2017 Annual Meeting Program November 3-4, 2017

Thank you to our Platinum Sponsor

Thank you to our Break Sponsors
Thank you to our Silver Sponsors
Online Program, October 30, 2017
Poster presentations are all on Friday
Oral Presentations are all on Saturday

<table>
<thead>
<tr>
<th>Event</th>
<th>Date and Time</th>
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<tbody>
<tr>
<td>KAS Governing Board meeting</td>
<td>Friday, November 3, 2017, 1:00pm - 3:00pm</td>
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<tr>
<td>Commonwealth Suite</td>
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<tr>
<td>Open to all KAS members</td>
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<th>Event</th>
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<tr>
<td>Meeting for Section Leaders and Judges</td>
<td>Friday, November 3, 2017, 3:00pm - 4:00pm</td>
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<tr>
<td>The Stables, Curris Center</td>
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<td>1st floor</td>
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<td>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.</td>
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<th>Event</th>
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<tr>
<td>Practice Room for Oral Presentations</td>
<td>Friday, November 3, 2017, 3:00pm - 9:30pm</td>
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<tr>
<td>Tennessee Room, Curris Center</td>
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<tr>
<td>Tour - Hancock Biological Station</td>
<td>Friday, November 3, 2017, 3:00pm - 5:00pm</td>
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<tr>
<td>Meet in front of Curris Center</td>
<td>2 hour round trip</td>
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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
meter, and two viscometers; the DMA makes Murray State the only university in the region to have such capabilities for polymer and materials characterization. The Chemistry Department provides access to the most advanced instrumentation including a JEOL 400-MHz Nuclear Magnetic Resonance Spectrometer, and major equipment in the areas of chromatography, thermal analysis, and inert atmosphere systems. Much of our instrumentation was purchased through a generous gift from Dr. Jesse D. Jones (Chemistry ’64) and is housed in the Jones/Ross Research Center.

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

**Tour - Mapping Applications and Resource Center (MARC)**

Meet outside of Blackburn 425

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

[Campus map](#)

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

**Tour - New Institute of Engineering facility**

Meet in the lobby

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

[Campus map](#)

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

**Judges conference room**

Commonwealth Suite, Curris Center

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

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

**Posters: Agricultural Sciences**

Curris Center
Chair: Jean Gumirakiza

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

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<tr>
<th>First Author</th>
<th>Co-author</th>
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<tr>
<td>Cora Teets</td>
<td>waldemar Rossi</td>
<td>Vikas Kumar</td>
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**A Comparison of the Characteristics of Kentucky and Illinois Soils Under Various Land Cover**

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<tr>
<td>Bernedette Chadwick</td>
<td>Michael Mercer</td>
<td>Bailey Webster</td>
<td>Brandon Clark</td>
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**Dehydration of autumn olive berries for human consumption**

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<th>First Author</th>
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<tr>
<td>Changzheng Wang</td>
<td>Lingyu Huang</td>
<td>Cecil Butler</td>
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**Developing cold-hardy perennial ornamentals for Kentucky**

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<td>Hideka Kobayashi</td>
<td>Duncan Thomas</td>
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<td>Murray State</td>
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**Distinguishing Differences of Soil Physical Properties in Irrigated and Non-Irrigated Corn-soybean Rotation and Pastur**

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<td>Harry Franklin</td>
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<td>Connor Raymond</td>
<td>Jacob Flemming</td>
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</table>
Effects of fertilization on growth performance of lotus plants in containers
66.
First Author
Changzheng Wang
Kentucky State
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Impact of Soil-Set®, Grain-Set®, and Liqui-Plex® Formulations on Hot Pepper Yield
67.
First Author
GEORGE
ANTONIOUS
KENTUCKY STATE
UNIVERSITY
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Kentucky State
University
Co-author
Eric Turley
Kentucky State
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Thomas Trivette
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Co-author
Yogendra Upadhyaya
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Co-author
Bjesh Mishra
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Online Shoppers; Who Attends Farmers’ Markets, Who Does Not, and Why?
68.
First Author
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Thomas Kingery
Western Kentucky
University
Co-author
Stephen King
Western Kentucky
University

Soil Distinguishing Factors in Pasture and Irrigated Soils in Tennessee, Kentucky, and Illinois
69.
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joel reddick
Murray State
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Co-author
Landon Williams
Murray State
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Co-author
Blake Remmert
Murray State
University
Co-author
iin Handayani
Murray State
University
Co-author
Brian Parr
Murray State
University

Soil Properties in Varying Crop and Non-Crop Areas of Calloway County, Kentucky
70.
First Author
Zack Eells
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Co-author
Canaan Wring
Murray State
University
Co-author
Clay Smotherman
Murray State
University
Co-author
Connor Moore
Murray State
University

The Impact of Cropping Systems on Soil properties in Fredonia and Princeton Kentucky
71.
Yield of Eggplant Grown in Horse Manure and Vermicompost Amended Soil

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Yogendra Upadhyaya
Co-author
Thomas Trivette
Co-author
Lusekelo Nkuwi
Co-author
Bijesh Mishra
Co-author
George Antonious

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University
Kentucky State University
University
Kentucky State University
University
Kentucky State University
University

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

First Author
Kelly Hagan
Co-author
Ray Smith

Asbury University
University of Kentucky

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

First Author
Juliana Silva e Costa
Co-author
Justin Cornett
Co-author
D. Nicholas McClitchie

Federal University of Juiz de Fora
University of Kentucky
University of Kentucky

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

First Author
Taylor Horton
Co-author
Dayle Saar

Murray State University
Murray State University
University

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

First Author
Juliana Silva e Costa
Co-author
Justin Cornett
Co-author
D. Nicholas McClitchie

Federal University of Juiz de Fora
University of Kentucky
University of Kentucky

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

Posters: Botany
Curris Center

Chair: Lawrence Alice
Secretary: Maggie Whitson
### Building an interactive tree map for the Bellarmine University campus.

77.

First Author
Nellie Heitzman
Transylvania University

Co-author
Sarah Bray
Transylvania University

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**Posters: Cellular and Molecular Biology**
Curris Center

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

<table>
<thead>
<tr>
<th>Chair: Emily Shifley</th>
<th>Secretary: Gary ZeRuth</th>
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#### Assessing the role of the gene, pebbled, in D. melanogaster ASP Invasive Behavior

78.

First Author
Hasan Salim
WKU

---

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

79.

First Author
Hadley Neal
KBRIN

Co-author
Rebecca Petersen
University of Kentucky

Co-author
Wen Wen
University of Kentucky

Co-author
Ann Morris
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
Western Kentucky University

Co-author
Ajay Srivastava
Western Kentucky University

---

#### Examining Gene Expression during Xenopus Embryonic Development

81.

First Author
Maria Stewart
Northern Kentucky University

Co-author
Emily Shifley
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 Lloyd
Neuroscience and
Neurology, Johns
Hopkins Medicine

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

First Author
Sarah Kunkler
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Co-author
Emily Shifley
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The effect of benzo[a]pyrene on motor function in neonatal mice

First Author
Katelyn Dunn
Northern Kentucky
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Co-author
Tamika Chappell
Northern Kentucky
University

Co-author
Lisa Massie
Northern Kentucky
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Co-author
Shelby Caudill
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University

Co-author
Nicholas Brinkman
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Co-author
Rachel Dempsey
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Co-author
Christine Curran
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Role of autophagy-related protein Vps34 in the function of adipose tissues and interactions with the immune system

First Author
Henry Kwan
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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
<table>
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<tr>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
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<tr>
<td>Visualizing Programmed Genome Arrangement in Live Sea Lamprey Embryos</td>
<td>Conner Hounshell</td>
<td>Courtney Waterbury</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>
<td>Jennifer Doyle</td>
<td>Moria Magre</td>
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<td>Direct detection of double-stranded DNA of Staphylococcus aureus using engineered zinc finger proteins</td>
<td>Jiyoungh 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>94. First Author</td>
<td>Issac Domenech</td>
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<tr>
<td>Co-author</td>
<td>Ambra Pozzi</td>
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<td>Corina Borza</td>
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<tr>
<td>Co-author</td>
<td>Daniel Jeffries</td>
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<td>NADPH oxidase-derived ROS regulate TLR2 responses in mouse dendritic cells</td>
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<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>
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<td>Thomas Case</td>
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<td>Quantifying Tetracycline resistance genes in swine waste anaerobic digester over a period of 100 days</td>
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<td>Melanie Couch</td>
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<td>John Loughrin</td>
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<td>Rohan Parekh</td>
<td>ARS USDA</td>
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<td>Eric Conte</td>
<td>Western Kentucky University</td>
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<td>Identification of the enzyme responsible for the acp3U modification in bacteria</td>
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<td>Maggie Thomas</td>
<td>Jamison Burchett</td>
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<td>Co-author</td>
<td>Justen Mamaril</td>
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<tr>
<td>Co-author</td>
<td>Michael Guy</td>
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<td>Impact of Mutations in the EGO and GSE Complexes on Genomic Instability in Saccharomyces cerevisiae</td>
<td>99. First Author</td>
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### Analysis of Protein Conformations Using Computer Simulations

1.

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

---

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

2.

*First Author*
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*Co-author*
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*Indiana University*

*Co-author*
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*Indiana University*

*Co-author*
Mangilal Agarwal  
*Indiana University*

---

### Anaerobic Degradation of Tetracyclines in Agricultural Manure

3.

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*Co-author*
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*Western Kentucky University*

*Co-author*
John Loughrin  
*usda*

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

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

4.

*First Author*
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*Co-author*
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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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<th>Co-author 2</th>
<th>Co-author 3</th>
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<td>Polyunsaturated Fatty Acid Profile in Hemp-Fed Chicken Egg</td>
<td>Cole Hulen</td>
<td>Cheyenne Hooks</td>
<td>Nathan Denney</td>
<td>Lauren Clark</td>
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<td>Murray State University</td>
<td>Department of Agriculture Science, Hutson School of Agriculture</td>
<td>Department of Agriculture Science, Hutson School of Agriculture</td>
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<td></td>
<td></td>
<td>Bommanna Loganathan</td>
<td>Brian Parr</td>
<td>Bikram Subedi</td>
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<td></td>
<td>Murray State University</td>
<td>Department of Chemistry, Murray State University</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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<tr>
<td>Kevin Pierce</td>
<td>Alex Thome</td>
<td>Jill Cao</td>
<td>Sebastian Jezowski</td>
</tr>
<tr>
<td>Murray State University</td>
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<td>Murray State University</td>
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The Analysis of Contact Lenses as Forensic Evidence Using FT-IR and Refractive Index

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Rachel Bracker</td>
<td>Lori Wilson</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Eastern Kentucky University</td>
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</table>

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

<table>
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<tr>
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<tr>
<td>Tomas Flores</td>
<td>Jay Baltisberger</td>
<td>Sara Garner</td>
<td>Shay Steele</td>
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<tr>
<td>Berea College</td>
<td>Berea College</td>
<td>Berea College</td>
<td>College of Wooster</td>
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Sedimentation Fractionation

<table>
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<th>First Author</th>
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<tr>
<td>Michael Greiving</td>
</tr>
<tr>
<td>KYSU</td>
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</table>

First Author  Co-author  Co-author
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12. Comparison of Inorganic Elemental Concentrations in Water Samples and Occurrence of Zebra Mussels in Kentucky Lake, USA

First Author  Co-author  Co-author  Co-author  Co-author
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Co-author  Co-author
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13. ZrO2-?-Cyclodextrin (CD) catalyzed synthesis of 2,4,5-trisubstituted imidazoles and 1,2-disubstituted benzimidazoles

First Author  Co-author  Co-author  Co-author  Co-author
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Co-author  Co-author  Co-author  Co-author
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Northwest MS Community College  Northwest MS Community College  Northwest MS Community College  Northwest MS Community College

14. Water Purification using Magnetic Biochar

First Author
Anne Carlisle
Western Kentucky University

15. A DRIFT Plus TG Device Revealing Unknown Chemicals Reaction Mechanisms

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

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

Posters: Chemistry: Organic/Inorganic
Curris Center

Application of metal-organic framework materials in dye-sensitized solar cells

First Author
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Bangbo Yan
Western Kentucky University

Effect of Iron charge state on P450 BM3 stability

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Catherine Denning
University of Kentucky
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David Heidary
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Co-author
Edith Glazer
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Fluorescence properties of metal-organic frameworks containing ruthenium and copper ions.

First Author
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Robert Spears
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Kinetic analysis of the mechanosyntheses of transition metal complexes and precursors

First Author
Erin O'Donnell
Murray State University
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Rachel Allenbaugh
Murray State University
Kinetic Studies of High-valent metal(IV)-oxo porphyrins generated by chemical and photochemical methods

First Author
Haiyan Liu
Western Kentucky University

Light Activated Ruthenium Peptide Hybrids

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Lydia Millard
Kentucky State University

N-Heterocyclic Carbene Complexes

First Author
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Berea College
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Cheyenne Haynes
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Optimization of lipid extraction from Scenedesmus acutus via in-situ transesterification

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

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

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Tonya Morgan
University of Kentucky's Center for Applied Energy Research
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Eduardo Santillan-Jimenez
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Reduction of Mannich Bases to Form 1,3-Amino Alcohols Using a Knöllker-type Catalyst

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Co-author
Rachel Whittaker
Murray State University

Co-author
Kane Ferguson
Murray State University

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

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Solid-Phase Synthesis of Heteroatom-Activated Antibiotics

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Kentucky Wesleyan College

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

First Author
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Murray State University

Co-author
Sebastian Jezowski
Murray State University

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

First Author
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Co-author
Haiyan Liu
Western Kentucky University

Co-author
Rui Zhang
Western Kentucky University

Synthesis and Properties of a Ruthenium Polypyridyl Complex

First Author
Hannah Cope
Western Kentucky University

Co-author
Bangbo Yan
Western Kentucky University
Synthesis of Cleavable Acetal Antibody Drug Conjugate

First Author
Luis Salazar Guzman
Berea College

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

First Author
Charles Greif
Eastern Kentucky University

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

First Author
Beau Schweitzer
Berea College

Synthesizing Cleavable Acetal Antibody Drug Conjugates

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

Posters: Computer and Informational Sciences
Curris Center

Chair: Jerzy Jaromczyk  Secretary: Muzaffar Ali

Incorporating WeBWorK in a Mathematics Classroom

First Author  Co-author
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Kentucky Wesleyan  Kentucky Wesleyan
College  College

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**

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

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<td>American Chestnut restoration in Daniel Boone National Forest: a GIS approach</td>
<td>Jacob Pease</td>
<td>Stephen Denny, Akhtar Mahmood, M. Saleem</td>
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<td>Ant communities of temperate tree canopies along an urban-rural gradient</td>
<td>Heather Short, Daniella Prince, Benjamin Adams, Keegan Thompson, Chloe Lash</td>
<td>Stephen Yanoviak, Howard Whitemand, Keegan Thompson, Chloe Lash</td>
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<td>Is it enough? Passive Restoration in a Western Colorado Stream</td>
<td>Melody Feden, Howard Whitemand</td>
<td>Murray State University</td>
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<td>The Mobility of Nickel in Soil and the Efficacy of Sphagnum Peat Moss to Immobilize Nickel with Contaminated Soils</td>
<td>Vanetta Graves</td>
<td>Kentuck State University</td>
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<td>Leaf Toughness in Tropical Rainforest Plants Depends on Leaf Age in Dicots but Not Monocots</td>
<td>Shelby Watkins</td>
<td>Stephen Yanoviak</td>
<td>Christopher Frost</td>
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<td>Examing the Relationship Between Temperature and Vegetation Phenology: Is Soil a Better Predictor than Air?</td>
<td>Kevin &quot;Austin&quot;</td>
<td>Monika Staszczak</td>
<td>Murray State</td>
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<td>Roma Karna</td>
<td>Priya Karna</td>
<td>Sunil Karna</td>
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<td>Tosha Shokes</td>
<td>Jarrett Johnson</td>
<td>Western Kentucky University</td>
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<td>Assessing the effects of urban air pollution on lichens</td>
<td>Austin Adam</td>
<td>Roberta Challener</td>
<td>Bellarmine University</td>
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<td>The Effects of Stream Degradation on Food Web Stability</td>
<td>Hannah Moore</td>
<td>Murray State</td>
<td></td>
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Water Levels and Temperatures Define Narrow Window of Larval Fish Phenology in Kentucky Lake.

First Author: Spencer Phillips
Murray State University
Co-author: Nathan Tillotson
Murray State University
Co-author: Ben Tumolo
Murray State University
Co-author: Michael Flinn
Murray State University

Honey Bee Gene Expression Response to Pesticides Under Differential Nutritional Status

First Author: Alishea Brown
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Co-author: Farida Olden
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Patterns of Herbivory Among Leaves of Tropical Forest Canopy Trees

First Author: Maria Shields
University of Louisville
Co-author: Christopher Frost
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Co-author: Stephen Yanoviak
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Driver bias in intentional wildlife-vehicle collisions

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

Using Hardiness Zones to Determine Phenological Variation

First Author: Whitney Buechler
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Murray State University
Co-author: Paul Gagnon
Murray State University

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

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

Is aboveground pathogen load influenced by belowground pathogen presence, plant community
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<td><strong>First Author</strong></td>
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<td>Aspen Workman</td>
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<td>University of Louisville</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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<td>University of Louisville</td>
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Sensing and educating the NEXUS to sustain ecosystems (SENSE): A Kentucky-West Virginia partnership.

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<tr>
<td>David White</td>
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<tr>
<td>Murray State University</td>
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Improving Detection and Recovery of a Threatened Anuran Species (Lithobates areolatus) in Western Kentucky

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

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<tr>
<td>Robin Baker</td>
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<td>Murray State University</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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Dose of a plant-derived volatile cue affects Arabidopsis thaliana defense phenotypes

First Author
Sarah Bissmeyer
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Co-author
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University of Louisville

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Grace Freundlich
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Season fluctuations in Ambystoma barbouri eDNA in central Kentucky streams.

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Mike McGrann
William Jessup University

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

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

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

First Author
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Ben Ferguson
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Murray State University

Co-author
Ivan Roe
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Co-author
Christy Soldo
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Co-author
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### Detection of Percopsis omiscomaycus (trout-perch) using eDNA in eastern Kentucky streams.

**127.**

- **First Author:** Andrew Nesselroade  
- **Co-author:** Harold Brabon  
- **Co-author:** David Eisenhour  
- **Co-author:** Brooke Washburn  
- **Co-author:** Lynn Eisenhour

- **Asbury University**

- **Co-author:** Ben Brammell  
- **Asbury University**

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

**128.**

- **First Author:** Keegan Thompson  
- **Co-author:** Alyssa Stark  
- **Co-author:** Steve Yanoviak

- **University of Louisville**

- **Co-author:** Villanova University  
- **University of Louisville**

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

**129.**

- **First Author:** Virginia Nunamaker  
- **Co-author:** Chris Nunamaker  
- **Co-author:** Steve Yanoviak

- **University of Louisville**

- **Co-author:** University of Louisville  
- **University of Louisville**

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

**130.**

- **First Author:** Summer Wheeler  
- **Co-author:** Amie Towery

- **Murray State University**

- **Co-author:** Murray State  
- **University**

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

**131.**

- **First Author:** John Delfino  
- **Co-author:** Guipsy Lopez  
- **None**

- **Midway University**

- **Co-author:** University

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

**132.**

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

- **Asbury University**

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

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

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

First Author: Lauren Mayton  
Campbellsville University  
Co-author: Chris Frost  
University of Louisville  
Co-author: Steve Yanoviak  
University of Louisville

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

First Author: Jeffrey Fox  
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Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings  

First Author: Onyinye Uwolloh  
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Northern Kentucky University  
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Northern Kentucky University  
Co-author: Richard Boyce  
Northern Kentucky University

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

Posters: Engineering  
Curris Center  
Chair: Aaron Daley  
Secretary: Shen Liu

Green Roofs: Synergistic Benefits to Energy and Environmental Building Design  

First Author: Emery Ginger  
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Co-author: Steven Castellano  
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Automated Control System For Photo-bioreactor  

First Author: Onyinye Uwolloh  
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Co-author: Kimberly Wolfe  
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Biomass Stove Design Project: Automated Fuel Feeder System

41.

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

42.

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

43.

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

Posters: Geography

Curris Center

Chair: Buddhi Gyawali
Secretary: Christopher Day

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

44.

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

45.

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

46.

**First Author**  
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**Co-author**  
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**Co-author**  
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**Co-author**  
Sarah Johnson  
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Friday, November 3, 2017  5:00pm - 8:00pm

## Posters: Geology

### Curris Center

Chair: Ann Harris  
Secretary: David Dockstader

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

47.

**First Author**  
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**Co-author**  
Benjamin Roenker  
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**Co-author**  
Hawkins Warner  
Northern Kentucky University

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

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

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

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

48.

**First Author**  
Benedict Ferguson  
Murray State University: Department of Geosciences

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

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

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

First Author
Mallory Gerzan
Murray State University

Co-author
Gary Stinchcomb
Murray State University

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

First Author
Molly Karnes
Murray State University

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

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

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

First Author
Carter Waugh
Kentucky Biomedical Research Infrastructure Network

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

First Author
Frederick Bebe
Kentucky State University

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

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

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

Effect of select phytochemicals on salivary and urinary pH

First Author
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Kentucky State University

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

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

First Author
Ralphiel Payne
Kentucky Wesleyan College
Co-author
Sydney Leisure
Kentucky Wesleyan College

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

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

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

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

Immunogenicity of Novel Vaccines for Hepatitis C Virus

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

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

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

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

Co-author
H. Keipp Talbot
Vanderbilt University
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

Chair: Lingyu Huang
Curris Center
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
Northern Kentucky University
### Mycobacteriophages: Inky and Spock

151.

<table>
<thead>
<tr>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>Moria Magre</td>
<td>Brittany Farnsley</td>
<td>Jennifer Doyle</td>
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<td>Spalding University</td>
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### Antifungal Endophytes as a Source of Novel Bioactive Compounds

152.

<table>
<thead>
<tr>
<th>First Author</th>
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<tr>
<td>Katie Sawvell</td>
<td>John Carmen</td>
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<td>Northern Kentucky University</td>
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### Production of hydrogen peroxide as a virulence factor by Mycoplasma mycoides subspecies capri

153.

<table>
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<tr>
<th>First Author</th>
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<tbody>
<tr>
<td>Zackery Newton</td>
<td>Rachel Pritchard</td>
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<td>Kentucky Wesleyan College</td>
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### The Prevalence of Bacteria Resistant to Vancomycin and Colistin in Waters Around Louisville

154.

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<tr>
<td>Rachel Mahbubani</td>
<td>Amy Priest</td>
<td>Annie Koenig</td>
<td>Easton Ford</td>
<td>Doug Krauth</td>
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<td>Deborah Yoder-Himes</td>
<td>Paul Himes</td>
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### Isolation and Characterization of the Mycobacteriophage Acquire49

155.

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<tr>
<th>First Author</th>
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<td>Charles Mosley</td>
<td>Tyler Burton</td>
<td>John Starnes</td>
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### Extraction and Elucidation of Active Compounds in Antimicrobial Producing Isolates

156.

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<td>Zaria Elery</td>
<td>John Carmen</td>
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SURVEY OF VANCOMYCIN- AND COLISTIN-RESISTANT BACTERIA IN ENVIRONMENTAL WATER SAMPLES ACROSS LOUISVILLE
Non-pathogenic Neisseria sicca ATCC 29256 undergoes natural transformation

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

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

Comparison of Period Finding Techniques to Identify RR Lyrae Stars
Electromagnetic Wave Motion Around a Black Hole

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

Analyzing Color Relations for RR Lyrae in KELT

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

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

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

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

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

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

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

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

First Author: Brendan Evans, Co-author: Alex Henson, Co-author: Sanju Gupta
University: Western Kentucky

The Study of Light Paths Around Black Holes

First Author: John Adamick, Co-author: John Rademacher, Co-author: Chari Ramkumar, Co-author: Wayne Bresser
University: Northern Kentucky

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

Posters: Physiology and Biochemistry

Curris Center

Chair: Michael Smith
Secretary: Julia Carter

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

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

Developing TALE proteins as a sensor for detecting pathogens

First Author: Kathrine Gaiko
University: Western Kentucky

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

First Author: Meagan Medley
KBRIN
Identification of a Drosophila melanogaster model to explore O-GlcNAc signaling

First Author: Emily Altman
Georgetown College

Co-author: JoBeth Bingham
University of Pikeville

Co-author: Dr. Lewis Watson
University of Pikeville

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

First Author: Samuel Case
Morehead State University

Co-author: Ilsun White
Morehead State University

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

First Author: Elizabeth Grau
University of Kentucky

Co-author: Alec Bradley
University of Kentucky

Co-author: Danielle Cantrell
University of Kentucky

Co-author: Samantha Eversole
University of Kentucky

Co-author: Carolyn Grachen
University of Kentucky

Co-author: Kaylee Hall
University of Kentucky

Co-author: Claire Kinmon
University of Kentucky

Co-author: Paula Ortiz Guerrero
University of Kentucky

Co-author: Bhavik Patel
University of Kentucky

Co-author: Robin Cooper
University of Kentucky

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

First Author: Blaine Patty
Western Kentucky University

Co-author: Matthew Millay
Western Kentucky University

Co-author: Jerry Monroe
Western Kentucky University

Co-author: Michael Smith
Western Kentucky University

Co-author: Michael Smith
Western Kentucky University

Co-author: Michael Smith
Western Kentucky University

Co-author: Michael Smith
Western Kentucky University

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

First Author: Elizabeth Collins
Morehead State University

Co-author: Sami Case
Morehead State University

Co-author: Brianna Ward
Morehead State University

Co-author: Ilsun White
Morehead State University

Pharmacological identification of cholinergic receptor subtypes in Drosophila

First Author: Eashwar Somasundaram
University of Kentucky

Co-author: Aya Omar
University of Kentucky

Co-author: Cole Malloy
University of Kentucky

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

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

**Posters: Psychology**

<table>
<thead>
<tr>
<th>Can nicotine improve scopolamine-induced behavioral deficit?</th>
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<tbody>
<tr>
<td>First Author</td>
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<tr>
<td>Brianna Ward</td>
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<td>Morehead State</td>
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**Betta fish spontaneously use the combination of numerosity and surface area during discrimination learning**

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

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

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</table>
Implicit Gender Bias, Commercials, and Cooperation.

First Author
Rick Holland
Berea College

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

First Author
Caitlin Taulbee
Berea College

Maternal reflective functioning and dyadic synchrony

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

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

First Author
Ashley Hamm
Morehead State University Psychology Department
Co-author
Madison Raymer
Morehead State University Psychology Department
Co-author
Dr. Shari Kidwell
Morehead State University Psychology Department

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

First Author
Alicia Bedolla
Berea College

Affect Perseverance or Affect Momentum?

First Author
Posters: Science Education
Curris Center

Chair: Shira Rabin
Secretary: Karen Hlinka

The POGIL Approach to Teaching
187.
First Author
Lucas Collett
Berea College

Using the POGIL Approach in Non-Stem Disciplines
188.
First Author
Miguel Valdes
Berea College
Co-author
Megan Hoffman
Berea College
Co-author
Lucas Collet
Berea College

Preparing K-8 teachers to utilize learning progressions to teach properties of materials
189.
First Author
Martin Brock
Eastern Kentucky University

Posters: Zoology
Curris Center

Chair: Roy Scudder-Davis
Secretary: Oliver Beckers

Dietary effects on behaviors for Drosophila: behaviors, survival and physiological responses.
171.
First Author
Maddie Stanback
University of Kentucky
Co-author
Alexandra Stanback
uky
Co-author
Tristan Donovan
uky
Co-author
Priscilla Boachie
uky
Co-author
Brendon Stockwell
uky

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

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

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

First Author: Katherine Cappel
Campbellsville University

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

First Author: Abigail Glass
Murray State University
Co-authors: Rachel Racicot, Michelle Casey, Simon Darroch
Vanderbilt University, Murray State University, Vanderbilt University

Heritable Behavioral Tendencies of the African Lion

First Author: Natalie Mercer
Kentucky Wesleyan College
Co-author: Shannon Finerty
Kentucky Wesleyan College

The Effect of Chemical Sympathectomy on Mouse Sleep Using Piezoelectric Technology

First Author: Benjamin Conkright
Western Kentucky University

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

**Coffee & Tea**

- **Saturday, November 4, 2017 7:30am - 10:30am**
  - Crows Nest, Curris Center

**Coffee & Tea**

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

**Practice Room for Oral Presentations**

- **Saturday, November 4, 2017 7:30am - 12:00pm**
  - Cumberland Room, Curris Center

**Practice Room for Oral Presentations**

- **Saturday, November 4, 2017 7:30am - 2:30pm**
  - Tennessee Room, Curris Center

**Exhibitors tables**

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

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

**Kentucky Organization of Field Stations**

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

Chair: Emily Shifley  
Secretary: Gary ZeRuth

Section meeting to follow presentations

Characterization of Reagents Developed Against Two Basement Membrane Degraders in Drosophila melanogaster
8:00

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

Evaluation of endocrine pancreas development and maturation in glis3 mutant zebrafish (Danio rerio)
8:15

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

Using CRISPR/Cas9 to generate transgenic zebrafish to determine the expression pattern of glis3 during development
8:30

First Author: Tyler Hoard  
Co-author: Gary ZeRuth  
Murray State University  

Using RNA interference to identify the acp3U tRNA modification enzyme in higher eukaryotes
8:45
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Pancreatic beta cell dysfunction mediated by down regulation of Glis3</td>
<td>Erin Clayton</td>
<td>Gary ZeRuth</td>
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<td>Murray State</td>
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<tr>
<td>9:15</td>
<td>Hepatitis C virus entry inhibitor Aryloxazole modulates Autophagy</td>
<td>Jazmin Escamilla</td>
<td>Zongyi Hu</td>
<td>Jake Liang</td>
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<td>9:30</td>
<td>Exposure Effects of TiO2 Nanoparticles on the Growth and Physiology of Medicago truncatula</td>
<td>Ahmed Fadil</td>
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<td>Western Kentucky</td>
<td>University</td>
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<tr>
<td>9:45</td>
<td>PAM-1 aminopeptidase prevents neurodegeneration in Caenorhabditis elegans.</td>
<td>Brittani Hawkins</td>
<td>Chris Trzepacz</td>
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<tr>
<td>10:15</td>
<td>Collagen IV homology in Nematostella vectensis and Homo sapiens and its implications of regeneration</td>
<td>Monica Moran</td>
<td>Billy Hudson</td>
<td>Vadim Pedchenko</td>
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<td>Vanderbilt University</td>
<td>Division of Nephrology and Hypertensio</td>
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<td>Effect of acute sleep fragmentation upon morphology and density of astrocytes in hippocampal and</td>
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An Examination of Epigenetic Factors and Methylation Patterns in Promoter Regions of AT1 and ACE

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<th>First Author</th>
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<tr>
<td>Keelee Pullum</td>
<td>Noah Ashley</td>
<td>Conner Hounshell</td>
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<td>Gatton Academy,</td>
<td>Western Kentucky</td>
<td>Western Kentucky University</td>
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Identifying Autophagy-induced phosphorylation sites on the Hsp70 molecular chaperone

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<td>Alexandria Szalanczy</td>
<td>Nitika Nitika</td>
<td>Andrew Truman</td>
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<td>Centre College</td>
<td>University of North Carolina at Charlotte</td>
<td>University of North Carolina at Charlotte</td>
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Gene expression differences following early life exposure to polychlorinated biphenyls in three genotypes of mice

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<tr>
<td>Yislain Villalona</td>
<td>Kelsey Klinefelter</td>
<td>Breann Colter</td>
<td>Alexandra Dailey</td>
<td>Christine Curran</td>
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| Northern Kentucky University |                   | Northern Kentucky University | Northern Kentucky University | 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

<table>
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<th>First Author</th>
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<tr>
<td>Audrey Alexander</td>
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Assessing the Carbon and Energy Balance of a Grazed Pasture in Central Kentucky Using the Eddy Covariance Method

8:15

First Author
Ian Ries

Kentucky State University

Co-author
Maheteme Gebremedhin

Kentucky State University

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

8:30

First Author
Elizabeth Malloy

Eastern Kentucky University

Co-author
David Brown
Eastern Kentucky University
Stephan Richter
Eastern Kentucky University
Barbara Scott
US Army Corps of Engineers
Michelle Cook
Kentucky Division of Water

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

8:45

First Author
Meika Finger-Gray
Kentucky State University

Co-author
Avinash Tope
Kentucky State University
shreya Patel
Kentucky State University

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

9:00

First Author
Sait Sarr
Kentucky State University

Co-author
Maheteme Gebremedhin
Kentucky State University
Avinash Tope
Kentucky State University
Mark Coyne
University of Kentucky

Genomics of dehydration tolerance in the liverwort, Marchantia inflexa

9:15

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

A Composite View of the Composite Supernova Remnant 3C 396 (G39.2-0.3)
8:00

First Author
Thomas Pannuti
Morehead State University

Chair: Troy Messina
Secretary: Marilyn Akins
Section meeting to follow presentations
<table>
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<tr>
<th>Title</th>
<th>Time</th>
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<th>Institution</th>
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<tr>
<td>The CREAM instrument on the ISS</td>
<td>8:15</td>
<td>Scott Nutter</td>
<td>Northern Kentucky University</td>
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<tr>
<td>Matching Simulation Data to Calibration Data for the Silicon Charge</td>
<td>8:30</td>
<td>Carter Kring</td>
<td>Northern Kentucky University</td>
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<td>Detector used in the ISS-CREAM Instrument</td>
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<td>Calibration of the CREAM Calorimeter with CERN Beam Tests</td>
<td>8:45</td>
<td>Tyler LaBree</td>
<td>Northern Kentucky University</td>
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<td></td>
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<td>Scott Nutter</td>
<td>University</td>
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<tr>
<td>Analysis of a Current-Mode Detector for the NOPTREX Experiment</td>
<td>9:00</td>
<td>Daniela Olivera</td>
<td>Berea College</td>
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<td></td>
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<td>Danielle Schaper</td>
<td>University of Kentucky</td>
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<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>
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<td>University</td>
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<tr>
<td>Investigation of the Kepler Eclipsing Binary Catalog: Analysis of</td>
<td>9:30</td>
<td>Garrison Turner</td>
<td>Big Sandy Community and Technical College</td>
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<td>Targets With UNC Flags</td>
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<td>Streamlining Predictions of Temperature-Dependent Changes in Defect</td>
<td>9:45</td>
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<td>Properties of Intermetallic Compounds</td>
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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
Co-author
Anthony Dotson
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 Arduinos
11:15
First Author
Troy Messina
Berea College

Saturday, November 4, 2017  8:15am - 10:00am
Oral Presentations: Chemistry: Analytical & Physical
Blackburn 320
Chair: Harry Fannin
Secretary: Bommanna Loganathan
Section meeting to follow presentations

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

First Author: Jesus Berlanga
Co-author: Matthew Nee
Co-author: Philip J. Silva
Institution: Western Kentucky University

Monitoring Photocatalytic Reactions Using Surface Enhanced Raman Spectroscopy

First Author: Ryan Lamb
Co-author: Matthew Nee
Institution: Western Kentucky University

The removal of organic pollutants through buoyant photocatalyst

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

Upconverting Luminescent Nanomaterials Produced Through Liquid-Phase Laser Ablation

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

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

First Author: Mara Krempel
Co-author: Hayley Moss
Co-author: Hanna (John)
Institution: 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

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

**First Author**  
Srijana Thapa Magar  
**Co-author**  
Kirk Pomper  
**Co-author**  
Jeremiah Lowe  
**Co-author**  
Sheri Crabtree  
**University**  
Kentucky State University

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

**First Author**  
GEORGE ANTONIOUS  
**University**  
Kentucky State University

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

**First Author**  
James Schwartz  
**Co-author**  
Vikas Kumar  
**Co-author**  
Waldemar Rossi  
**Co-author**  
Katerina Kousoulaki  
**University**  
Kentucky State University

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

**First Author**  
Amit Yadav  
**Co-author**  
Waldemar Rossi  
**Co-author**  
Hab Andemichael  
**Co-author**  
Vikas Kumar  
**University**  
Kentucky State University

#### 9:15
**Applicability of waste-reared Hermetia illucens as an ingredient in the diet of Nile Tilapia, Oreochromis niloticus**

**First Author**  
Konnor Jones  
**Co-author**  
Matthew Nee  
**University**  
Western Kentucky University
Comparing the Effects of Long-term No Till and Conventional Tillage on Soil Properties in Central Kentucky

9:30

First Author
Emily Cook
Murray State University

Co-author
Lin Handayani
Murray State University

Co-author
Jessica Pafford
Murray State University

Co-author
Steve Still
Murray State University

Co-author
John Grove
University of Kentucky

Co-author
Mark Coyne
University of Kentucky

Co-author
Ann Freytag
University of Kentucky

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

9:45

First Author
Sathya Govindasamy
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Mamata Bashyal
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

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

10:00

First Author
Mamata Bashyal
Kentucky State University

Co-author
John Sedlacek
Kentucky State University

Co-author
Karen Friley
Kentucky State University

Co-author
E. Kyle Slusher
Kentucky State University

Co-author
Sathya Govindasamy
Kentucky State University

Co-author
Megan McCoun
Kentucky State University

Optimizing Hemp Production through Cultivar Selection and Soil Management Practices

10:30

First Author
Rose Johnson
### An Assessment of Nutritive Value and Optimization of Soybean Meal-Based Diets for Largemouth Bass

**First Author**
Gagan Kolimadu  
**Co-author**
Jarod Jones  
**Co-author**
Kristy Allen  
**Co-author**
Waldemar Rossi  
**Co-author**
Michael Habte-Tision  
**Co-author**
Vikas Kumar

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

**First Author**
Ashmita Poudel  
**Co-author**
Kathryn Mitchell  
**Co-author**
Robert Durborow

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

**First Author**
Lusekelo Nkuwi  
**Co-author**
George Antonious  
**Co-author**
Eric Turley

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

**First Author**
Sujan Bhattarai  
**Co-author**
Ken Semmens  
**Co-author**
Vikas Kumar

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

**First Author**
JEAN DOMINIQUE GUMIRAKIZA  
**Co-author**
Stephen King  
**Co-author**
Thomas Kingery

As online shopping becomes popular, will consumers still be interested in direct-to-consumer offline market outlets?
Analyzing the Effects the use of Best Practices for Farm Management has on Farm Financial Position and Profitability

First Author  Co-author  Co-author
JEAN DOMINIQUE Thomas Kingery Stephen King
GUMIRAKIZA Western Kentucky Western Kentucky
Western Kentucky University University

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

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

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

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

Oral Presentations: Geography
Mississippi Room, Curris Center
Saturday, November 4, 2017  8:30am - 11:15am
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  Co-author
Oguz Sariyildiz Buddhi Gyawali
Kentucky State University

Identification of Unmarked Burial Sites at Frankfort Cemetery using LiDAR and Ground Penetrating Radar
<table>
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<tr>
<td>8:45</td>
<td>The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan</td>
<td>D'Andre Garrison</td>
<td>Jarod Jones</td>
<td>Jordan Wilson</td>
<td>Jeremy Sandifer</td>
<td>Ken Bates</td>
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<td>9:00</td>
<td>The Urban Heat Island: Environmental Change and the Human Condition in Detroit Michigan</td>
<td>Tori Farrow</td>
<td>Jeremy Sandifer</td>
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<td>9:15</td>
<td>Networks of Sustainability within the Iceland Whale Watching Industry</td>
<td>Jason Fox</td>
<td>Leslie North</td>
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<td>9:30</td>
<td>Predicting the Adoption of Sustainable Agricultural Practices among Kentucky Farmers and Its Barriers</td>
<td>Bijesh Mishra</td>
<td>Buddhi Gyawali</td>
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<td>10:00</td>
<td>Exploring Relationship between community Perception and landscape change in the Eastern Kentucky</td>
<td>Buddhi Gyawali</td>
<td>Prabisha Shrestha</td>
<td>Tilak Shrestha</td>
<td>Jeremy Sandifer</td>
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<td>10:15</td>
<td>Association of land cover change trend with land ownership size at parcel level data in Breckinridge County, KY</td>
<td>Prabisha Shrestha</td>
<td>Buddhi Gyawali</td>
<td>Tilak Shrestha</td>
<td>Jeremy Sandifer</td>
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<td>Land Cover Classification using LandSat, NAIP images, and Accuracy enhancements</td>
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## Saturday, November 4, 2017  9:00am - 11:00am

### Oral Presentations: Geology

**Blackburn 228**

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<tr>
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<tr>
<td>10:30</td>
<td>Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology</td>
<td>Tilak Shrestha</td>
<td>Buddhi Gyawali</td>
<td>Kenneth Bates</td>
<td>Jeremy Sandifer</td>
<td>Prabisha Shrestha</td>
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<tr>
<td>10:45</td>
<td>Risk analysis of bedrock collapse sinkholes in Bowling Green, Kentucky</td>
<td>James Shelley</td>
<td>Jason Polk</td>
<td>Leslie North</td>
<td>Nicholas Crawford</td>
<td>Matt Powell</td>
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<tr>
<td>11:00</td>
<td>Estimating the Approximate Age of Unmarked Burial Sites in The Frankfort Cemetery using Spatial Interpolation</td>
<td>Patricia Kambesis</td>
<td>Brittiny Moore-Kimmel</td>
<td>Western Kentucky University</td>
<td>Western Kentucky University</td>
<td>Texas State University</td>
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<tr>
<td>11:15</td>
<td>Morphological Analysis of Astarte (Class: Bivalvia) using Geometric Morphometrics</td>
<td>Jordan Wilson</td>
<td>Jeremy Sandifer</td>
<td>Kenneth Bates</td>
<td>Kentucky State University</td>
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<td>9:15</td>
<td><strong>Geochemical characteristics and storm dynamics of surface waters and groundwater at Eastern Kentucky University's Meadow</strong></td>
<td>Randal Roberson</td>
<td>Michelle Casey</td>
<td>Murray State University</td>
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<tr>
<td>9:30</td>
<td><strong>Patterns of nutrient export for a typical non-point source, Meadowbrook Farm, Madison County, Kentucky.</strong></td>
<td>Reid Buskirk</td>
<td>Walter Borowski</td>
<td>Eastern Kentucky University</td>
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<tr>
<td>10:00</td>
<td><strong>How Does Spatial Heterogeneity Influence Groundwater Flow on Ridgetops in Kentucky's Daniel Boone National Forest?</strong></td>
<td>Selsey Stribling</td>
<td>Jonathan Malzone</td>
<td>Eastern Kentucky University</td>
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<td>10:15</td>
<td><strong>Modeling the groundwater storage and the groundwater recharge rate of an ephemeral wetland with Hydrus-1D</strong></td>
<td>Addison Bell</td>
<td>Jonathan Malzone</td>
<td>Eastern Kentucky University</td>
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<tr>
<td>10:30</td>
<td><strong>Hydrograph Separation of Storm Flows in a Landscape with Thin Soil, Meadowbrook Farm, KY</strong></td>
<td>Laura Kelley</td>
<td>Sophia Chan</td>
<td>Eastern Kentucky University</td>
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<tr>
<td>10:45</td>
<td><strong>Runoff generation in an ephemeral agricultural watershed with thin soil</strong></td>
<td>Laura Kelley</td>
<td>Jonathan Malzone</td>
<td>Eastern Kentucky University</td>
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</tbody>
</table>
Oral Presentations: Psychology

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

Staying behind: The effect of stereotype threat on unhelpful perseverant behaviors.
9:00

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

Breaking the Prejudice Habit: A Longitudinal Assessment of Reducing Implicit Racial Bias
9:15

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

The Effects of Gender, Task Difficulty, and Emotional Arousal on Perceptual Sensitivity
9:30

First Author
Enkhjin Enkhbold
Berea College

Children's emotion understanding and regulation: Links with psychological symptoms
9:45

First Author  Co-author  Co-author
Karina Cole  Ashley Hamm  Shari Kidwell
Morehead State  Morehead State  Morehead State
University  University  University

Initial Validation of the Hexaflex Process Assessment Instrument.
10:15

First Author  Co-author  Co-author  Co-author  Co-author
Aaron Ellis  John Blackledge  Shelby Humphrey  Kellen Crager  Isabella Gearhart
Morehead State  Morehead State  Morehead State  Morehead State  Morehead Statue
University  University  University  University  University

Co-author
Rebecca Ashley
Morehead State
University
### The Association of Parents' Emotion Philosophy with Adolescents' Mindful Approach to Affect.

<table>
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<th>First Author</th>
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<tr>
<td>Joseph Reese</td>
<td>Mary Blanton</td>
<td>Ashley Ball</td>
<td>Kory Phelps</td>
<td>Shari Kidwell</td>
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**10:30**

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

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<tr>
<th>First Author</th>
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<tr>
<td>Hunter Gatewood</td>
<td>Lynn Haller</td>
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**10:45**

### Peer Mentoring Circles for Women STEM Faculty at Murray State University

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<tr>
<td>Maeve McCarthy</td>
<td>Paula Waddill</td>
<td>Robin Zhang</td>
<td>Echo Wu</td>
<td>Steve Cobb</td>
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**11:00**

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

**Oral Presentations: Science Education**

<table>
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<tr>
<th>First Author</th>
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<tr>
<td>Joseph Erskine</td>
<td>Jordan Dowdy</td>
</tr>
<tr>
<td>Bellarmine University</td>
<td>Bellarmine University</td>
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</table>

**9:00**

**Data Mining in Astronomy Using Exoplanet Data from the Space and Ground-based Telescopes**
### Characterizing Epistemic Beliefs Among Scientists: Applying the Q-Method to Science Epistemology

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

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

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

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

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

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

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

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

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

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

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

### Should We Lie To Our Students?

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

### Adaptive Learning Courseware in Majors Biology Course

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

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

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

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

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

**Ohio Room, Curris Center**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>First Author</th>
<th>Co-author 1</th>
<th>Co-author 2</th>
<th>Co-author 3</th>
<th>Co-author 4</th>
<th>Co-author 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>
<td>Charles Lu</td>
</tr>
<tr>
<td>10:15</td>
<td>Imaging of the spinal cord in pediatric patients.</td>
<td>Bhavesh Ramkorun</td>
<td>Samantha By</td>
<td>Aashim Bhatia</td>
<td>Bryson Reynolds</td>
<td>Patrick Couture</td>
<td>Vanderbilt University</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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<tr>
<td>10:45</td>
<td>Flaw Characterization through Nonlinear Ultrasonics and Wavelet Cross-Correlation Algorithms</td>
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</table>
Novel Approach of Wavelet Analysis for Nonlinear Ultrasonic Measurements and Fatigue Assessment of Jet Engine Components

11:00

Mentor-Matching

Winslow Dining Hall

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

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

KAS-KCTCS Science Faculty meeting
Blackburn 249

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

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

Oral Presentations: Botany
Mississippi Room, Curris Center

Chair: Lawrence Alice

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

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

Oral Presentations: Chemistry: Organic/Inorganic

Blackburn 135

Chair: Kevin Revell  Secretary: Kyle Watson

Section meeting to follow presentations

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

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

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

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

2:00

First Author
Jacob Nanney
Kentucky Wesleyan
College

Co-author
Kyle Watson
Kentucky Wesleyan

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

First Author
Andy Martin
Kentucky state University

The Cubic Equation
1:15

First Author
Dwight Smith
Big Sandy CTC

A Perturbation Method for Determination of an Approximate Analytical Solution of a Nonlinear System of ODEs.
1:30

First Author
Austin Gabhart
Gatton Academy, Western Kentucky University

The n+k kings problem
1:45

First Author
R. Douglas Chatham
Morehead State University

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

Oral Presentations: Microbiology
Cumberland Room, Curris Center

Chair: Lingyu Huang
Secretary: Joseph Mester

Antimicrobial activity from bacteria found around downtown Cincinnati
1:00

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

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

First Author
Alexander Lai
Kentucky State University

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
Kyle Damen
Wood Hudson Cancer Research Laboratory
The fluorescence quenching ability of graphene oxide as a platform for pathogenic double-stranded DNA sensing

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

Oral Presentations: Anthropology and Sociology
Ohio Room, Curris Center

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

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

First Author
Mason Gibson
Western Kentucky University

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

First Author
Hannah Ridner
Western Kentucky University

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

First Author
Wilson Gonzalez-Espada
Morehead State University

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

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

First Author
Mallory Cox
University of Louisville

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

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

Cloud Computing for Hands-On Bioinformatics Education

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

Adaptive Topic Mining from Social Media Streams

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

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

2:00

First Author
Deven Rataiczak
Bellarmine University

Oral Presentations: Zoology

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

Mississippi Room, Curris Center

Phenotypic plasticity of mating calls in the katydid Neconocephalus triops

1:15

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

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

1:30

First Author
Samuel White
Murray State University

Co-author
Talon Garman
Murray State University

Co-author
Laura Sullivan-Beckers
Murray State University

Co-author
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

Co-author
Ron Rosen
Berea College

Co-author
Brian Traw
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
Co-author: Noah Ashley
Western Kentucky University

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

Saturday, November 4, 2017 3:00pm - 4:00pm
Keynote Jeffrey Bennett: Communicating Science to the Public
Introduced by President-Elect Jennifer Birriel
Curris Center Ballroom

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

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

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