-author
Karen Friley
Kentucky State University
Co-author
E. Kyle Slusher
Kentucky State University
Co-author
Mamata Bashyal
Kentucky State University
Co-author
Megan McCoun
Kentucky State University

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

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

Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

10:30
First Author
Rose Johnson
Kentucky State University

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

10:45
ANTIBIOTIC SUSCEPTIBILITIES OF BACTERIA ISOLATED FROM THE SAME FISH IN CASES EXAMINED AT THE KENTUCKY STATE UNIVERSITY F

11:00
First Author
Ashmita Poudel
Kentucky State University

Co-author
Kathryn Mitchell
Kentucky State University

Co-author
Robert Durborow
Kentucky State University

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

11:15
First Author
Lusekelo Nkuwi
Kentucky State University

Co-author
George Antonious
Kentucky State University

Co-author
Eric Turley
Kentucky State University

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

11:30
First Author
Sujan Bhattarai
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

Co-author
Vikas Kumar
Kentucky State University

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

1:00
First Author
JEAN DOMINIQUE GUMIRAKIZA
Western Kentucky University

Co-author
Stephen King
Western Kentucky University

Co-author
Thomas Kingery
Western Kentucky University

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

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

1:30

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

Evaluation of Two Salt Applications for Holding Largemouth Bass Micropterus salmoides for Marketing as a Food Fish

1:45

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

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

2:00

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

Oral Presentations: Geography

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

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

8:30

First Author: Oguz Sariyildiz
Co-author: Buddhi Gyawali
Kentucky State University
Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar

8:45

First Author
D'Andre Garrison
Kentucky State University

Co-author
Jarod Jones
Kentucky State University

Co-author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Ken Bates
Kentucky State University

The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan

9:00

First Author
Tori Farrow
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Networks of Sustainability within the Iceland Whale Watching Industry

9:15

First Author
Jason Fox
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

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

9:30

First Author
Bijesh Mishra
Kentucky State University

Co-author
Buddhi Gyawali
KYSU

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

10:00

First Author
Buddhi Gyawali
Kentucky State University

Co-author
Prabisha Shrestha
Kentucky State University

Co-author
Tilak Shrestha
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

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

10:15
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Cover Classification using LandSat, NAIP images, and Accuracy</td>
<td>10:30</td>
<td>Tilak Shrestha</td>
<td>Buddhi Gyawali</td>
<td>Tilak Shrestha</td>
<td>Jeremy Sandifer</td>
<td>Prabisha Shrestha</td>
</tr>
<tr>
<td>enhancements</td>
<td></td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td>KYSU</td>
<td>KYSU</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modeling and Evaluating the Influences of Class V Injection Wells</td>
<td>10:45</td>
<td>James Shelley</td>
<td>Jason Polk</td>
<td>Kenneth Bates</td>
<td>Jeremy Sandifer</td>
<td>Prabisha Shrestha</td>
</tr>
<tr>
<td>on Urban Karst Hydrology</td>
<td></td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>KYSU</td>
<td>KYSU</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk analysis of bedrock collapse sinkholes in Bowling Green,</td>
<td>11:00</td>
<td>Patricia Kambesis</td>
<td>Brittny Moore-Kimmel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td>Western Kentucky University</td>
<td>Texas State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frankfort Cemetery using Spatial Interpolation</td>
<td></td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td>Kentucky State University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Title</td>
<td>First Author</td>
<td>Co-author</td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------</td>
<td>----------------------</td>
<td>--------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>Morphological Analysis of Astarte (Class: Bivalvia) using Geometric Morphometrics</td>
<td>Randal Roberson</td>
<td>Michelle Casey</td>
<td>Murray State</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:15</td>
<td>Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University's Meadow</td>
<td>Reid Buskirk</td>
<td>Walter Borowski</td>
<td>Eastern Kentucky</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>James Winter</td>
<td></td>
<td>Eastern Kentucky</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>Patterns of nutrient export for a typical non-point source, Meadowbrook Farm, Madison County, Kentucky.</td>
<td>James Winter</td>
<td></td>
<td>Eastern Kentucky</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetops in Kentucky's Daniel Boone National Forest?</td>
<td>Selsey Stribling</td>
<td>Jonathan Malzone</td>
<td>Eastern Kentucky</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:15</td>
<td>Modeling the groundwater storage and the groundwater recharge rate of an ephemeral wetland with Hydrus-1D</td>
<td>Addison Bell</td>
<td>Jonathan Malzone</td>
<td>Eastern Kentucky</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY
10:30
First Author
Laura Kelley
Eastern Kentucky University

Co-author
Sophia Chan
Eastern Kentucky University

Co-author
Jonathan Malzone
Eastern Kentucky University

Co-author
Walter Borowski
Eastern Kentucky University

Runoff generation in an ephemeral agricultural watershed with thin soil
10:45
First Author
Sophia Chan
Eastern Kentucky University

Co-author
Laura Kelley
Eastern Kentucky University

Co-author
Jonathan Malzone
Eastern Kentucky University

Co-author
Walter Borowski
Eastern Kentucky University

Oral Presentations: Psychology
Blackburn 155
Saturday, November 4, 2017 9:00am - 11:15am
Section meeting to follow presentations

Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.
9:00
First Author
Aaron Clark
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
Initial Validation of the Hexaflex Process Assessment Instrument.

10:15

First Author
Aaron Ellis
Morehead State University

Co-author
John Blackledge
Morehead State University

Co-author
Shelby Humphrey
Morehead State University

Co-author
Kellen Crager
Morehead State University

Co-author
Isabella Gearhart
Morehead State University

Co-author
Rebecca Ashley
Morehead State University

The Association of Parents' Emotion Philosophy with Adolescents' Mindful Approach to Affect.

10:30

First Author
Joseph Reese
Morehead State University

Co-author
Mary Blanton
Morehead State University

Co-author
Ashley Ball
Morehead State University

Co-author
Kory Phelps
Morehead State University

Co-author
Shari Kidwell
Morehead State University

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

10:45

First Author
Hunter Gatewood
Morehead State University

Co-author
Lynn Haller
Morehead State University

Peer Mentoring Circles for Women STEM Faculty at Murray State University

11:00

First Author
Maeve McCarthy
Murray State University

Co-author
Paula Waddill
Murray State University

Co-author
Robin Zhang
Murray State University

Co-author
Echo Wu
Murray State University

Co-author
Steve Cobb
Murray State University
### Oral Presentations: Science Education

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

Section meeting to follow presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes</td>
<td>Joseph Erskine</td>
<td>Jordan Dowdy</td>
<td>Stephen Denny</td>
<td>M Saleem</td>
<td>Akhtar Mahmood</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Bellarmine University</em></td>
<td><em>Bellarmine University</em></td>
<td><em>Bellarmine University</em></td>
<td><em>Bellarmine University</em></td>
<td><em>Bellarmine University</em></td>
</tr>
<tr>
<td>9:15</td>
<td>Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology</td>
<td>Katherine Ray King</td>
<td>Linda Fuselier</td>
<td>Justin McFadden</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>University of Louisville</em></td>
<td><em>University of Louisville</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>Hearing eclipses: Making astronomy events accessible to visually-impaired students.</td>
<td>Wilson Gonzalez-Espada</td>
<td>Laura Parker</td>
<td>Adam Stockhausen</td>
<td>Wanda Diaz-Merced</td>
<td>Allyson Bieryla</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Morehead State University</em></td>
<td><em>Kentucky School for the Blind</em></td>
<td><em>Kentucky School for the Blind</em></td>
<td><em>Office of Astronomy for Development</em></td>
<td><em>Dept. of Astronomy, Harvard University</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Robert Hart</td>
<td>Daniel Davis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Dept. of Physics, Harvard University</em></td>
<td><em>Natural Sciences, Lecture</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>Should We Lie To Our Students?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Adaptive Learning Courseware in Majors Biology Course
10:15
First Author
Andy Martin
Kentucky State University

Strengthening Student Foundations: Strategies for Active-Learning Classrooms
10:30
First Author
Shira Rabin
University of Louisville

LOW-COST STUDENT RESEARCH IN A NON-MAJORS BIOLOGY LABORATORY CLASS
10:45
First Author
Norm Strobel
KCTCS/Blugrass Community and Technical College

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
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>University</th>
<th>Co-author</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15</td>
<td>Imaging of the spinal cord in pediatric patients.</td>
<td>Bhavesh Ramkorun</td>
<td>Berea College</td>
<td>Samantha By</td>
<td>Vanderbilt University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aashim Bhatia</td>
<td>Vanderbilt University Children's Hospital</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bryson Reynolds</td>
<td>Vanderbilt University Institute of Imaging Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Patrick Couture</td>
<td>Vanderbilt University Medical Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seth Smith</td>
<td>Institute of Imaging Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td>Hands-on Robotics Lab at Bellarmine University</td>
<td>Christopher Steitz</td>
<td>Bellarmine University</td>
<td>Stephen Brown</td>
<td>Bellarmine University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Akhtar Mahmood</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:45</td>
<td>Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms</td>
<td>Andrew Yee</td>
<td>Murray State University</td>
<td>Dylan Stewart</td>
<td>Murray State University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gheorghe Bunget</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components</td>
<td>Cavir Gongora</td>
<td>Murray State University</td>
<td>Steven Treadaway</td>
<td>Murray State University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Chance Glass</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Andrew Yee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brevin Tilmon</td>
<td></td>
</tr>
</tbody>
</table>
Saturday, November 4, 2017  12:00pm - 1:00pm

**Mentor-Matching**

*Winslow Dining Hall*

**Mentor matching: Looking for a future graduate advisor?**

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

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

**KAS-KCTCS Science Faculty meeting**

*Blackburn 249*

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

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

**Oral Presentations: Botany**

*Mississippi Room, Curris Center*

Chair: Lawrence Alice  
Secretary: Maggie Whitson

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

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

1:00

*First Author*  
Nicholas McLetchie  
*University of Kentucky*

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

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

**Oral Presentations: Chemistry: Organic/Inorganic**

*Blackburn 135*
A general fabrication approach on spinel MCo2O4 (M= Co, Mn, Fe, Mg and Zn) submicron prisms as advanced positive materia

1:00

First Author
Hongyan Gao
CHEMISTRY
DEPARTMENT,
WESTERN
KENTUCKY
UNIVERSITY

Co-author
Yan Cao
CHEMISTRY
DEPARTMENT,
WESTERN
KENTUCKY
UNIVERSITY

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

1:15

First Author
Mike Winchester
Western Kentucky University

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

1:30

First Author
Ngo Fung Lee
Western Kentucky University

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

1:45

First Author
Jessie Brown
Transylvania University

Co-author
Ameila Dickey
Transylvania University

Co-author
Elias Hanna
Transylvania University

Co-author
Christopher Samaan
Transylvania University

Co-author
Hannah Williams
Transylvania University

Co-author
Christine Phipps
Transylvania University

Co-author
Ashley Montgomery
Transylvania University

The Synthesis of Heteroatom-activated Antibiotics: ?-lactams

2:00

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

First Author
Malone Jonathan
WKU

Co-author
dharmesh Patel
WKU

Co-author
Tse-hong Chen
Purdue University

Co-author
Ka Wai Kwong
WKU

Oral Presentations: Health Sciences
Saturday, November 4, 2017 1:00pm - 1:30pm
Blackburn 155

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

First Author
Patrick Trainor
University of Louisville

Co-author
Samantha Carlisle
University of Louisville

Co-author
Shesh Rai
University of Louisville

Co-author
Andrew DeFilippis
University of Louisville

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

First Author
Samantha M. Carlisle
University of Louisville

Co-author
Patrick J. Trainor
University of Louisville

Co-author
Mark A. Doll
University of Louisville

Co-author
David W. Hein
University of Louisville

Oral Presentations: Mathematics
Saturday, November 4, 2017 1:00pm - 2:00pm
Blackburn 228

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

Chair: Bruce Branan
Secretary: Avinash Tope
Section meeting to follow presentations

Chair: R. Douglas Chatham
Secretary: Andy Martin
Section meeting to follow presentations
<table>
<thead>
<tr>
<th>First Author</th>
<th>Andy Martin</th>
<th>Kentucky state University</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Cubic Equation</strong></td>
<td>1:15</td>
<td></td>
</tr>
<tr>
<td>First Author</td>
<td>Dwight Smith</td>
<td>Big Sandy CTC</td>
</tr>
<tr>
<td><strong>A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System of ODEs.</strong></td>
<td>1:30</td>
<td></td>
</tr>
<tr>
<td>First Author</td>
<td>Austin Gabhart</td>
<td>Gatton Academy, Western Kentucky University</td>
</tr>
<tr>
<td><strong>The n+k kings problem</strong></td>
<td>1:45</td>
<td></td>
</tr>
<tr>
<td>First Author</td>
<td>R. Douglas Chatham</td>
<td>Morehead State University</td>
</tr>
</tbody>
</table>

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

**Oral Presentations: Microbiology**
Cumberland Room, Curris Center

Chair: Lingyu Huang
Secretary: Joseph Mester
Section meeting to follow presentations

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

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

Physiological Characteristics of Five Bladder Cancer Cell Lines
1:15
First Author
Kyle Damen
Wood Hudson Cancer Research Laboratory
Co-author
Ryan Moore
Wood Hudson Cancer Research Laboratory
Co-author
Alex White
Wood Hudson Cancer Research Laboratory
Co-author
Julia Carter
Wood Hudson Cancer Research Laboratory
Co-author
Bonnie Richmond
Wood Hudson Cancer Research Laboratory
Cell proliferation and Cathepsin L expression are inversely correlated during bladder cancer progression

1:30

First Author
Dan Stelzer
Wood Hudson Cancer Research Laboratory

Co-author
Michelle Robillard
Wood Hudson Cancer Research Laboratory

Co-author
Mariah Dooley
Wood Hudson Cancer Research Laboratory

Co-author
James Deddens
Wood Hudson Cancer Research Laboratory

Co-author
Larry Douglass
Wood Hudson Cancer Research Laboratory

Co-author
Julia Carter
Wood Hudson Cancer Research Laboratory

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
Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin

1:45

First Author
Mallory Cox
University of Louisville

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

2:00

First Author
Benjamin Freed
Eastern Kentucky University

Oral Presentations: Computer and Informational Sciences
Blackburn 312

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

Cloud Computing for Hands-On Bioinformatics Education

1:15

First Author
Harrison Inocencio
University of Kentucky

Adaptive Topic Mining from Social Media Streams

1:30
BayesianGLasso: software for integrating a priori knowledge and empirical data utilizing a graphical model framework

1:45

First Author
Patrick Trainor
University of Louisville

Co-author
Andrew DeFilippis
University of Louisville

Co-author
Shesh Rai
University of Louisville

Password cracking performance testing comparing GPU vs CPU performance using Hashcat

2:00

First Author
Deven Rataiczak
Bellarmine University

Oral Presentations: Zoology

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

Mississippi Room, Curris Center

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

Botany and Zoology Section meetings to follow presentations

Phenotypic plasticity of mating calls in the katydid Neconocephalus triops

1:15

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

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

1:30

First Author
Samuel White
Murray State University

Co-author
Talon Garman
Murray State University

Co-author
Laura Sullivan-Beckers
Murray State University

Biology of the Cercaria of Leuceruthrus micropteri (Trematoda: Azygiidae) Recovered from the Snail,
Pleurocera semicarin
1:45
First Author
chi peng
Berea College
Co-author
Chi Peng
Berea College
Co-author
Hanna Abe
Yale University
Co-author
Ron Rosen
Berea College
Co-author
Brian Traw
Berea College
Co-author
Emma Reasoner
Berea College
Co-author
Marah Zeidan
Berea College

Potential detection and utilization of substrate-borne vibrations by chameleons (Chamaeleo calyptratus).
2:00
First Author
Kathryn Laslie
Western Kentucky University
Co-author
Emily Hamilton
Western Kentucky University
Co-author
Michael Smith
Western Kentucky University

Transcriptomic Response to Immune Challenge in Zebra Finch (Taeniopygia guttata) using RNA-seq.
2:15
First Author
Cassandra Scalf
Western Kentucky University
Co-author
Noah Ashley
Western Kentucky University

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

Saturday, November 4, 2017 3:00pm - 4:00pm
Keynote Jeffrey Bennett: Communicating Science to the Public
Introduced by President-Elect Curris Center Ballroom
Jennifer Birriel
Jeffrey Bennett holds a B.A. in Biophysics from the University of California at San Diego and an M.S. and Ph.D. in Astrophysics from the University of Colorado at Boulder. He specializes in mathematics and science education, writing for and speaking to audiences ranging from elementary school children to college faculty. His extensive teaching experience, which spans all levels from preschool through graduate school, includes having founded and run a private science summer school for elementary and middle school children and teaching more than fifty college classes in astronomy, physics, mathematics, and education. He has received numerous awards for his teaching and writing, including the American Institute of Physics Science Communication Award.

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

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

- Guidelines for the Research Paper
- Preparing the Presentation
- Abstract Guidelines
- Plagiarism Policy
- Rules and Policies for Kentucky Junior Academy
- Junior Academy Scoring rubric
- Download the 2020 Waiver- required for participation (word file)
- Publish your Research
- Video tips: Giving a good Scientific talk

2020