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

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

**KAS Governing Board meeting**

Commonwealth Suite

Open to all KAS members

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

**Meeting for Section Leaders and Judges**

The Stables, Curris Center

1st floor

If you are serving as a Judge or Section leader, please attend this meeting for a brief orientation to the student competition process and to pick up materials.

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

**Practice Room for Oral Presentations**

Tennessee Room, Curris Center

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

**Practice Room for Oral Presentations**

Cumberland Room, Curris Center

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

**Tour - Hancock Biological Station**

Meet in front of Curris Center for van pickup.

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

Mississippi Room, Curris Center

President: Darrin Smith

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

Refreshments provided.

Poster presenters Check-In

3rd floor of Curris Center

Chair: Kevin Revell

Co-chair: ANGELA GUYTON

Poster presenters, please check in to verify your poster placement.

If you are participating in a student competition you will also receive further instructions here.

Tour - Biology Building

Meet in the lobby

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

Campus map

Tour - Chemistry Building

Meet in the lobby

In May 2009, the Department of Chemistry moved into the newly constructed Jesse D. Jones Hall. In our main entryway we feature a Living Periodic Table, built by Mr Jim Barnett, displaying many samples of actual elements.

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

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

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

Campus map

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

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

Campus map

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

Judges conference room
Commonwealth Suite, Curris Center
This room is available if judges wish to use it for conference.

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

Posters: Agricultural Sciences
Curris Center
### Effects of Excess Dietary Branched Chain Amino Acids (Leucine and Isoleucine) on Growth and Health of Nile Tilapia

**First Author**
Cora Teets

**Co-author**
waldemar Rossi

**University**
Kentucky State University

**Co-author**
Vikas Kumar

**University**
Kentucky State University

---

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

**First Author**
Bernedette Chadwick

**Co-author**
Michael Mercer

**University**
Murray State University

**Co-author**
Bailey Webster

**University**
Murray State University

**Co-author**
Brandon Clark

**University**
Murray State University

**Co-author**
lin Handayani

**University**
Murray State University

**Co-author**
Brian Parr

**University**
Murray State University

---

### Dehydration of Autumn Olive Berries for Human Consumption

**First Author**
Changzheng Wang

**Co-author**
Lingyu Huang

**University**
Kentucky State University

**Co-author**
Cecil Butler

**University**
Kentucky State University

---

### Developing Cold-Hardy Perennial Ornamentals for Kentucky

**First Author**
Hideka Kobayashi

**University**
Kentucky State University

---

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

**First Author**
Harry Franklin

**Co-author**
Duncan Thomas

**University**
Murray State University

**Co-author**
Connor Raymond

**University**
Murray State University

**Co-author**
Jacob Flemming

**University**
Murray State University

**Co-author**
il Handayani

**University**
Murray State University

**Co-author**
Brian Parr

**University**
Murray State University
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<th>Title</th>
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<td>Effects of fertilization on growth performance of lotus plants in containers</td>
<td>Changzheng Wang</td>
<td>Kirk Pomper</td>
<td>Eric Turley</td>
<td>Quinn Heist</td>
<td>Thomas Trivette</td>
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<td>Impact of Soil-Set®, Grain-Set®, and Liqui-Plex® Formulations on Hot Pepper Yield</td>
<td>GEORGE ANTONIOUS KENTUCKY STATE UNIVERSITY</td>
<td>Lusekelo Nkuwi Kentucky State University</td>
<td>Yogendra Upadhyaya Kentucky State University</td>
<td>Bjesh Mishra Kentucky State University</td>
<td>Lusekelo Nkuwi Kentucky State University</td>
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<td>Online Shoppers; Who Attends Farmers' Markets, Who Does Not, and Why?</td>
<td>Jean Dominique Gumirakiza Western Kentucky University</td>
<td>Thomas Kingery Western Kentucky University</td>
<td>Stephen King Western Kentucky University</td>
<td>Yogendra Upadhyaya Western Kentucky University</td>
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<td>Soil Distinguishing Factors in Pasture and Irrigated Soils in Tennessee, Kentucky, and Illinois</td>
<td>Spencer Fulkerson Murray State University</td>
<td>Joel Reddick Murray State University</td>
<td>Landon Williams Murray State University</td>
<td>Blake Remmert Murray State University</td>
<td>Iin Handayani Murray State University</td>
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<td>Canaan Wring Murray State University</td>
<td>Clay Smotherman Murray State University</td>
<td>Connor Moore Murray State University</td>
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<td>Soil Properties in Varying Crop and Non-Crop Areas of Calloway County, Kentucky</td>
<td>Zack Eells Murray State University</td>
<td>Canaan Wring Murray State University</td>
<td>Clay Smotherman Murray State University</td>
<td>Connor Moore Murray State University</td>
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<td>The Impact of Cropping Systems on Soil properties in Fredonia and Princeton Kentucky</td>
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**Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil**

72.

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

73.

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

**Posters: Botany**

**Curris Center**

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

74.

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

75.

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

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

77.

**First Author**
David Robinson
**Co-author**
Kaitlyn Yates
**Institution**
Bellarmine University

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

**Posters: Cellular and Molecular Biology**

Curris Center

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

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

78.

*First Author*
Hasan Salim
*Institution*
WKU

---

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

79.

*First Author*
Hadley Neal
*Co-author*
Rebecca Petersen
*Institution*
University of Kentucky

---

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

80.

*First Author*
Dane Flinchum
*Co-author*
Ajay Srivastava
*Institution*
Western Kentucky University

---

**Examining Gene Expression during Xenopus Embryonic Development**

81.

*First Author*
Maria Stewart
*Co-author*
Emily Shifley
*Institution*
Northern Kentucky University

---

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

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

First Author
Amber Follin
Biology Department, Berea College
Co-author
Kyla Britson
Neuroscience and Neurology, Johns Hopkins Medicine
Co-author
Tom Lyod
Neuroscience and Neurology, Johns Hopkins Medicine

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

First Author
Sarah Kunkler
Northern Kentucky University
Co-author
Emily Shifley
Northern Kentucky University

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

First Author
Katelyn Dunn
Northern Kentucky University
Co-author
Tamika Chappell
Northern Kentucky University
Co-author
Lisa Massie
Northern Kentucky University
Co-author
Shelby Caudill
Northern Kentucky University
Co-author
Nicholas Brinkman
Northern Kentucky University
Co-author
Rachel Dempsey
Northern Kentucky University
Co-author
Christine Curran
Northern Kentucky University
Co-author
Pamela Dickson
Northern Kentucky University

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

First Author
Henry Kwan
Vanderbilt University Medical Center
Co-author
Lan Wu
Vanderbilt University Medical Center
Co-author
Luc Van Kaer
Vanderbilt University Medical Center
Co-author
Luke Postoak
Vanderbilt University Medical Center
Co-author
Margaret Sabourin
Vanderbilt University Medical Center

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

First Author
Kendall Collins
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<td>Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos</td>
<td>Conner Hounshell</td>
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<td>Sex Specific Gene Control of Cardiac Fibrosis</td>
<td>Bruce Northington</td>
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<td>Annotation of Spock and Inky Mycobacteriophages</td>
<td>Brittany Farnsley</td>
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<td>Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins</td>
<td>Jiyoung Shim</td>
<td>Barnabas Kim</td>
<td>Moon-Soo Kim</td>
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<td>Functional and genetic studies of the tRNA modification protein Trm732 in yeast</td>
<td>Hannah Sizemore</td>
<td>Daisy DiVita</td>
<td>Julia Ziebro</td>
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<td>Exploring Small Molecule Drugs Binding To Ribosomal Protein L11</td>
<td>Swetaben Patel</td>
<td>Michal Hetman</td>
<td>Lukasz Slomnicki</td>
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<td>IDENTIFICATION OF SELECTIVE DDR1 KINASE INHIBITORS USING STRUCTURE ACTIVITY</td>
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<td>NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells</td>
<td>Morgan Bahnsen</td>
<td>KBRIN</td>
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<td>SOCS 1 Role In Manipulation of Neutrophil Signaling By Oral Pathogen, Filifactor alocis</td>
<td>Thomas Case</td>
<td>KBRIN</td>
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<td>Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days</td>
<td>Melanie Couch</td>
<td>Western Kentucky University</td>
<td>Getahun Agga</td>
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<td>Identification of the enzyme responsible for the acp3U modification in bacteria</td>
<td>Maggie Thomas</td>
<td>Northern Kentucky University</td>
<td>Jamison Burchett</td>
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<td>Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces cerevisiae</td>
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</table>
### Analysis of Protein Conformations Using Computer Simulations

1.

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

---

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

2.

*First Author*
Clara Reasoner  
*Berea College*

*Co-author*
Amanda Siegel  
*Indiana University*

*Co-author*
Hiroki Yokota  
*Indiana University*

*Co-author*
Mangilal Agarwal  
*Indiana University*

---

### Anaerobic Degradation of Tetracyclines in Agricultural Manure

3.

*First Author*
Brandon Couch  
*Western Kentucky University*

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

*Co-author*
John Loughrin  
*usda*

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

---

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

4.

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

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

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

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

5.

*First Author*
Maxwell Conte
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<tr>
<td>Cole Hulen</td>
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<td>Nathan Denney</td>
<td>Lauren Clark</td>
<td>Bikram Subedi</td>
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<td>Department of Agriculture Science, Hutson School of Agriculture</td>
<td>Department of Agriculture Science, Hutson School of Agriculture</td>
<td>Kentucky 21st Century Agriculture</td>
<td>Department of Chemistry, Murray State University,</td>
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<td>Bommanna Loganathan</td>
<td>Brian Parr</td>
<td>Kentucky 21st Century Agriculture</td>
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From Halogenated Anthracenes to Bendable Displays: Decoding the Structure-Optical Gap Correlation

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<td>Kevin Pierce</td>
<td>Alex Thome</td>
<td>Jill Cao</td>
<td>Sebastian Jezowski</td>
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The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index

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<tr>
<td>Rachel Bracker</td>
<td>Lori Wilson</td>
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<td>Eastern Kentucky University</td>
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Measurement of J-coupling in Mixed Lead and Sodium Pyrophosphate Glasses with PASS and TE-PIETA

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<td>Tomas Flores</td>
<td>Jay Baltisberger</td>
<td>Sara Garner</td>
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Sedimentation Fractionation

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

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

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<td>Nicole States</td>
<td>Henry Pruett</td>
<td>Bikram Subedi</td>
<td>Susan Hendricks</td>
<td>David White</td>
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### 13. ZrO2-?-Cyclodextrin (CD) catalyzed synthesis of 2,4,5-trisubstituted imidazoles and 1,2-disubstituted benzimidazoles

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<td>K.N. Thimmaiah</td>
<td>Mark Montgomery</td>
<td>Padma Thimmaiah</td>
<td>Ashish Pagare</td>
<td>Larry Sylvester</td>
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### 14. Water Purification using Magnetic Biochar

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

### 15. A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms
Heavy Metal Accumulation in Aporrectodea complex and Risk Assessment of Bio Magnification

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

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

Effect of Iron charge state on P450 BM3 stability

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

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

First Author
Bangbo Yan
Western Kentucky University
Co-author
Robert Spears
Western Kentucky University

Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors

First Author
Erin O'Donnell
Murray State University
Co-author
Rachel Allenbaugh
Murray State University
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods</td>
<td>Haiyan Liu</td>
<td>Western Kentucky University</td>
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<td>Light Activated Ruthenium Peptide Hybrids</td>
<td>Lydia Millard</td>
<td>Kentucky State University</td>
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<td>N-Heterocyclic Carbene Complexes</td>
<td>Mario Chavarria</td>
<td>Cheyenne Haynes</td>
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<td>Berea College</td>
<td>Berea College</td>
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<td>Optimization of lipid extraction from Scenedesmus acutus via in-situ transesterification</td>
<td>Vincent Kelly</td>
<td>Robert Pace</td>
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<td></td>
<td>Kentucky State University</td>
<td>University of Kentucky</td>
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<tr>
<td>Photocatalytic reduction of carbon dioxide by metal-organic framework materials.</td>
<td>Hannah Brooks</td>
<td>Bangbo Yan</td>
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<td>Western Kentucky University</td>
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<td>University</td>
<td>University</td>
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<tr>
<td>Promotional Effect of Platinum on Nickel Catalysts in the Conversion of Lipids to Hydrocarbons in Diesel Range</td>
<td>Kelsey Huff</td>
<td>Ryan Loe</td>
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<td>University of Kentucky</td>
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<td>27</td>
<td>Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Knöller-type Catalyst</td>
<td>Alexandra Redden</td>
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<td>28</td>
<td>Selective C–O bond reductions in carbohydrate derivatives using boron based reagents</td>
<td>Luis Gonzalez Anguiar</td>
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<td>Solid-Phase Synthesis of Heteroatom-Activated Antibiotics</td>
<td>Morgan Uebelacker</td>
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<td>Kentucky Wesleyan College</td>
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<td>Storage of Solar Energy in Strained Bis-Anthracene Cycloadducts and Release as Heat by Mechanical Grinding</td>
<td>Erin Calvert</td>
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<td>31</td>
<td>Synthesis and catalytic studies of metalloporphyrin complexes as biomimetic models for cytochrome P450 enzymes</td>
<td>Benjamin Kash</td>
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<td>Gatton Academy, Western Kentucky University</td>
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<td>32</td>
<td>Synthesis and Properties of a Ruthenium Polypyridyl Complex</td>
<td>Hannah Cope</td>
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<td>Western Kentucky University</td>
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</table>
33. Synthesis of Cleavable Acetal Antibody Drug Conjugate
First Author
Luis Salazar Guzman
Berea College

34. Synthesis of Platinum-Malonate-Luteinizing Hormone Releasing Hormone (Pt-Mal-LHRH), an Anti-Cancer Agent
First Author
Charles Greif
Eastern Kentucky University

35. Synthesis of Poly(4-hydroxystyrene) by Living Anionic Polymerization for Block Copolymer Lithography
First Author
Beau Schweitzer
Berea College

36. Synthesizing Cleavable Acetal Antibody Drug Conjugates
First Author
Michael James
Berea College
Co-author
Sarah Tabor
Berea College
Co-author
Elizabeth Thomas
Berea College

37. Incorporating WeBWorK in a Mathematics Classroom
First Author
Haley Replogle
Kentucky Wesleyan College
Co-author
Kyle Besing
Kentucky Wesleyan College

38. Open Science Grid (OSG) Tier2 Grid Site at Bellarmine University for the LSST (Large Synoptic Survey Telescope) Project.
First Author
## Posters: Ecology and Environmental Sciences

Curris Center

<table>
<thead>
<tr>
<th>Title</th>
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<td>American Chestnut restoration in Daniel Boone National Forest: a GIS approach</td>
<td>Jacob Pease</td>
<td>Murray State</td>
<td>University</td>
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<td>Comparative Analysis of Soil Elemental Composition Using Portable X-Ray Fluorescence In Multiple Land Use Practices</td>
<td>Ellyn Anthony</td>
<td>Kentucky State University</td>
<td>Mamata Bashyal</td>
<td>Kentucky State University</td>
<td>Tony Silvernail</td>
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<td>Ant communities of temperate tree canopies along an urban-rural gradient</td>
<td>Heather Short</td>
<td>University of Louisville</td>
<td>Daniella Prince</td>
<td>University of Louisville</td>
<td>Benjamin Adams</td>
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<tr>
<td>Is it enough? Passive Restoration in a Western Colorado Stream</td>
<td>Melody Feden</td>
<td>Murray State</td>
<td>Howard Whitemand</td>
<td>Murray State</td>
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</table>
The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils

104.

First Author
Vanetta Graves
Kentucky State University

Leaf Toughness in Tropical Rainforest Plants Depends on Leaf Age in Dicots but Not Monocots

105.

First Author
Shelby Watkins
University of Louisville

Co-author
Stephen Yanoviak
University of Louisville

Co-author
Christopher Frost
University of Louisville

Examining the Relationship Between Temperature and Vegetation Phenology: Is Soil a Better Predictor than Air?

106.

First Author
Kevin "Austin" Johnessee
Murray State University

Co-author
Monika Staszczak
Murray State University

Co-author
Christopher Frost
University of Louisville

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

107.

First Author
Roma Karna
Sunil Karna
Union College

Co-author
Priya Karna
Sunil Karna
Union College

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

108.

First Author
Tosha Shokes
Western Kentucky University

Co-author
Jarrett Johnson
Western Kentucky University

Assessing the effects of urban air pollution on lichens

109.

First Author
Austin Adam
Bellarmine University

Co-author
Roberta Challener
Bellarmine University

The Effects of Stream Degradation on Food Web Stability

110.

First Author
Hannah Moore
Murray State University
Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.

First Author: Spencer Phillips  
Co-author: Nathan Tillotson  
University: Murray State

Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status

First Author: Alishea Brown  
Co-author: Farida Olden  
University: Kentucky State

Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees

First Author: Maria Shields  
Co-author: Christopher Frost  
University: University of Louisville

Driver bias in intentional wildlife-vehicle collisions

First Author: Mary Wilkinson  
Co-author: Terry Derting  
University: Murray State

Using Hardiness Zones to Determine Phenological Variation

First Author: Whitney Buechler  
Co-author: Bassil El Masri  
University: Murray State

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

First Author: Rachel Kaiser  
Co-author: James Shelley  
University: Western Kentucky

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

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<td>Aspen Workman</td>
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Insect Pollinator Diversity in Gardens Across an Urban-to-Suburban Gradient

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<td>Jacob Lawson</td>
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Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.

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

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<td>Michaela Lambert</td>
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Exploring the impact of body size variation on trophic cascades using mole salamanders (Ambystoma talpoideum)

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<td>Robin Baker</td>
<td>Cy Mott</td>
<td>Katelyn May</td>
<td>Howard Whiteman</td>
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Ability of Bald Cypress (Taxodium distichum) to enhance aquatic structure in backwater embayments of reservoirs

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<td>Christy Soldo</td>
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</table>
Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes

123.

First Author
Sarah Bissmeyer
University of Louisville

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Chris Frost
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Co-author
Grace Freundlich
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Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

124.

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Asbury University

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Cierla McGuire
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Co-author
Sumathi Sankaran-Walters
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Co-author
Mike McGrann
William Jessup University

Co-author
Malinda Stull
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Ben Brammell
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Caterpillar Predation Rates Across an Urban-Suburban Gradient

125.

First Author
Amy Cherry
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Co-author
Jacob Lawson
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Co-author
Lindsay Nason
University of Louisville

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

126.

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

First Author
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Ant tarsal adhesion on oak leaves differing in trichome density

First Author
Keegan Thompson
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Alyssa Stark
Villanova University

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

First Author
Virginia Nunamaker
University of Louisville

Co-author
Chris Nunamaker
University of Louisville

Co-author
Steve Yanoviak
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Assessing the diet of Perimyotis subflavus and Nycticeius humeralis bats before and after the occurrence of WNS

First Author
Summer Wheeler
Murray State University

Co-author
Amie Towery
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Health of the Lee Branch on the Midway University Campus: Biological stream assessments and stream habitat assessments

First Author
John Delfino
Midway University

Co-author
Guipsy Lopez
None

Relationship between fish biomass and eDNA in central Kentucky streams.

First Author
Ramon Guivas
Asbury University

Co-author
Kyle Laufenburger
Asbury University

Co-author
Ben Brammell
Asbury University
Effects of Roundup on Feeding Behavior of Larval Blue Dashers, Pachydiplax longipennis.

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

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

First Author  
Lauren Mayton  
Campbellsville University

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

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

Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings

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

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
Biomass Stove Design Project: Automated Fuel Feeder System

41.
First Author
Chance Davice
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Co-author
Constantine Botimer
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Co-author
Chris True
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Co-author
Jedidiah Radosevich
Berea College

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

42.
First Author
Tyler Stoffel
University of Kentucky

Co-author
Jordan Garcia
University of Kentucky

Co-author
Charles Lu
University of Kentucky

Co-author
Johnson Joseph
Fiat Chrysler Automobiles

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

43.
First Author
Nathan Rayens
University of Kentucky

Co-author
Tongguang Zhai
University of Kentucky

Co-author
Pei Cai
University of Kentucky

Posters: Geography

Curris Center

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

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

44.
First Author
Kenneth Hancock
Murray State
University

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

45.
First Author
Friday, November 3, 2017 5:00pm - 8:00pm

**Posters: Geology**

Curris Center

Chair: Ann Harris
Secretary: David Dockstader

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

46.

*First Author*
Aman Bhatta
*KYSU*

*Co-author*
Saaruj Khadka
*KYSU*

*Co-author*
Bijesh Mishra
*KYSU*

*Co-author*
Buddhi Gyawali
*KYSU*

*Co-author*
Prabisha Shrestha
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*Co-author*
Jeremy Sandifer
*Kentucky State University*

*Co-author*
Tilak Shrestha
*Kentucky State University*

**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
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*Co-author*
Zachary Ivey
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*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.
SITE FORMATION OF THE MIDDLE PLEISTOCENE FARRE ARCHAEOLOGICAL SITE, NORTHERN KENYA

50.

First Author
Mallory Gerzan
Murray State University
Co-author
Gary Stinchcomb
Murray State University

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

51.

First Author
Molly Karnes
Murray State University

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

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

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

137.

First Author
Carter Waugh
Kentucky Biomedical Research Infrastructure Network

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

138.

First Author
Frederick Bebe
Kentucky State University
Co-author
Shasa Hu
University of Miami, Miller College of Medicine
Co-author
Tony Brown
USAT College of Medicine & graduate School
Co-author
Orien Tulp
USAT College of Medicine & graduate School

Effect of select phytochemicals on salivary and urinary pH

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

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
The Relationship Between Maternal Physical Activity and Infant Motor Development

First Author
Nikitha Rajendran
Gatton Academy, Western Kentucky University

Co-author
Rachel Tinius
Western Kentucky University

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

First Author
Bisola Asaolu
Kentucky State University

Co-author
Avinash Tope
Kentucky State University

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
Kandis Arlinghaus
Bellarmine University

Co-author
Nicholas Mellen
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
Northern Kentucky University

Co-author
Sarah Goodrich
Northern Kentucky University

Co-author
Mitchel Lange
Northern Kentucky University

Co-author
Zadah Coy
Northern Kentucky University

Co-author
Joseph Mester
For the document, the content is as follows:

### Mycobacteriophages: Inky and Spock

151.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moria Magre</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
</tr>
<tr>
<td>Spalding University</td>
<td>Spalding University</td>
<td>Spalding University</td>
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</tbody>
</table>

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

152.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katie Sawvell</td>
<td>John Carmen</td>
</tr>
<tr>
<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
</tr>
</tbody>
</table>

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

153.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zackery Newton</td>
<td>Rachel Pritchard</td>
</tr>
<tr>
<td>Kentucky Wesleyan College</td>
<td>Kentucky Wesleyan College</td>
</tr>
</tbody>
</table>

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

154.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Rachel Mahbubani</td>
<td>Amy Priest</td>
<td>Annie Koenig</td>
<td>Easton Ford</td>
<td>Doug Krauth</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>University of Louisville</td>
<td>University of Louisville</td>
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</tr>
<tr>
<td>Co-author</td>
<td>Deborah Yoder-Himes</td>
<td>Co-author</td>
<td>Paul Himes</td>
<td>Co-author</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>University of Louisville</td>
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### Isolation and Characterization of the Mycobacteriophage Acquire49

155.

<table>
<thead>
<tr>
<th>First Author</th>
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<th>Co-author</th>
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<tbody>
<tr>
<td>Charles Mosley</td>
<td>Tyler Burton</td>
<td>John Starnes</td>
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<tr>
<td>Somerset Community College</td>
<td>Somerset Community College</td>
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<tr>
<td>College</td>
<td>College</td>
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</table>

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

156.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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</thead>
<tbody>
<tr>
<td>Zaria Elery</td>
<td>John Carmen</td>
</tr>
<tr>
<td>Northern Kentucky University</td>
<td>Northern Kentucky University</td>
</tr>
</tbody>
</table>

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

First Author
Mark Sirianno
Transylvania University

Co-author
Paul Duffin
Transylvania University

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

First Author
Grayson Fuller
Western Kentucky University

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

First Author
Amber Earlywine
Berea College
Department of Chemistry

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

Posters: Physics and Astronomy
Curris Center
Chair: Troy Messina
Secretary: Marilyn Akins

Comparison of Period Finding Techniques to Identify RR Lyrae Stars

First Author
Connor Edwards
Northern Kentucky University

Co-author
Logan Hicks
Northern Kentucky University

Co-author
Tyler Labree
Northern Kentucky University

Co-author
Matthew Buelsing
Northern Kentucky University

Co-author
Nathan De Lee
Electromagnetic Wave Motion Around a Black Hole

First Author
Amanda Manning
Northern Kentucky University

Co-author
Sharmanthie Fernando
Northern Kentucky University

Analyzing Color Relations for RR Lyrae in KELT

First Author
Logan Hicks
Northern Kentucky University

Co-author
Connor Edwards Tyler Labree Matthew Buelsing Nathan De Lee
Northern Kentucky University

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

First Author
Alexander Banaszak
Western Kentucky University

Co-author
Tyler Smith Sanju Gupta
Western Kentucky University

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

First Author
Alex Henson
WKU Department of Physics and Astronomy

Co-author
Brendan Evans Sanju Gupta
WKU Department of Physics and Astronomy

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

First Author
Romney Meek
Western Kentucky University

Co-author
Sanju Gupta
Western Kentucky University

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

59. The Study of Light Paths Around Black Holes

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

161. Developing TALE proteins as a sensor for detecting pathogens

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

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

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

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

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

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

### Pharmacological identification of cholinergic receptor subtypes in Drosophilidae

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

First Author
Alex Stanback
University of Kentucky

Co-author
Hunter Maxwell

Co-author
Clare Cole

Co-author
Katherine Johnson

Co-author
Jenni Ho

Co-author
La Shay Byrd

Co-author
Samantha Danyi

Co-author
Sushovan Dixit

Co-author
Madan Subheeswar

Co-author
Maddie Stanback

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

Posters: Psychology
Curris Center

Chair: Richard Osbaldiston
Secretary: KatieAnn Skogsberg

Can nicotine improve scopolamine-induced behavioral deficit?

First Author
Brianna Ward
Morehead State University

Co-author
Elizabeth Collins
Morehead State University

Co-author
Ilsun White
Morehead State University

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

First Author
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Berea College

Co-author
Evelyne Rivera Perez
Berea College

Co-author
Joseph Barger
Berea College

Co-author
Jasmine Roman
Berea College

Co-author
Sarah Jones
Berea College

What influences recognition of emotion among college students

First Author
Shannon Mapes
Morehead State University

Co-author
Suzanne Savard
Morehead State University

Co-author
Ilsun White
Morehead State University

Co-author
Kinetta Crisp
Morehead State University

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

First Author
Shannon Mapes
Morehead State University

Co-author
Suzanne Savard
Morehead State University

Co-author
Ilsun White
Morehead State University

Co-author
Kinetta Crisp
Morehead State University
<table>
<thead>
<tr>
<th>Title</th>
<th>First Author</th>
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<tr>
<td>Implicit Gender Bias, Commercials, and Cooperation.</td>
<td>Rick Holland</td>
<td>Vanessa Jones</td>
<td>Stephani Prince</td>
<td>Nicholas Kelling</td>
<td>Gregory Corso</td>
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<td>Let's Face It: The Effects of Disclosure Type and Modality on Student Comfort</td>
<td>Caitlin Taulbee</td>
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<td>Maternal reflective functioning and dyadic synchrony</td>
<td>Madison Raymer</td>
<td>Megan Conn</td>
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<tr>
<td>Maternal trauma and parenting sensitivity: Implications for attachment-based interventions</td>
<td>Ashley Hamm</td>
<td>Madison Raymer</td>
<td>Dr. Shari Kidwell</td>
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<td>The Effect of Noise, Intention, and Time of Day on Memory</td>
<td>Alicia Bedolla</td>
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<td>Affect Perseverance or Affect Momentum?</td>
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</tbody>
</table>
**Posters: Science Education**

**Curris Center**

Chair: Shira Rabin

Secretary: Karen Hlinka

---

**The POGIL Approach to Teaching**

187.

*First Author*
Lucas Collett
*Berea College*

---

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

188.

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

*Co-author*
Berea College

---

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

189.

*First Author*
Martin Brock
*Co-author*
Alexandra Stanback
*Co-author*
Tristan Donovan
*Co-author*
Priscilla Boachie
*Co-author*
Brendon Stockwell
*Co-author*
Maddie Stanback
*Co-author*
Carly Ballinger-Boone
*Co-author*
Emma Higgins
*Co-author*
Meaghan Labarre
*Co-author*
Alexa Larson

---

**Posters: Zoology**

**Curris Center**

Chair: Roy Scudder-Davis

Secretary: Oliver Beckers

---

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

171.

*First Author*
Maddie Stanback
*Co-author*
Alexandra Stanback
*Co-author*
Tristan Donovan
*Co-author*
Priscilla Boachie
*Co-author*
Brendon Stockwell
*Co-author*
Carly Ballinger-Boone
*Co-author*
Emma Higgins
*Co-author*
Meaghan Labarre
*Co-author*
Alexa Larson

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

First Author
Talon Garman
Murray State University

Co-author
Micaiah McNabb

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

First Author
Katherine Cappel
Campbellsville University

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

First Author
Abigail Glass
Murray State University

Co-author
Rachel Racicot
Vanderbilt University
Co-author
Michelle Casey
Murray State University
Co-author
Simon Darroch
Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author
Natalie Mercer
Kentucky Wesleyan College

Co-author
Shannon Finerty
Kentucky Wesleyan College

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author
Benjamin Conkright
Western Kentucky University

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

Biology Social

Corvette Lanes, 1415 Main St.

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee &amp; Tea</td>
<td>November 4, 2017</td>
<td>7:30am - 10:30am</td>
</tr>
<tr>
<td></td>
<td>Crows Nest, Curris Center</td>
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<tr>
<td>Coffee &amp; Tea</td>
<td>November 4, 2017</td>
<td>7:30am - 10:30am</td>
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<td>Blackburn 2nd floor lobby</td>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>November 4, 2017</td>
<td>7:30am - 12:00pm</td>
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<td></td>
<td>Cumberland Room, Curris Center</td>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>November 4, 2017</td>
<td>7:30am - 2:30pm</td>
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<td>Tennessee Room, Curris Center</td>
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<td>Exhibitors tables</td>
<td>November 4, 2017</td>
<td>8:00am - 3:00pm</td>
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<tr>
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<td>3rd floor of Curris Center</td>
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</tbody>
</table>

**KBRIN** (Kentucky Biomedical Research Infrastructure Network)

**Kentucky Organization of Field Stations**

**University of Kentucky Chemistry Department**
Oral Presentations: Cellular and Molecular Biology
Barkley Lecture Room, Curris Center

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

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

First Author
Erin Clayton
Murray State University

Co-author
Gary ZeRuth
Murray State University

Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy

First Author
Jazmin Escamilla
Berea College

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

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

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

First Author
Ahmed Fadil
Western Kentucky University

PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.

First Author
Brittani Hawkins
Murray State University

Co-author
Chris Trzepacz
Murray State University

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

First Author
Monica Moran
Vanderbilt University Division of Nephrology and Hypertension

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

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

Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and
hypothalamic tissue
10:30
First Author  
Keelee Pullum  
Gatton Academy, Western Kentucky University
Co-author
Noah Ashley

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

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

Oral Presentations: Ecology and Environmental Sciences  
Curris Center Theatre
Chair: Maheteme Gebremedhin  
Secretary: Roberta Challener
Section meeting to follow presentations at 2:30

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

8:15

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

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

8:30

First Author: Elizabeth Malloy
Co-author: David Brown
University: Eastern Kentucky University

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

8:45

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

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

9:00

First Author: Sait Sarr
Co-author: Maheteme Gebremedhin
University: Kentucky State University

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

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

**First Author**
Elizabeth Willenbrink
**Center for Human GeoEnvironmental Studies at Western Kentucky**
**Co-author**
Leslie North
**Center for Human GeoEnvironmental Studies at Western Kentucky**
**Co-author**
Vu Thi Minh Nguyet
**Institute of Geological Sciences, Vietnam Academy of Science**
**Co-author**
Jason Polk
**Center for Human GeoEnvironmental Studies at Western Kentucky**

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

**First Author**
Kaitlyn Kelly
**Eastern Kentucky University**
**Co-author**
David Brown
**Eastern Kentucky University**

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

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

### Prey Resource Partitioning Between Sympatric Bat Species

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

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

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

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

**First Author**

<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Co-author</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory of seeds: Effect of plant volatile exposure to seeds on plant growth, development and defense across generations</td>
<td>11:15</td>
<td>Grace Freundlich</td>
<td>Chris Frost</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>Landscape Genetics of California Tiger Salamanders: Inferences from multiple methods</td>
<td>11:30</td>
<td>Abhinav Maurya</td>
<td>Christopher Frost</td>
<td>University of Louisville</td>
</tr>
<tr>
<td>OCCUPANCY AND ALLOCHTHONY THRESHOLD RESPONSES OF PLETHODONTID STREAM SALAMANDERS TO STREAM CONDUCTIVITY</td>
<td>11:45</td>
<td>Samantha Thomas</td>
<td>Jarrett Johnson</td>
<td>Western Kentucky University</td>
</tr>
<tr>
<td>A Study of Mercury in Bald Eagle Feathers and Quills</td>
<td>1:00</td>
<td>Jacob Hutton</td>
<td>Jarrett Johnson</td>
<td>University of Kentucky</td>
</tr>
<tr>
<td>Using Mobile Eye-Tracking to Inform the Development of nature tourism Destinations in Iceland</td>
<td>1:15</td>
<td>Wendy Cecil</td>
<td>Leslie North</td>
<td>University of Kentucky</td>
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<td>Who’s the boss: Social dynamics associated with leadership in endangered Toque Macaques.</td>
<td>1:30</td>
<td>James Graham</td>
<td>Edward Hujbens</td>
<td>University of Akureyri</td>
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<td>Western Kentucky</td>
<td>Elizabeth Willenbrink</td>
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<td>Jun Yan</td>
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<td>University</td>
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</tbody>
</table>
An examination of fish and macroinvertebrate succession patterns after restoration of a novel stream system
1:45
First Author
Patrick Vrablik
Murray State
University
Co-author
Michael B. Flinn
Murray State
University

Movement patterns of Silver Carp Hypophthalmichthys molitrix in Kentucky Lake
2:00
First Author
Timothy Spier
Murray State
University
Co-author
Michael Flinn
Murray State
University
Co-author
Jessica Morris
Kentucky Department of Fish and Wildlife Resources
Co-author
Neal Jackson
U. S. Fish and Wildlife Service
Co-author
Allison DeRose
Murray State
University
Co-author
Brad Hartman
Murray State
University
Co-author
Dalton Lebeda
Murray State
University

Quantifying the Effects of Invasive Species on Fish Communities in Kentucky Lake: A Post-Invasion Approach
2:15
First Author
Bradley Hartman
Murray State
University
Co-author
Timothy Spier
Murray State
University

Oral Presentations: Physics and Astronomy
Blackburn 312
Saturday, November 4, 2017  8:00am - 11:30am
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
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>First Author</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The CREAM instrument on the ISS</td>
<td>8:15</td>
<td>Scott Nutter</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Matching Simulation Data to Calibration Data for the Silicon Charge Detector used in the ISS-CREAM Instrument</td>
<td>8:30</td>
<td>Carter Kring</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Calibration of the CREAM Calorimeter with CERN Beam Tests</td>
<td>8:45</td>
<td>Tyler LaBree, Scott Nutter</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Analysis of a Current-Mode Detector for the NOPTREX Experiment</td>
<td>9:00</td>
<td>Daniela Olivera, Danielle Schaper</td>
<td>Berea College, University of Kentucky</td>
</tr>
<tr>
<td>Josephson weak links with high characteristic voltage for THz radiation detection.</td>
<td>9:15</td>
<td>Luis Gomez</td>
<td>Northern Kentucky University</td>
</tr>
<tr>
<td>Investigation of the Kepler Eclipsing Binary Catalog: Analysis of Targets With UNC Flags</td>
<td>9:30</td>
<td>Garrison Turner, Big Sandy Community, Technical College</td>
<td></td>
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<tr>
<td>Streamlining Predictions of Temperature-Dependent Changes in Defect Properties of Intermetallic Compounds</td>
<td>9:45</td>
<td>First Author</td>
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</table>
Swift Observations of the Narrow Line Seyfert 1 Galaxy RX J0134.2-4258
10:15
First Author
Sierra Hauck
Morehead State University
Co-author
Dirk Grupe
Morehead State University

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

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

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

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

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

Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320

Chair: Harry Fannin
Secretary: Bommanna Loganathan

Section meeting to follow presentations

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

8:15
First Author
Jessica Dove
Eastern Kentucky University

Kinetic Modeling of Relevant Atmospheric Sulfur and Nitrogen Containing Compounds to Understand Particle Formation
8:30
First Author
Jesus Berlanga
Western Kentucky University
Co-author
Matthew Nee
Western Kentucky University
Co-author
Philip J. Silva
USDA - ARS

Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy
8:45
First Author
Ryan Lamb
Western Kentucky University
Co-author
Matthew Nee
Western Kentucky University

The removal of organic pollutants through buoyant photocatalyst
9:00
First Author
Kayla Steward
Western Kentucky University
Co-author
Matthew Nee
Western Kentucky University

Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation
9:15
First Author
Rosemary Calabro
University of Kentucky Department of Chemistry
Co-author
Dong-Sheng Yang
University of Kentucky Department of Chemistry
Co-author
Doo Young Kim
University of Kentucky

Oxidative stability of fish oil-in-water emulsions stabilized by protein-polysaccharide complexes: Effect of salt and pH
9:30
First Author
Mara Krempel
Western Kentucky University
Co-author
Hayley Moss
Western Kentucky University
Co-author
Hanna (John)
Khouryieh
Western Kentucky University

Temperature and electric field dependence of asymmetric stretching of nitrate ion
### Oral Presentations: Agricultural Sciences

#### The Stables, Curris Center
1st floor

**Chair:** Jean Gumirakiza

**Section meeting to follow presentations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
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<tr>
<td>8:15</td>
<td><strong>Is Pawpaw Self-Compatible? Determining Compatibility and Its Impact on Fruit and Seed Set in North American Pawpaw</strong></td>
<td>Srijana Thapa Magar</td>
<td>Kirk Pomper</td>
<td>Jeremiah Lowe</td>
<td>Kentucky State</td>
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<tr>
<td>8:30</td>
<td><strong>Enzymes as Indicators of Soil Microbial Activity at three Locations in Kentucky</strong></td>
<td>GEORGE ANTONIOUS</td>
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<tr>
<td>8:45</td>
<td><strong>Assessing the nutritional value of novel soybean products in the diet of Atlantic salmon (Salmo salar L.)</strong></td>
<td>James Schwartz</td>
<td>Vikas Kumar</td>
<td>Waldemar Rossi</td>
<td>Kentucky State</td>
<td>Nofima</td>
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<tr>
<td>9:00</td>
<td><strong>Responses of juvenile largemouth bass (Micropterus salmoides) to dietary EPA and DHA rich oils</strong></td>
<td>Amit Yadav</td>
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<td>Hab Andemichael</td>
<td>Kentucky State</td>
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<td>9:15</td>
<td><strong>Applicability of waste-reared Hermetia illucens as an ingredient in the diet of Nile Tilapia, Oreochromis niloticus</strong></td>
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<td>9:30</td>
<td>Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky</td>
<td>Emily Cook</td>
<td>Lin Handayani</td>
<td>Jessica Pafford</td>
<td>Steve Still</td>
<td>John Grove</td>
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<td>Mark Coyne</td>
<td>Ann Freytag</td>
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<td>9:45</td>
<td>Spotted wing Drosophila, Drosophila suzukii, larvae in blackberries bordered by native perennial plants or pasture</td>
<td>Sathya Govindasamy</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
<td>Mamata Bashyal</td>
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<td>Megan McCoun</td>
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<td>10:00</td>
<td>Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture and sp</td>
<td>Mamata Bashyal</td>
<td>John Sedlacek</td>
<td>Karen Friley</td>
<td>E. Kyle Slusher</td>
<td>Sathya Govindasamy</td>
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<td>Megan McCoun</td>
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<tr>
<td>10:30</td>
<td>Optimizing Hemp Production through Cultivar Selection and Soil Management Practices</td>
<td>Rose Johnson</td>
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</table>
### An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass

10:45

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

11:00

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

11:15

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

11:30

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

1:00

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>JEAN DOMINIQUE GUMIRAKIZA</td>
<td>Stephen King</td>
<td>Thomas Kingery</td>
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<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
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As online shopping becomes popular, will consumers still be interested in direct-to-consumer offline market outlets?

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

1:30

First Author
Audrey Barnett
Western Kentucky University

Co-author
Dominique Gumirakiza
Western Kentucky University

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

1:45

First Author
Thomas Mason
Kentucky State University

Co-author
Ken Semmens
Kentucky State University

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

2:00

First Author
Shreya Patel
Kentucky State University

Co-author
Avinash Tope
Kentucky State University

Oral Presentations: Geography

Mississippi Room, Curris Center

Chair: Buddhi Gyawali
Secretary: Christopher Day

Section meeting to follow presentations

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

8:30

First Author
Oguz Sariyildiz
Kentucky State University

Co-author
Buddhi Gyawali
Kentucky State University

Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar
<table>
<thead>
<tr>
<th>Title</th>
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<tr>
<td>The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan</td>
<td>Tori Farrow</td>
<td>Jeremy Sandifer</td>
<td>Kentucky State</td>
<td>University</td>
<td>Kentucky State</td>
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<tr>
<td>Networks of Sustainability within the Iceland Whale Watching Industry</td>
<td>Jason Fox</td>
<td>Leslie North</td>
<td>Western Kentucky</td>
<td>University</td>
<td>Western Kentucky</td>
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<tr>
<td>Predicting the Adoption of Sustainable Agricultural Practices among Kentucky Farmers and Its Barriers</td>
<td>Bijesh Mishra</td>
<td>Buddhi Gyawali</td>
<td>Kentucky State</td>
<td>KYSU</td>
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<tr>
<td>Exploring Relationship between community Perception and landscape change in the Eastern Kentucky</td>
<td>Buddhi Gyawali</td>
<td>Prabisha Shrestha</td>
<td>Kentucky State</td>
<td>University</td>
<td>Kentucky State</td>
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<tr>
<td>Association of land cover change trend with land ownership size at parcel level data in Breckinridge County, KY</td>
<td>Prabisha Shrestha</td>
<td>Buddhi Gyawali</td>
<td>Til Shrestha</td>
<td>Kentucky State</td>
<td>Kentucky State</td>
</tr>
<tr>
<td>Land Cover Classification using LandSat, NAIP images, and Accuracy enhancements</td>
<td>Prabisha Shrestha</td>
<td>Buddhi Gyawali</td>
<td>Til Shrestha</td>
<td>Kentucky State</td>
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</tr>
</tbody>
</table>
Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology

First Author
James Shelley
Western Kentucky University

Co-author
Jason Polk
Western Kentucky University

Co-author
Leslie North
Western Kentucky University

Co-author
Nicholas Crawford
Western Kentucky University

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

Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky

First Author
Patricia Kambesis
Western Kentucky University

Co-author
Brittany Moore-Kimmel
Texas State University

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

First Author
Jordan Wilson
Kentucky State University

Co-author
Jeremy Sandifer
Kentucky State University

Co-author
Kenneth Bates
Kentucky State University

Oral Presentations: Geology
Blackburn 228

Chair: Ann Harris
Secretary: David Dockstader
Section meeting to follow presentations
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:15</td>
<td>Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University's Meadow</td>
<td>First Author: Randal Roberson, Co-author: Michelle Casey, Co-author: Murray State University, Co-author: University</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>First Author: Reid Buskirk, Co-author: Walter Borowski, Co-author: Eastern Kentucky University, Co-author: University</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>First Author: Selsey Stribling, Co-author: Jonathan Malzone, Co-author: Eastern Kentucky University, Co-author: University</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>First Author: Addison Bell, Co-author: Jonathan Malzone, Co-author: Eastern Kentucky University, Co-author: University</td>
</tr>
<tr>
<td>10:30</td>
<td>Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY</td>
<td>First Author: Laura Kelley, Co-author: Sophia Chan, Co-author: Jonathan Malzone, Co-author: Eastern Kentucky University, Co-author: University</td>
</tr>
<tr>
<td>10:45</td>
<td>Runoff generation in an ephemeral agricultural watershed with thin soil</td>
<td>First Author: Laura Kelley, Co-author: Sophia Chan, Co-author: Jonathan Malzone, Co-author: Walter Borowski, Co-author: Eastern Kentucky University, Co-author: University</td>
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### Oral Presentations: Psychology

**Saturday, November 4, 2017  9:00am - 11:15am**

**Section meeting to follow presentations**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
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<th>University</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.</td>
<td>First Author: Aaron Clark</td>
<td>Co-author: Dave Porter</td>
<td>Berea College</td>
</tr>
<tr>
<td>9:15</td>
<td>Breaking the Prejudice Habit: A Longitudinal Assessment of Reducing Implicit Racial Bias</td>
<td>First Author: Laura Hopkins</td>
<td>Co-author: Nicole Stumpp</td>
<td>Centre College</td>
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<tr>
<td>9:30</td>
<td>The Effects of Gender, Task Difficulty, and Emotional Arousal on Perceptual Sensitivity</td>
<td>First Author: Enkhjin Enkhbold</td>
<td>Co-author: Karina Cole</td>
<td>Morehead State University</td>
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<tr>
<td>9:45</td>
<td>Children's emotion understanding and regulation: Links with psychological symptoms</td>
<td>First Author: Karina Cole</td>
<td>Co-author: Ashley Hamm</td>
<td>Morehead State University</td>
</tr>
<tr>
<td>10:15</td>
<td>Initial Validation of the Hexaflex Process Assessment Instrument.</td>
<td>First Author: Aaron Ellis</td>
<td>Co-author: John Blackledge</td>
<td>Morehead State University</td>
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**First Author** Sophia Chan  
**Co-author** Laura Kelley  
**University** Eastern Kentucky University  

**First Author** Jonathan Malzone  
**Co-author** Walter Borowski  
**University** Eastern Kentucky University  

**First Author** Laura Kelley  
**Co-author** Jonathan Malzone  
**University** Eastern Kentucky University  

**First Author** Walter Borowski  
**Co-author** Laura Kelley  
**University** Eastern Kentucky University  

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**First Author** Laura Hopkins  
**Co-author** Nicole Stumpp  
**University** Centre College  

**First Author** Enkhjin Enkhbold  
**Co-author** Karina Cole  
**University** Morehead State University  

**First Author** Isabella Gearhart  
**Co-author** Kellen Crager  
**University** Morehead State University  

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**First Author** Aaron Clark  
**Co-author** Dave Porter  
**University** Berea College  

**First Author** Rebecca Ashley  
**Co-author** John Blackledge  
**University** 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

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

First Author
Joseph Erskine
Bellarmine University

Co-author
Jordan Dowdy
Bellarmine University

Co-author
Stephen Denny
Bellarmine University

Co-author
M Saleem
Bellarmine University

Co-author
Akhtar Mahmood
Bellarmine University

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

Oral Presentations: Science Education
Blackburn 249

Chair: Shira Rabin

Secretary: Karen Hlinka

Section meeting to follow presentations
### Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology

9:15

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

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

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

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

9:30

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

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

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

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

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

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

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

### Should We Lie To Our Students?

10:00

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

### Adaptive Learning Courseware in Majors Biology Course

10:15

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

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

10:30

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

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

10:45

**First Author**  
Norm Strobel  
*KCTCS/Blugrass Community and*
### Oral Presentations: Engineering

**Ohio Room, Curris Center**

**Chair:** Aaron Daley  
**Secretary:** Shen Liu  
**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>
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<tbody>
<tr>
<td>10:00</td>
<td>Characterization of Mechanical Properties of 3D Printed Thermoplastic Parts</td>
<td>Jordan Garcia</td>
<td>Tyler Stoffel</td>
<td>John Schmidt</td>
<td>Alexander Bolin</td>
<td>David Lu</td>
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<td>Charles Lu</td>
<td>University of Kentucky</td>
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<td>10:15</td>
<td>Imaging of the spinal cord in pediatric patients.</td>
<td>Bhavesh Ramkornun</td>
<td>Samantha By</td>
<td>Aashim Bhatia</td>
<td>Bryson Reynolds</td>
<td>Patrick Couture</td>
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<td>Vanderbilt University</td>
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<td>Seth Smith</td>
<td>Children's Hospital</td>
<td>Institute of Imaging</td>
<td>Medical Center</td>
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<td>Vanderbilt University</td>
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<td>Science</td>
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<tr>
<td>10:30</td>
<td>Hands-on Robotics Lab at Bellarmine University</td>
<td>Christopher Steitz</td>
<td>Stephen Brown</td>
<td>Akhtar Mahmood</td>
<td>Bellarmine University</td>
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<td>10:45</td>
<td>Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms</td>
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</tbody>
</table>

### Breaks

Staggered in sessions - check schedule
Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components

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

Mentor-Matching

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

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

Oral Presentations: Chemistry: Organic/Inorganic
Blackburn 135

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

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

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

1:00

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

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

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  Co-author  Co-author  Co-author  Co-author
Jessie Brown  Amelia Dickey  Elias Hanna  Christopher Samaan  Hannah Williams
Transylvania  Transylvania  Transylvania  Transylvania
University  University  University  University
The Synthesis of Heteroatom-activated Antibiotics: \(\beta\)-lactams
2:00
First Author
Jacob Nanney
Kentucky Wesleyan
College
Co-author
Kyle Watson
Kentucky Wesleyan
College

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

Oral Presentations: Health Sciences
Saturday, November 4, 2017 1:00pm - 1:30pm
Blackburn 155
Chair: Bruce Branan
Secretary: Avinash Tope
Section meeting to follow presentations

Determining a reference interactome for stable heart disease utilizing molecular structure for informed model selection
1:00
First Author
Patrick Trainor
University of Louisville
Co-author
Samantha Carlisle
University of Louisville
Co-author
Shesh Rai
University of Louisville
Co-author
Andrew DeFilippis
University of Louisville

Transcriptomics Evaluation of MDA-MB-231 Breast Cancer Cells Reveals NAT2 Transcript Production Following NAT1 Knockout
1:15
First Author
Samantha M. Carlisle
University of Louisville
Co-author
Patrick J. Trainor
University of Louisville
Co-author
Mark A. Doll
University of Louisville
Co-author
David W. Hein
University of Louisville

Oral Presentations: Mathematics
Saturday, November 4, 2017 1:00pm - 2:00pm
Blackburn 228
Chair: R. Douglas Chatham
Secretary: Andy Martin
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
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<tbody>
<tr>
<td>Open Coverings of the Rationals Need Not Cover The Reals</td>
<td>1:00</td>
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<tr>
<td>First Author</td>
<td>Andy Martin</td>
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<td>Kentucky state University</td>
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<tr>
<td>The Cubic Equation</td>
<td>1:15</td>
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<tr>
<td>First Author</td>
<td>Dwight Smith</td>
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<tr>
<td>Big Sandy CTC</td>
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<tr>
<td>A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System of ODEs.</td>
<td>1:30</td>
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<tr>
<td>First Author</td>
<td>Austin Gabhart</td>
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<td>Gatton Academy, Western Kentucky University</td>
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<tr>
<td>The n+k kings problem</td>
<td>1:45</td>
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<tr>
<td>First Author</td>
<td>R. Douglas Chatham</td>
</tr>
<tr>
<td>Morehead State University</td>
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</tbody>
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### Saturday, November 4, 2017  1:00pm - 1:45pm

**Oral Presentations: Microbiology**

Cumberland Room, Curris Center

Chair: Lingyu Huang  
Secretary: Joseph Mester

Section meeting to follow presentations

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

First Author
Alexander Lai
Kentucky State
University

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

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

Identification of tRNA modification enzymes in higher eukaryotes via primer extension

First Author
Justen Mamaril
Northern Kentucky
University

Physiological Characteristics of Five Bladder Cancer Cell Lines

First Author
Kyle Damen
Wood Hudson Cancer Research Laboratory

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

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

1:45

First Author
Dat Thinh Ha
Western Kentucky University

Oral Presentations: Anthropology and Sociology
Ohio Room, Curris Center

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

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

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

First Author
Mason Gibson
Western Kentucky University

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

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

Co-author
Jun Peng
Xingjian College of Science and Liberal Arts, Guangxi Univ.
<table>
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<th>First Author</th>
<th>Co-author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria in the Prehistoric Caribbean: The Hunt for Hemozoin</td>
<td>1:45</td>
<td>Mallory Cox</td>
<td>University of Louisville</td>
</tr>
</tbody>
</table>
| Shifting Agriculture's Effects on Lemurs in a Malagasy Gallery Forest | 2:00   | Benjamin Freed                | Nathanael Bartosch  
Eastern Kentucky  
University                                    |

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

Oral Presentations: Computer and Informational Sciences
Blackburn 312

Chair: Jerzy Jaromczyk  
Secretary: Muzaffar Ali

Section meeting to follow presentations

Cloud Computing for Hands-On Bioinformatics Education
1:15

First Author  
Harrison Inocencio  
University of Kentucky

Co-author  
Deavin Hester  
University of Kentucky

Co-author  
Laura Lodder  
University of Kentucky

Co-author  
Justin Moore  
University of Kentucky

Co-author  
Bailey Phan  
University of Kentucky

Co-author  
Andrew Tapia  
University of Kentucky

Co-author  
Neil Moore  
University of Kentucky

Co-author  
Mark Farman  
University of Kentucky

Co-author  
Jerzy Jaromczyk  
University of Kentucky

Co-author  
Luke Decastro  
University of Kentucky

Adaptive Topic Mining from Social Media Streams
1:30

First Author  
Gopi Chand Nutakki  
University of Louisville

Co-author  
Olfa Nasraoui  
University of Louisville

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

First Author  
Patrick Trainor  
University of Louisville

Co-author  
Andrew DeFilippis  
University of Louisville

Co-author  
Shesh Rai  
University of Louisville
Password cracking performance testing comparing GPU vs CPU performance using Hashcat

2:00

First Author
Deven Rataiczak
Bellarmine University

Oral Presentations: Zoology

Mississippi Room, Curris Center

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

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

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

First Author
Cassandra Scalf
Western Kentucky University
Co-author
Noah Ashley
Western Kentucky University

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

Keynote Jeffrey Bennett: Communicating Science to the Public
Introduced by President-Elect Jennifer Birriel
Curris Center Ballroom

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

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

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

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

Reception and Presentation of 2017 Science Education & Outreach Award
Curris Center Ballroom

Saturday, November 4, 2017  4:15pm - 5:15pm

Symposium: Out in the Field: Experiences Communicating Science to the Public
Curris Center Ballroom

Moderator: Wilson Gonzalez-Espada

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

Guidelines for the Research Paper
Preparing the Presentation
Kentucky Junior Academy of Science Plagiarism Policy
Rules and Policies for Kentucky Junior Academy
Junior Academy Scoring rubric
Video tips: Giving a good Scientific talk
KSU Campus Map
Kentucky State University
Chronicle of the New Researcher publishes research from young scientists