

EXHIBITORS AND SPONSORS

SPONSORS

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Gold Level:	MPD, Inc. Sud-Chemie, Inc
Silver Level:	Eastern Kentucky University Graduate School
Friend Level	Warren Rural Electric Cooperative Corporation

EXHIBITORS

Agilent Technologies
American Synthetic Rubber Company
B & B Microscopes, Ltd.
Hancock Biological Station
Journal of Kentucky Academy of Science
KBRIN (Kentucky Biomedical Research Infrastructure Network)
Kentucky Institute of International Studies at WKU
Midway College School of Pharmacy
Murray State University Graduate School
University of Kentucky College of Pharmacy
University of Kentucky Integrated Biomedical Science
University of Louisville Integrated Programs in Biomedical Sciences
University of Louisville School of Interdisciplinary and Graduate Studies
University Press of Kentucky
VWR International
Western Kentucky University Biotechnology Center
Western Kentucky University Ogden College of Science and Engineering

2011 KAS AFFILIATES

ENHANCED

Bellarmine University
Berea College
Brescia University
Centre College
Eastern Kentucky University
Georgetown College
Kentucky Community and Technical College System (KCTCS)
Kentucky State University
Midway College
Morehead State University
Murray State University
Northern Kentucky University
Spalding University
Transylvania University
University of Kentucky
University of Louisville
Western Kentucky University

SUSTAINING MEMBERS

Campbellsville University

MEMBERS

Asbury University
Kentucky Wesleyan College
Lindsey Wilson College
Thomas More College
University of the Cumberlands
University of Pikeville
Wood Hudson Cancer Research Laboratory

ASSOCIATE MEMBER

WKU Crawford Hydrology Laboratory
WKU Hoffman Environmental Research Institute

HONORARY PATRON

Lumins Associates

WELCOME

TO THE 97TH ANNUAL MEETING OF THE KENTUCKY ACADEMY OF SCIENCE

Murray State University welcomes the Kentucky Academy of Science to Murray for its 97th annual meeting. The westernmost of Kentucky's regional comprehensive universities is known for its high-quality academic programs and warm hospitality. The university has grown to more than 10,400 students on the main campus in Murray and our regional campuses in Paducah, Hopkinsville, Madisonville, and Henderson. Many of these students are pursuing degree programs in the College of Science, Engineering and Technology, which is comprised of six academic departments: Biological Sciences, Chemistry, Engineering and Physics, Geosciences, Industrial and Engineering Technology, and Mathematics and Statistics.

Our college is proud to showcase the two newest buildings on campus, both of which will be on display for conference attendees. The Biological Sciences building was completed in 2007, followed in 2009 by Jesse D. Jones Hall, home of our Department of Chemistry. Both facilities are equipped with state-of-the art instrumentation and together they provide 67,000 square feet of comfortable, modern instructional and research space for faculty and students in those disciplines. They are joined by the Jones Family Clock Tower, a beautiful structure that has already become an iconic part of the Murray State landscape.

In addition to our academic buildings, we are proud to be home to a number of prestigious scientific research centers. The Watershed Studies Institute, a Commonwealth Center of Excellence coordinates multidisciplinary research and educational initiatives that focus on water-related ecological systems. Hancock Biological Station (HBS), located less than 20 minutes from the campus on Kentucky Lake, is a year-round teaching and ecosystem research facility where students have unique opportunities to interact with faculty and visiting scientists. The Mid-America Remote Sensing Center is involved in teaching, research, and service to the region in the fields of remote sensing and GIS. The Chemical Services Laboratory provides analytical and environmental services to individuals, corporations, agencies and other institutions in the mid-south region.

Murray State University is committed to its educational mission in expanding opportunities in the sciences to the citizens of our commonwealth. We are pleased to support the Kentucky Academy of Science as host of this year's annual meeting, and pledge our continued dedication to the achievement of our mutual goals. Our local arrangements committee has worked to provide the Academy with a comfortable and convenient venue for its meeting. If we can be of any assistance to you, please let us know. Best wishes for an enjoyable and productive meeting.

Steve Cobb, Dean
Murray State University
College of Science, Engineering and Technology

KENTUCKY ACADEMY OF SCIENCE

97th Annual Meeting
November 4-5, 2011
Hosted by Murray State University
Murray, Kentucky

GOVERNING BOARD

Executive Committee

President.....	Barbara Ramey Eastern Kentucky University
President-Elect	Dawn Anderson Berea College
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Past President	Nancy Martin University of Louisville
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Editor, NEWSLETTER.....	Susan Templeton Kentucky State University
Director, Junior Academy of Science.....	Ruth Beattie University of Kentucky

Division Representatives and At-Large Members

Richard Durtsche (2011 - Biological Sciences).....	Northern Kentucky University
Ron Jones (2013 - Biological Sciences)	Eastern Kentucky University
Eric Jerde (2014 - Physical Sciences)	Morehead State University
K.C. Russell (2012 - Physical Sciences)	Northern Kentucky University
Judy Voelker (2014 - Social & Behavioral Sciences) ..	Northern Kentucky University
Sean Reilley (2012 - Social & Behavioral Sciences).....	Morehead State University
KatieAnn Skogsberg (2011 - At - Large).....	Centre College
Mary Jansen (2013 - At - Large).....	KCTCS
Robert Creek (Program Coordinator).....	Eastern Kentucky University
Claire Rinehart (Editor, Webpage).....	Western Kentucky University
Nancy Martin (AAAS/NAAS Representative).....	University of Louisville

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SYMPOSIUM

“Kentucky Museum of Natural History: Present and Future”

Panel Discussion

Friday, November 4, 2011
Collins I & T Building Room 231 (FreedCurd)
7:00 – 8:00 p.m.

Introduction of Panel
Dr. Dawn Anderson
President Elect – KAS
Berea College

Presiding: Dr. Judy Voelker
Associate Professor of Anthropology
Northern Kentucky University
Former KAS Representative to the Commonwealth of the
Kentucky Natural History Museum Board

Panel Members:

Dr. Donald R. Chesnut, Jr. – Kentucky Museum of Natural History Project
Dr. Frank Ettensohn – UK Dept. of Earth & Environmental Sciences
Mr. Don Dott – Kentucky State Nature Preserves Commission



Don Chesnut, Jr, Ph.D.

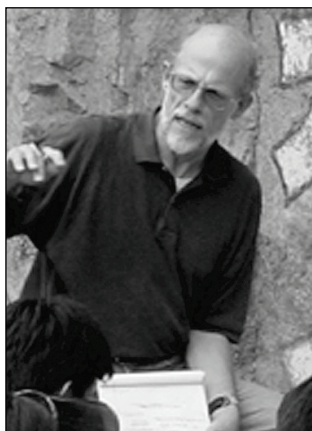
President

**Board of Directors of the Kentucky Museum of Natural
History Project**

Dr. Chesnut has been a driving force behind efforts to establish a Kentucky History Museum for many years. He is currently the Board President of the Kentucky Museum of Natural History Project, a private non-profit foundation whose goal is the foundation and development of a Kentucky Natural History

Museum. Dr. Chesnut served as geologist, chief paleontologist, and stratigrapher for the Kentucky Geological Survey beginning in 1979 and retiring in 2001. He also served as an Adjunct Assistant Professor at the University of Kentucky in the Geosciences Department for many years starting in 1998.

Dr. Chesnut serves as an advisor to the Kentucky Paleontological Society and has served as the President of the Kentucky Society for Professional Geologist (1998). He is a fellow of the Geological Society of America and a past fellow of the Geological Society I(London, England) as well as a member of the International Pateontological Association, the Kentucky Academy of Science, the Kentucky Paleontological Society, the National Center for Science Education, the Society for Sedimentary Geology and other other professional societies. Dr. Chesnut received his B.S., M.S, and Ph.D. in Geology all from the University of Kentucky.



Frank Ettensohn, Ph.D.

Faculty member

Department of Earth & Environmental Sciences
University of Kentucky

Dr. Ettensohn has been involved in efforts to establish a Kentucky Natural History Museum for many years. Dr. Ettensohn's work in geology and paleontology is highly regarded worldwide and has widely published his work on black oil and gas shales, Kentucky limestone deposits, seismites, and the Appalachian Basin to name just a few. Dr. Ettensohn joined the Department of Geological Sciences at the University of Kentucky as a faculty member in 1975 and served as the Chairman of the department from 1997-2005.

Currently he is the Director of the Honors Program at the University of Kentucky. Dr. Ettensohn has also served as a guest visiting professor around the world including China, Ecuador and Nepal. Dr. Ettensohn has been the President of the American Institute of Professional Geologists. He is a current member of the Kentucky Academy of Science and received the 2010 KAS Distinguished University Scientist Award. Dr. Ettensohn received his B.S. (Geology) and M.S. from the University of Cincinnati and his PhD. From the University of Illinois at Urbana-Champaign.



Donald S. Dott, JD

Executive Director

Kentucky State Nature Preserves Commission

As Executive Director of the Kentucky State Nature Preserves Commission, Mr. Dott sets overall policy and direction for the conservation agency with the state natural heritage data program, state nature preserve acquisition and management program. He also serves as an Ex officio board member of the Kentucky Heritage Land Conservation Fund Board, is a member on the US Council of NatureServe, and a board member of the Kentucky Natural Lands Trust. Prior to the Kentucky State Nature Preserves

Commission, he was with the Office of Legal Services in the Natural Resources and Environmental Protection Cabinet, .

Mr. Dott earned a Bachelor of Arts in Political Science with High Distinction, Phi Beta Kappa in the Honors Program from the University of Kentucky and received a Juris doctor from the National Law Center at George Washington University.

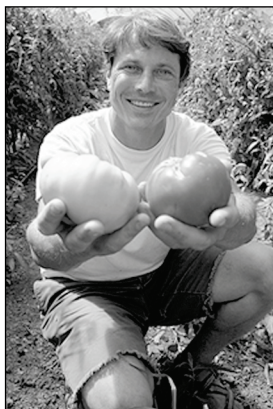
PLENARY SESSION

Saturday, November 5, 2011
Collins I & T 231 (Freed Curd)
4:15 - 5:15 p.m.

Welcome
Dr. Barbara Ramey
President - KAS
Eastern Kentucky University

Presiding: Dr. Dawn Anderson
President-elect - KAS
Berea College

“Fields of Learning: The Student Farm Movement in North America”



Sean Clark, Ph.D.

Associate Professor/Program Coordinator
Department of Agriculture and Natural Resources
Berea College

Dr. Sean Clark received his B.S. and M.S. degrees from Virginia Tech and a Ph.D. from Michigan State University. Before coming to Berea in 1998 he was research manager for the Sustainable Agriculture Farming Systems Project at the University of California, Davis, a long-term comparison of farming systems that examined agronomic, ecological, and economic aspects of conventional and alternative food production systems. In recent years he has worked on projects including ground beetles as ecological indicators, honey bee selection for parasite resistance, economics of small-scale intensive agriculture, and the feasibility of pond aquaculture. His current research focuses student farms as educational laboratories on college campuses. He and Dr. Laura Sayre, researcher at the French National Institute for Agronomic Research, are the editors of the recently published book *Fields of Learning: The Student Farm Movement in North America* (University Press of Kentucky, 2011) profiling student-run, campus farms in the United States and Canada.

KENTUCKY ASSOCIATION OF PHYSICS TEACHERS

Presents

A Physics Teacher's Workshop

A half day (three hours) workshop for physics teachers is being offered in room 159 of the Blackburn Science Building on Saturday morning from 9 a.m. till noon. The first activity in this two-part workshop will be the interactive, hands-on experience, "Making Magnetism Visible," followed by a panel presentation entitled, "Benefits and Costs of Student Participation in State and National Science Competitions."

Magnetic fields are a notoriously difficult concept. In the "Making Magnetism Visible" workshop participants will interact with a series of illustrative, motivating demonstrations of magnetism in action. Tips and tricks will be shared for integrating these demonstrations into all levels of classrooms and some of the relatively inexpensive materials for these activities will be distributed to participants so they can immediately replicate the demonstrations in their own classrooms.

Participation in science competitions can provide some of the best memories - and the biggest headaches - of any activity in which a science teacher might be involved. A panel of teacher/mentors and event organizers will share their experiences and answer questions regarding science competitions involving rockets, robots, construction, calculation, solo excellence, and solid teamwork.

PROGRAM SUMMARY

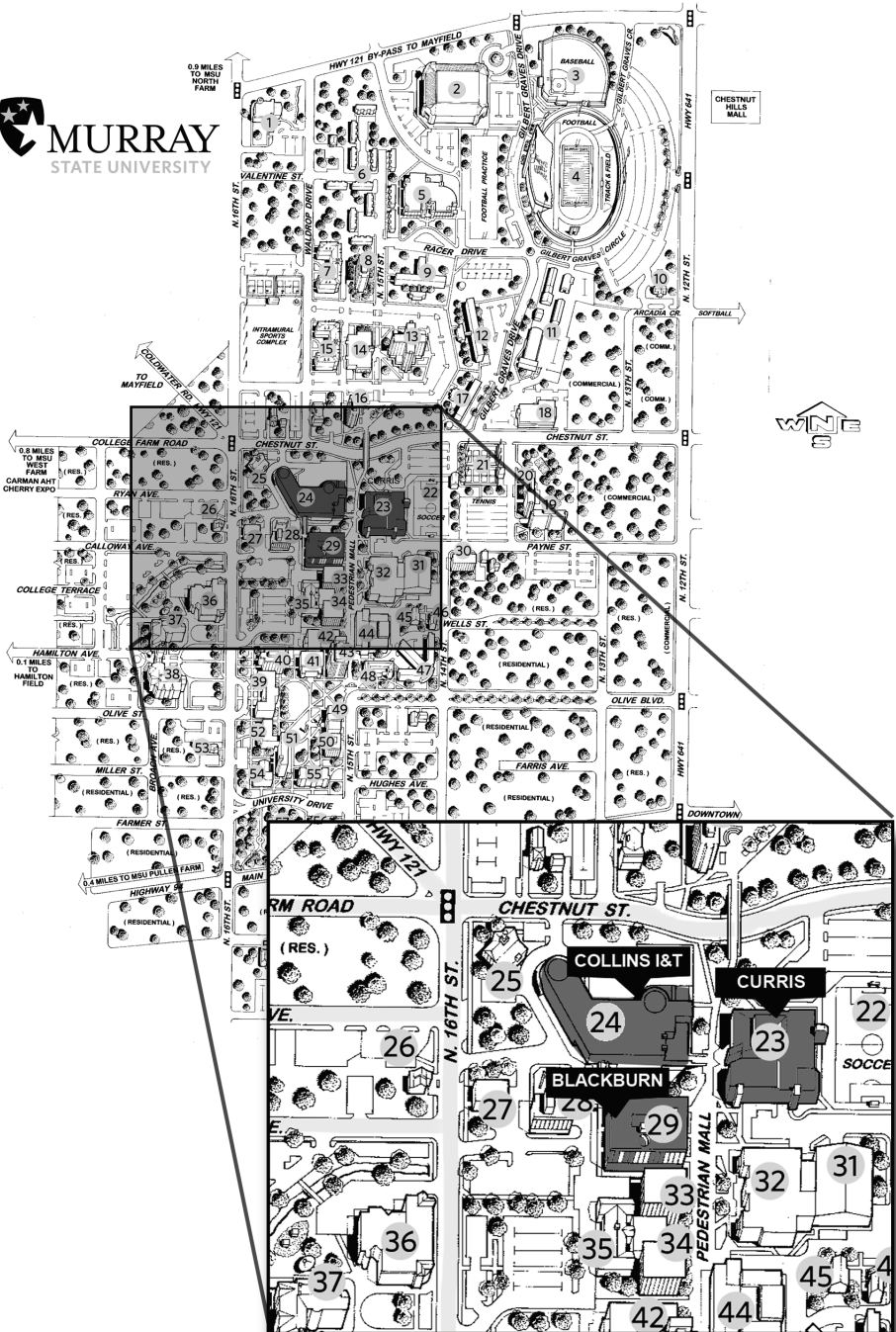
FRIDAY, NOVEMBER 4-5, 2011

9:00 am - 4:30 pm	KBRIN - NIH Proposal Development Workshop Curris Center, Mississippi Rm.
3:30 pm - 5:30 pm	KAS Governing Board Meeting Collins I &T Bldg., Room 237
5:45 pm - 6:45 pm	Registration.....Curris Center, 3 rd Floor Concourse
7:00 pm - 8:00 pm	SYMPOSIUM Collins I&T Bldg., Rm 231 (Freed Curd Auditorium) “Kentucky Museum of Natural History: Present and Future” Panelists: Dr. Donald Chesnut, Jr., <i>President, Board of Directors of the Kentucky Museum of Natural History Project</i> Dr. Frank Effensohn, <i>U.K. Dept. of Earth & Environmental Science</i> Mr. Don Dott, <i>Director, Kentucky State Nature Preserves Commission</i>
8:15 pm - 9:00 pm	KAS Sectional Officers Meeting..... Collins I &T Bldg., Room 237
8:15 pm - 10:30 pm	Social Collins I&T Bldg., Rm 231 (Freed Curd Auditorium)

SATURDAY, NOVEMBER 5, 2011

7:00 am - 5:00 pm	Registration.....Curris Center, 3 rd Floor Concourse
8:00 am - 4:00 pm	Vendor’s ExhibitsCurris Center, 3 rd Floor Concourse
8:00 am - 9:30 am	Power Point Presentations See Table of Contents
8:00 am - 4:00 pm	Scientific Posters on Display Curris Center, Small Ballroom &Dance Lounge
9:00 am - 12:00 pm	Physics Education Workshop H.S. Teachers..... Blackburn Science Bldg. Room 159
9:30 am - 9:45 am	Refreshment BreaksCurris Center, 3 rd Floor Concourse and Collins I&T Bldg. outside Room 231

9:30 am - 11:30 am	Hancock Biological Station Tour Outside North Door of Curris Center
9:45 am - 11:30 am	Power Point Presentations See Table of Contents
10:00 am - 11:30 am	Kentucky Community & Technical College Meetings: Collins I & T Bldg. Room 237 Biology Faculty Collins I & T Bldg. Room 237 Chemistry Faculty Collins I & T Bldg. Room 242 Physics Faculty Collins I & T Bldg. Room 229
11:30 am - 12:45 pm	Lunch - Restaurant options available at registration
11:30 am - 12:45 pm	KAS Past President's Luncheon Curris Center, Commonwealth Room
1:00 pm - 2:15 pm	Power Point Presentations See Table of Contents
1:00 pm - 4:00 pm	The Mid America Remote sensing Center (MARC) of Murray State University will host a Symposium on Geotechnologies and Geography Synergies Blackburn Science Bldg., Room 320
2:00 pm - 4:00 pm	Hancock Biological Station Tour Outside North Door of Curris Center
2:15 pm - 2:30 pm	Refreshment Breaks Curris Center, 3 rd Floor Concourse and Collins I&T Bldg. outside Room 231
2:30 pm - 4:00 pm	Power Point Presentations See Table of Contents
4:15 pm - 5:15 pm	PLENARY SESSION Collins I&T Bldg., Room 231 (Freed Curd Auditorium) “Fields of Learning: The Student Farm Movement in North America” Dr. Sean Clark, Associate Professor Dept. of Agriculture and Natural Resource Berea College
5:30 pm - 6:30 pm	Annual KAS Business Meeting / Reception Curris Center, Theater
6:45 pm - 9:00 pm	ANNUAL AWARDS BANQUET Curris Center, Large Ballroom



Murray State University Local Arrangement Committee

College of Science, Engineering & Technology

Robert Pervine – Chair, Local Arrangements

Rhonda Rogers – Assistant Chair, Local Arrangements

Angela Guyton – Chair, Poster Presentations

Cathy Bazar – Chair, Volunteers

Steve Cobb

Department of Biological Sciences

Michael Flinn

Kate He

Department of Chemistry

Beth Brubaker – Chair, Exhibitors/Sponsors

Daniel Johnson

Bommanna Loganathan

Department of Engineering & Physics

Ted Thiede

Department of Geosciences

Carruth Kitrell

Robin Zhang

Department of Mathematics & Statistics

Donald Adongo

Department of Industrial & Engineering Technology

Dwaine Willoughby – Technical Support

Diane Thiede – Chair, Clerical Support

Andrew Kellie

Hancock Biological Station

Gerry Harris

David White

MARC (Mid-American Remote Sensing Center)

Jane Benson

Charletter Ellis

PRESENTATIONS

AGRICULTURAL SCIENCES

Stephen King, Chair
Western Kentucky University

Sheri Crabtree, Secretary
Kentucky State University

SATURDAY, NOVEMBER 5, 2011
CURRIS - BARKLEY RM.

- 8:00 am **Evaluation of Sunflower (*Helianthus annuus* L.) Cultivars for Cut Flowers.** Elmer Gray - Western Kentucky University, Christopher G. Ferguson - Western Kentucky University, Martin J. Stone - Western Kentucky University
- 8:15 am **Lady Beetles Associated with Sweet Corn Bordered by Pasture, Buckwheat or Sunflower Borders.** John D. Sedlacek - Kentucky State University, Karen L. Friley - Kentucky State University, Marquita L. Grayson-Holt - Kentucky State University, Christopher M. Wales - Kentucky State University, Rachel S. Hayden - Kentucky State University
- 8:30 am **Economics Systems, Role of Government, and Agriculture.** Stephen A. King - Western Kentucky University
- 8:45 am **Evaluation of Constructed Wetlands for Nitrate and Phosphorus Removal.** Eric T. Turley - Kentucky State University, George F. Antonious - Kentucky State University
- 9:00 am **Developing a Biofilter for Remediation of Pesticide Residues in Runoff Water.** George Antonious - Kentucky State University
- 9:15 am **Will Mowing of Primocane-Fruiting Blackberries Affect Fruit Ripening?** Karen L. Friley - Kentucky State University, John D. Sedlacek - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Michael K. Bomford - Kentucky State University, Sheri B. Crabtree - Kentucky State University, Marquita L. Grayson-Holt - Kentucky State University, Christopher M. Wales - Kentucky State University
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **An Update on the KSU Pawpaw Breeding Program.** Kirk W. Pomper - Kentucky State University, Sheri B. Crabtree - Kentucky State University, Jeremiah D. Lowe - Kentucky State University
- 10:00 am **Kentucky State University Pawpaw Processing: An Update.** Sheri B. Crabtree - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:15 am **Prime-Ark 45 and Prime-Jan Primocane Fruiting Blackberry Production Grown Under Organic Culture in Kentucky.** Jeremiah D. Lowe - Kentucky State University, Kirk W. Pomper - Kentucky State University, Sheri B. Crabtree - Kentucky State University, John R. Clark - University of Arkansas, John G. Strang - University of Kentucky
- 10:30 am **Intensive production of paddlefish, *Polyodon spathula*, in decommissioned waste water treatment plants: an economic model.**² William Rimmele - Kentucky State University, Siddhartha Dasgupta - Kentucky State University
- 10:45 am **Effect of Tassel Removal for Baby Corn Production in Kentucky.**² Christopher Ferguson - Western Kentucky University, Zheng Wang - University of Kentucky, Martin Stone - Western Kentucky University, Elmer Gray - Western Kentucky University
- 11:00 am **Effects of plastic and hay mulches on soil temperature and moisture in organic heirloom tomato production.**² Joni Thompson - Kentucky State University, Michael Bomford - Kentucky State University, Jon Cambron - Kentucky State University, Michael Ward - Kentucky State University, Anthony Silvernail - Kentucky State University, Cristen Flewellen - Kentucky State University, Christopher Gaines - Kentucky State University
- 11:15 am **Long-term Impact of Chicken Waste on Soil Physical Characteristics.**² X. Liu - Murray State University, I.P. Handayani - Murray State University
- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Kentucky performance of a high-yielding sweet potato (*Ipomea batatas*L.) variety bred for biofuel feedstock production.**² Jon Cambron - Kentucky State University, Michael Bomford - Kentucky State University, Anthony Silvernail - Kentucky State University, Michael Ward - Kentucky State University, Raven Ward - Kentucky State University, Joni Thompson - Kentucky State University
- 1:15 pm **A Model-Based Determination of Human Carrying Capacity of Kentucky's Ecoregions.**² Terrell H. Holder - Kentucky State University, Michael M. Bomford - Kentucky State University, Ken Bates - Kentucky State University
- 1:30 pm **Small Farm Biomass Production from Native Perennial Field Grasses.**² Brandon May - Kentucky State University, Tamara Sluss - Kentucky State University
- 1:45 pm **Half-lives of Endosulfan Isomers on Field Treated Vegetables.**¹ Kyla Ross - Kentucky State University, George Antonious - Kentucky State University, Tejinder Kochhar - Kentucky State University

¹Undergraduate Research Competition

²Graduate Research Competition

- 2:00 pm **The continued evaluation of non-typical fruits found in field evaluation plots of 'Vinson Watts' tomatoes (*Solanum lycopersicum*).**¹ Joshua Riggsby - Morehead State University, Emily Bucklew - Morehead State University, Jennifer Harman - Morehead State University, C. Brent Rogers - Morehead State University, Debby Johnson -
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 2:30 pm **Antioxidants and Heavy Metals Content of Hot Pepper.**¹ Mckenzie Johnson - Kentucky State University, George Antonious - Kentucky State University, Tejinder Kochhar - Kentucky State University
- 2:45 pm **Characteristics of and Reasons why Farmers Choose Off-Farm Work.**¹ Caitlin N. Carter - Western Kentucky University
- 3:00 pm **Does a Methyl Salicylate-Based Lure Attract Lady Beetles to Blackberries?**¹ Justina Riddick - Kentucky State University, John D. Sedlacek - Kentucky State University, Karen L. Friley - Kentucky State University, Joy Birike - Kentucky State University
- 3:15 pm **Effects of Organic and Conventional Systems on Nitrate Toxicity in Sorghum-sudangrass.**¹ Julianne Wyrick - Asbury University, Larry Olsen - Asbury University, S. Ray Smith - University of Kentucky
- 3:30 pm **Changes in Soil Properties as Affected by Farming Systems in Calloway County, Kentucky.**¹ Katie LeBlanc - Murray State University, Iin P. Handayani - Murray State University
- 3:45 pm **The Effects of Land Utilization on Soil Physical Properties in White County Illinois.**¹ John McKinney - Murray State University, Iin P. Handayani - Murray State University
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

ANTHROPOLOGY AND SOCIOLOGY

Changzheng Wang, Chair
Kentucky State University

Benjamin Freed, Secretary
Eastern Kentucky University

SATURDAY, NOVEMBER 5, 2011 I & T 155

- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **The transmission of ritual knowledge among kin groups in eastern Madagascar.** Douglas Hume - Northern Kentucky University
- 10:00 am **Surveying sympatric lemurs and fallback food species in northern Madagascar.** Benjamin Z. Freed - Eastern Kentucky University
- 10:15 am **Examining habitation and craft production at Non Mak La, central Thailand.** Judy Voelker - Northern Kentucky University
- 10:30 am **Monitoring howling monkey ranging behavior using vocalizations in Ometepe, Nicaragua.**¹ Erik Wilson - Eastern Kentucky University
- 10:45 am **Body weight perception and willingness to adopt healthy eating and activity behaviors among Kentucky adults.**¹ Erica Coleman - Kentucky State University, Cecil Butler - Kentucky State University, Lingyu Huang - Kentucky State University, Changzheng Huang - Kentucky State University
- 11:30 am **Lunch** - Restaurant options available at registration
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

BIOCHEMISTRY AND PHYSIOLOGY*

*** Please see PHYSIOLOGY AND BIOCHEMISTRY**

¹Undergraduate Research Competition

²Graduate Research Competition

BOTANY

Nilesh Sharma, Secretary
Western Kentucky University

Maggie Whitson, Secretary
Northern Kentucky University

SATURDAY, NOVEMBER 5, 2011 CURRIS - OHIO RM

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Opportunities for Botanical Research and Study in Costa Rica and Ecuador.** Ronald L. Jones - Eastern Kentucky University
- 1:15 pm **Taxonomy and ecology of the Bartonberry, *Rubus bartonianus* (Rosaceae): a narrow endemic of Hells Canyon.** Lawrence A. Alice - Western Kentucky University, Jenifer Ferriel - USDA Forest Service, Roger Ferriel - Bureau of Land Management
- 1:30 pm **Pawpaw Patch Genetic Diversity and Clonality and its Impact on the Establishment of Invasive Species in the Forest Understory.**² Jacob Botkins - Kentucky State University
- 1:45 pm **Effect of coconut oil on ulcerative colitis in a murine model.**² Pranav Chandra - Western Kentucky University, Nilesh Sharma - Western Kentucky University
- 2:00 pm **Genetic Diversity in Kentucky Spicebush Populations using Simple Sequence Repeat Markers.**² Re'Gie Smith - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Jacob Botkins - Kentucky State University, Sheri B. Crabtree -
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 2:30 pm **Plasticity and habitat differences in photosystem and growth responses to sunflecks in a tropical plant.**¹ Alexandra J. Weiser - Georgetown College, D.N. McLetchie - University of Kentucky, C. Stieha - University of Kentucky
- 2:45 pm **Red and White Mulberries (Moraceae: *Morus rubra* and *M. alba*) and Their Interspecific Hybrids.**¹ Brandy N. Bradford - Murray State University, Leslie J. Potts - Murray State University, Nathaniel C. Bundy - Murray State University, Dayle E. Saar - Murray State University
- 3:00 pm **Woody plant and fern inventory and species richness patterns at Greenbo Lake State Resort Park, Greenup Co., KY.**¹ Alexia Callihan - Morehead State University, Allen C. Risk - Morehead State University, Byron Newland - Morehead State University
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

CELLULAR AND MOLECULAR BIOLOGY

Rajalingam Dakshinamurthy, Secretary
Western Kentucky University

Ajay Srivastava, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 13, 2011

I & T 132

- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **Cryptochrome as the candidate photoreceptor for entrainment of the circadian clock by blue light in *Chlamydomonas*.**²
Jonathan Howton - Western Kentucky University, Sigrid Jacobshagen - Western Kentucky University
- 10:00 am **EST database approach to identify fatty acid biosynthesis genes involved in metabolic channeling to anacardic acid biosynthesis.**² Richa A. Singhal - University of Louisville, David J. Schultz - University of Louisville
- 10:15 am **Proteomic Analysis of a Fertility-Regulating Aminopeptidase in *Caenorhabditis elegans*.**² Hannah M. Flood - Murray State University, Chris Trzepacz - Murray State University
- 10:30 am **The mechanism of action of *Prevotella histocola* in the immunomodulation of experimental autoimmune encephalomyelitis (EAE).**¹ Premila Samuel - Berea College, Ashutosh K. Mangalam - Mayo Clinic, Arika Wussow - Mayo Clinic
- 10:45 am **Reverse Genetic Analysis of the M1 Aminopeptidase Family in *Caenorhabditis elegans*.**¹ Mark Althoff - Murray State University, Laura Samples - Murray State University, Chris Trzepacz - Murray State University
- 11:00 am **Effects of DNA Damage on Disappearance of UmuDAb Site-Directed Mutants.**¹ Alexander Hare - Morehead State University, Sabal Adhikari - Morehead State University, Alison Grice - Morehead State University, Janelle Hare - Morehead State University
- 11:15 am **The genus *Acinetobacter* possesses a unique error-prone DNA damage response: the story of UmuD.**¹ James Bradley - Morehead State University, Janelle Hare - Morehead State University
- 11:30 am **Lunch** - Restaurant options available at registration
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

CHEMISTRY

Bommanna Loganathan, Chair
Murray State University

KC Russell, Secretary
Northern Kentucky University

SATURDAY, NOVEMBER 5, 2011 I & T 231 (FREED CURD)

- 8:00 am **Development and Validation of a DART-MS Method for the Quantitation of Glucose for Biofuels Production.** Darrin Smith - Eastern Kentucky University, Daudi Saang'onoyo - Eastern Kentucky University, Gary Selby - Eastern Kentucky University
- 8:15 am **Photochemical production of *trans*-dioxoruthenium(VI) porphyrins.**² Eric Vanover - Western Kentucky University, Yan Huang - Western Kentucky University, Chris Abebrese - Western Kentucky University, Helen Thompson - Western Kentucky University, Cathleen Webb - Western Kentucky University, Rui Zhang - Western Kentucky University
- 8:30 am **Trace elemental analysis in tree cores.**² Brahmaiah Patibandla - Murray State University
- 8:45 am **Explanation for the Formation of Branched Hydrocarbons.**² Chufen Jin - Eastern Kentucky University, Alexander Montavon - Eastern Kentucky University, Buchang Shi - Eastern Kentucky University
- 9:00 am **Greenhouse and Field Studies of Flue Gas Desulphurization By-Products Amended Soil.**² kelin Wang - Western Kentucky University, William Orndorff - Western Kentucky University, Yan Cao - Western Kentucky University, Wei-ping Pan - Western Kentucky University
- 9:15 am **The preparation of copper-based oxygen carriers supported by titanium dioxide.**² Yaowen Cui - Western Kentucky University
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **Size Dependent Antimicrobial Activity of Sugar Encapsulated Gold Nanoparticles.**² Lakshmisri M Vangala - Western Kentucky University, Vivek Badwaik - Western Kentucky University
- 10:00 am **Blood Plasma Coagulation Induced by Poly(ethylene glycol) Materials.**¹ Imelda Hot - Berea College, Christopher A. Siedlecki - Biomedical Engineering Institute, Department of Surgery and Bioengineering, Penn State College of Medicine, Hershey, PA
- 10:15 am **Combinatorial synthesis of a thiourea library for the aminolysis of N-acyl homoserine lactones.**¹ Chido M. Hambira - Berea College, Michael Bertucci - University of North Carolina at Chapel Hill, Michel Gagné - University of North Carolina at Chapel Hill

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:30 am **Development of a New Class of Aromatase Inhibitors: Design, Synthesis, and Inhibitory Activity of 3-Phenylchroman-4-one (Isoflavanone) Derivatives.**¹ Adam McCallum - Northern Kentucky University, Kevin Bonfield - Northern Kentucky University, Erica Amato - Northern Kentucky University, Hannah Agard - Washington and Lee University, Tony Bankemper - Northern Kentucky University, Jeff Steller - Northern Kentucky University, James Keeler - Northern Kentucky University, Lili Ma - Northern Kentucky University
- 10:45 am **Organic Synthesis of Novel Inhibitors of Bacterial Enzyme MurA.**¹ Natalie Orms - Centre College, Selena Li - Centre College, Ben Boone - Centre College, Jennifer Muzyka - Centre College
- 11:00 am **Synthesis and Identification of Electron Rich Annulenes.**¹ ROBERT WEHRLE - Northern Kentucky University
- 11:15 am **Using Computer Based Algebra for Visualization in the Physical Sciences.** Jason Fuller - Eastern Kentucky University
- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Astrochemistry: A Case Study of Time-dependent Modeling of Interstellar O₂.** Donghui Quan - Eastern Kentucky University
- 1:15 pm **Design and Synthesis of STAT3 Inhibitor.**¹ Chyna Johnson - Berea College, Nate Carmen - Miami University, Philias Daka - Miami University, Dr. Hong Wang - Miami University
- 1:30 pm **Synthesis of a Series of Push-Pull O-Dehydrobenzoannulenes.**¹ William Talbert - Northern Kentucky University, K.C. Russell - Northern Kentucky University
- 1:45 pm **Selective Hydrogen Bonding between Uracil and the Superoxide Radical.**¹ Sijin Ren - Murray State University, Wafaa M. Fawzy - Murray State University
- 2:00 pm **Solvent Effects on the Excited State Lifetimes of Natural Estrogens.**¹ Kara Chan - Northern Kentucky University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 2:30 pm **Environmentally Friendly Synthesis, Characterization and Bactericidal Activity of Starch Encapsulated Gold nanoparticles.**¹ Dillon S Pender - Western Kentucky University, Lakshmisri M Vangala - Western Kentucky University, Rajalingam Dakshinamurthy - Western Kentucky University
- 2:45 pm **Intermolecular Interactions between the Superoxide Radical and Hydrogen Fluoride.** Yuchen Zhang - Murray State University, Wafaa M. Fawzy - Murray State University
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

COMPUTER AND INFORMATION SCIENCES

Jerzy Jaromczyk, Chair
University of Kentucky

Sherif Rashad, Secretary
Morehead State University

SATURDAY, NOVEMBER 5, 2011
CURRIS - CUMBERLAND RM

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Parsing Tool for Creating a Genome Sequence Database Using Affymetrix Microarray Expression Data.** Earle Foskett - Bellarmine University, Dr. Muzaffar Ali - Bellarmine University
- 1:15 pm **Privacy Preserving Distributed Data Mining.** Zhenmin Lin - University of Kentucky, Jerzy W. Jaromczyk - University of Kentucky
- 1:30 pm **Visual Tools for Queries and Visual Display of Quantitative Information in a Cancer Research Database.**² JESSE STEWART - University of Kentucky, JERZY W. JAROMCZYK - University of Kentucky
- 1:45 pm **Novel Load Balancing Techniques for Wireless Heterogeneous Networks.**¹ Benjamin Caldwell - Morehead State University, Sherif Rashad - Morehead State University
- 2:00 pm **Intrusion Detection in Wireless Mobile Networks using Data Mining Techniques.**¹ John Hargett - Morehead State University, Sherif Rashad - Morehead State University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

ECOLOGY AND ENVIRONMENTAL SCIENCE

Richard Boyce, Chair
Northern Kentucky University

Scott Grubbs, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 5, 2011 CURRIS - MISSISSIPPI RM.

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Spatial distribution and economic consequences of human-elephant conflict in Kenya.** Michael Stokes - Western Kentucky University, Simon Kasaine Kagwa - Western Kentucky University, Bruce Schulte - Western Kentucky University, Charles Kimwele - University of Nairobi
- 1:15 pm **Sound Production in Freshwater Invertebrates: Documentation and Applications in Biomonitoring.**² Nissa Rudh - Murray State University, Michael Flinn - Murray State University, Brian West - Murray State University, James Hereford - Murray State University
- 1:30 pm **Movement, Habitat Use, and Diet Selectivity of Re-introduced Juvenile Alligator Gar, *Atractosteus spatula*, in Clarks River Kentucky.**² Jared Militello - Murray State University, Michael Flinn - Murray State University
- 1:45 pm **Atrazine exposure lengthens time until cannibalistic response in a dragonfly larva (*Libellula luctuosa*)**² Coy R. St. Clair - Murray State University
- 2:00 pm **Factors affecting recruitment of crappie populations in Kentucky and Barkley Lakes.**² Adam D. Martin - Murray State University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 2:30 pm **Influences of a Cladophora Bloom on the Diets of Elliptio dilatata and Amblema plicata in the Upper Green River, Kentucky.**² Jennifer M. Yates - Western Kentucky University, Scott A. Grubbs - Western Kentucky University, Albert J. Meier - Western Kentucky University
- 2:45 pm **The role of *Podostemum ceratophyllum* in providing habitat for net-spinning caddisflies.**¹ Brenna E. Tinsley - Western Kentucky University, Scott A. Grubbs - Western Kentucky University, Albert J. Meier - Western Kentucky University
- 3:00 pm **Assessment of water usage and photosynthesis in invasive Amur honeysuckle and native spicebush and pawpaw.**¹ Molly Brown - Northern Kentucky University, Richard Boyce - Northern Kentucky University

¹Undergraduate Research Competition

²Graduate Research Competition

- 3:15 pm **An Analysis of Call Frequencies Based on Time of Day and Habitat for Seven Species of Anurans.**¹ Mary Newton - Western Kentucky University, Albert Meier - Western Kentucky University, Ouida Meier - Western Kentucky University, Jacob Eldridge - Western Kentucky University
- 3:30 pm **Impacts on Small Mammal Biodiversity of Converting Abandoned Farmland to Switchgrass.**¹ Kenton Sena - Asbury University, Ray Smith - University of Kentucky, Bruce Branan - Asbury University
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

ENGINEERING

Sally Krijestorac, Chair
Morehead State University

Sanjeev Adhikari, Secretary
Morehead State University

SATURDAY, NOVEMBER 5, 2011

I & T 237

- 8:00 am **Experimental Results of a New Swarm Search Algorithm based on Honey Bees.**¹ Kyle Frye - Murray State University
- 8:15 am **The Effects of the Addition of SrCl_2 and HoFl_3 on Photo Luminescent Z-BLAN Glass.**¹ Hodari-Sadiki James - Berea College, Russell L. Leonard - University of Tennessee Space Institute, Jacqueline A. Johnson - University of Tennessee Space Institute
- 8:30 am **Performance of Ruthenium Doped LaSrFeCrO_3 Perovskite Solid Oxide Fuel Cells.**¹ Ben Slone - Centre College, Scott Barnett - Northwestern University
- 8:45 am **Solar Radiation Measurements for Eastern Kentucky.**¹ Scotty White - Morehead State University, Hans Chapman - Morehead State University
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 11:30 am **Lunch** - Restaurant options available at registration
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

GEOGRAPHY

Glenn Campbell, Chair
Eastern Kentucky University

Demetrio Zourarakis, Secretary
Kentucky Div. of Geographic
Information

SATURDAY, NOVEMBER 5, 2011
BLACKBURN SCI. BLDG, RM 320

- 8:30 am **Complexities of Subtropical Precipitation Variability from Climate Change Reconstruction in Florida.** Jason Polk - WKU Crawford Hydrology Laboratory, Philip van Beynen - University of South Florida, Yemane Asmerom - University of New Mexico, Kristine DeLong - Louisiana State University
- 8:45 am **Herbicide Contamination of Shallow Karst Groundwater on Kentucky's Mississippian Plateau.** Chris Groves - Western Kentucky University, Sean Vanderhoff - Western Kentucky University, Jason Polk - Western Kentucky University, Ben Miller - Western Kentucky University, Robert Lerch -
- 9:00 am **Influence of Direct Insolation on Supraglacial Stream Channel Incision.** Gilman Ouellette - Western Kentucky University, Derrick Lampkin - the Pennsylvania State University, Nathan Amador - the Pennsylvania State University
- 9:15 am **Evidence of change in the intensity of wet and dry spells impacting Kentucky.** Austin Boys - Western Kentucky University, Brian R. Urbancic - Western Kentucky University, Stuart A. Foster - Western Kentucky University
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **A spatial statistical correlation of drainage density and surface water quality degradation in Kentucky.**² Nicholas Lawhon - Hoffman Environmental Research Institute
- 10:00 am **Mapping burned area in Huascaran National Park, Peru using remote sensing imagery.**¹ Justin King - Western Kentucky University, John All - Western Kentucky University
- 10:15 am **Time Series Vegetation Analysis in Huascaran National Park, Peru.**¹ Joshua E Montgomery - Western Kentucky University, Dr. John All - Western Kentucky University
- 10:30 am **Modeling Seasonality of Fire Occurrences in the Cordillera Blanca.**¹ Tommy Woodall - Western Kentucky University, John All - Western Kentucky University

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:45 am **Use of remotely sensed data to examine climate variability and vegetation response in the Cordillera Blanca, Peru.**¹ Justin Sowers - Western Kentucky University, Dr. John All - Western Kentucky University
- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **LiDAR Intensity Images and Land Cover Class Assessment.** Demetrio Zourarakis - Kentucky Division of Geographic Information
- 1:15 pm **Mapping urban areas using DMSP-OLS nighttime lights data.** Robin Zhang - Murray State University
- 1:30 pm **Dynamic spatial modeling and interpolation of near-surface atmospheric variables based on the Kentucky Mesonet.** Stuart A. Foster - Western Kentucky University, Jonathan Quiton - Western Kentucky University, Rezaul Mahmood - Western Kentucky University
- 1:45 pm **Remote Sensing of Vegetation Changes in Makalu National Park, Nepal from 1990 to 2010.** John All - Western Kentucky University, David Evans - Western Kentucky University, Robert Zomer - ICIMOD, Nepal
- 2:00 pm **Land Use and Land Cover Change in Sagarmatha National Park (1979-2009), Nepal.** Kamal Humagain - WKU Hoffman Environmental Research Institute, Dr John D All - Western Kentucky University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

GEOLOGY

Andrew Kellie, Chair
Murray State University

Thomas Brackman, Secretary
Northern Kentucky University

SATURDAY, NOVEMBER 5, 2011

I & T 132

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm ***Edestus giganteus* shark fossil from the Carbondale Formation (Middle Pennsylvanian, Desmoinesian), western Kentucky, Illinois Basin.** Richard A. Smath - Kentucky Geological Survey
- 1:30 pm **The 3D Subsurface of the Illinois Basin.** Andrew C. Kellie - Murray State University
- 1:45 pm **Adventures in Geophysics: Using ReMi for Void Detection at a Tunnel Site in Northern Kentucky.** Thomas B. Brackman - Northern Kentucky University
- 2:00 pm **A GIS approach to identifying the spatial distribution of knickpoints in the Buffalo National River Watershed, northern Arkansas.**² Matthew Ryan Prusinski - Murray State University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 2:30 pm **Understanding Late Mississippian Echinoderm Faunas from eastern Kentucky.**² Ann W. Harris - University of Kentucky, Frank R. Ettensohn - University of Kentucky
- 2:45 pm **Ore Analysis of KY-IL Fluorspar District.**¹ Jeffrey Molloy - Western Kentucky University, Andrew Wulff - Western Kentucky University
- 3:00 pm **3D modeling of the Bartletttsville, Stringtown, and Wadesville North fields.**¹ Brett Wiggins - Murray State University
- 3:15 pm **The Micro- and Macro- Faunal Diversity of a Devonian Dysaerobic Environment.**¹ Larry Tackett - Morehead State University, Kara Wells - Morehead State University, Charles E. Mason - Morehead State University
- 3:30 pm **Mineral characterization of the Macraes mine in New Zealand.**¹ Michael R. Powers - Western Kentucky University, Andrew H. Wulff - Western Kentucky University
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

HEALTH SCIENCES

Lingyu Huang, Chair
Kentucky State University

Cecil Butler, Secretary
Kentucky State University

SATURDAY, NOVEMBER 5, 2011 I & T 155

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Innate Immune Responses to Pandemic Influenza Virus Hemagglutinin Proteins.**¹ Megan Reynolds - Northern Kentucky University, Kimberly Staudt - Northern Kentucky University, Amy Weinstock - Northern Kentucky University, Joseph Mester - Northern Kentucky University
- 1:15 pm **CSF and Plasma Ascorbic Acid Concentrations in Horses with PPID Compared to Age-Matched Controls.**¹ Jeffrey Chalfant - Georgetown College, Dr. Dianne McFarlane - Oklahoma State University Center for Veterinary Health Sciences
- 1:30 pm **Plumbagin ameliorates ulcerative colitis in the experimental murine model.**¹ Justin Pile - Western Kentucky University, Dr. Niles Sharma - Western Kentucky University
- 1:45 pm **HPLC Analysis of Resveratrol Content in Over-the-Counter Supplements.**¹ Heather Stamper - Asbury University, Bruce Branan - Asbury University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

MATHEMATICS

R. Douglas Chatham, Chair
Morehead State University

John Porter, Secretary
Murray State University

SATURDAY, NOVEMBER 5, 2011

I & T 229

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Winning in the worst way.** R. Douglas Chatham - Morehead State University
- 1:15 pm **Montezuma's Revenge: Learn Math to Save a Life.**¹ Bryce Norris - Murray State University, Dr. Renee Fister - Murray State University, Glenna Buford - Murray State University
- 1:30 pm **Sawmill Potential for Bio-Oil Production.**¹ Amir Ahmadi - Morehead State University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

MICROBIOLOGY

Janelle Hare, Chair
Morehead State University

Marcia Pierce, Secretary
Eastern Kentucky University

SATURDAY, NOVEMBER 5, 2011 CURRIS - CUMBERLAND RM.

- 8:00 am **Abundance of the alpha-Proteobacteria, *Blastomonas* in the sediment of Ledbetter Creek Embayment, Kentucky Lake.**² Emily J. P. D'Angelo - Murray State University, Timothy C. Johnston - Murray State University
- 8:15 am **Abundance of *Methanosaeta concillii*-like species in the sediment of Ledbetter Creek Embayment of Kentucky Lake.**² Juanita Von Dwingelo - Murray State University, Timothy C. Johnston - Murray State University
- 8:30 am **Previously unknown species of Archaea in the sediments of Kentucky Lake.**¹ Amber Mills - Murray State University
- 8:45 am **Differential gene expression of the *lux* operon of *Vibrio harveyi* by mRNA processing.**¹ Mara S. Varvil - Murray State University, Timothy C. Johnston - Murray State University
- 9:00 am **Characterization of the mRNA from the *lux* operon of *Photorhabdus luminescens*.**¹ William Hunt - Murray State University, Timothy C. Johnston - Murray State University
- 9:15 am **Effects of manganese on growth and resistance of probiotic bacteria and *Deinococcus radiodurans* to ultraviolet radiation and hydrogen peroxide.**¹ J. Wes Morris - Kentucky Community and Technical College System, Samuel Fobid - Kentucky Community and Technical College System, Larry Porter - Kentucky Community and Technical College System, Norm Strobel - Kentucky Community and Technical College System
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **Exploring White Nose Syndrome: The Differential Growth of *Geomyces* Species in North American Bats.**¹ Samantha Kaiser - Northern Kentucky University, Hazel A. Barton - Northern Kentucky University
- 10:00 am **Inhibition of White Nose Syndrome in Hibernating Bat Colonies: Identification of Antifungal Agents.**¹ Virginia Shelley - Northern Kentucky University, Andrea Price - Northern Kentucky University, Dr. Hazel A. Barton - Northern Kentucky University
- 11:30 am **Lunch** - Restaurant options available at registration
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Rm 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

PHYSICS AND ASTRONOMY

Akhtar Mahmood, Chair
Bellarmine University

Arthur Pallone, Secretary
Murray State University

SATURDAY, NOVEMBER 5, 2011
I & T 237

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Inexpensive scanning photo-induced current microscope experiment suitable for an undergraduate laboratory.** ARTHUR K. PALLONE - Northern Kentucky University
- 1:15 pm **The X-ray Properties of Four Galactic Supernova Remnants Detected by the Spitzer GLIMPSE Survey.** Thomas Pannuti - Morehead State University, William Moffitt - Morehead State University
- 1:30 pm **An alternative approach to account for uncertainty in photometric data from science images.** ARTHUR PALLONE - Northern Kentucky University
- 1:45 pm **High Altitude Balloons as a Methodology for Increasing STEM Activities in the Classroom.** Eric A. Jerde - Morehead State University, Eric T. Thomas - Morehead State University
- 2:00 pm **Densities and Compressibilities of Chiral Molecules in the Liquid State: Chiral Discrimination.** Amer S. Lahamer - Berea College, Imelda Hot - Berea College
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 2:30 pm **Copper-Based Superconductors.**¹ Tommy Boykin - Berea College, Rohan Isaac - Berea College, Mackenzie Endres - Berea College, Marissa Brown - Berea College, Amer S. Lahamer -
- 2:45 pm **The Effect of a Magnetic Field on a Small Silver Ring.**¹ Julia Smith - Georgetown College, Joseph Straley - University of Kentucky
- 3:00 pm **Synthesis and characterization of Half-Metallic Heusler Alloys.**¹ Rohan Isaac - Berea College, Dr. Amer Lahamer - Berea College, Tommy Boykin - Berea College, Marissa Brown - Berea College, Mackenzie Endres -
- 3:15 pm **Efficiency of the SuN Detector.**¹ Jessica Peace - Morehead State University
- 3:30 pm **Working WASTED? Comparison of the performance of the Webcam Alpha Spectrometer Technology Detector to a standard surface barrier detector.**¹ Joseph Fryman - Northern Kentucky University, Arthur Pallone - Northern Kentucky University
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

PHYSIOLOGY AND BIOCHEMISTRY

Stephanie Dew, Chair
Centre College

Julia Carter, Secretary
Wood Hudson Cancer Research
Laboratory

SATURDAY, NOVEMBER 5, 2011
CURRIS - MISSISSIPPI RM.

- 8:00 am **Two Germline Variants of the TGFBR1 Gene are Associated with Initiation, Progression and Clinical Outcome of Colorectal Cancer.** Hillary Restle and Shane Mulvihill - Wood Hudson Cancer Research Laboratory, Jonathan Bender - Wood Hudson Cancer Research Laboratory, Kevin Murray - Wood Hudson Cancer Research Laboratory, Bruce Colligan - Wood Hudson Cancer Research Laboratory, James Deddens - University of Cincinnati, Larry Douglass - Wood Hudson Cancer Research Laboratory, James Schaeper - Wood Hudson Cancer Research Laboratory, Julia Carter - Wood Hudson Cancer Research Laboratory
- 8:15 am **Thermally Induced Spadefoot Plasticity.** Cailynn West - Centre College
- 8:30 am **Examining Pathways Regulated in Zebrafish Auditory Hair Cell Regeneration using Next Generation Sequencing.**² Gopinath Rajadinakaran - Western Kentucky University, Huifang Sun - Western Kentucky University, Eric Rouchka - University of Louisville, Michael E. Smith - Western Kentucky University
- 8:45 am **Growth Hormone Promotes Auditory Hair Cell Regeneration in Zebrafish (Danio rerio).**² Yajie Wang - Western Kentucky University, Huifang Sun - Western Kentucky University, Michael E. Smith - Western Kentucky University
- 9:00 am **Enzymatic Activities of Renal H⁺-K⁺-ATPase in Hypokalemic Mice.**² Lynsey Bochenek - Murray State University, Suguru Nakamura - Murray State University
- 9:15 am **H⁺-ATPase activity in selective disruption of H⁺K⁺-ATPase alpha 1 gene of mice under normal and K-depleted conditions.**² James Ravellette - Murray State University, Suguru Nakamura - Murray State University
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **Next Generation Sequencing Identifies Regulation of Pathways in Zebrafish Auditory Hair Cell Regeneration.**² Gopinath Rajadinakaran - Western Kentucky University, Huifang Sun - Western Kentucky University, Abdallah Eteleeb - University of Louisville, Eric Rouchka - University of Louisville, Michael E. Smith - Western Kentucky University

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:00 am **A combinatorial approach towards investigating pervasive binding specificity.** Brian Chaffin - Georgetown College, Emerson Dick - University of Kentucky, Luke H. Bradley - University of Kentucky
- 10:15 am **Biomass Assisted Synthesis of Antibacterial Nanomaterial.**¹ Chad Willis - Western Kentucky University, Vivek Badwaik - Western Kentucky University, Lakshmisri M Vangala - Western Kentucky University, Rajalingam Dakshinamurthy - Western Kentucky University
- 10:30 am **Epitope Mapping of Vimentine in Arthritis-susceptible HLA-DRB1*0401 and resistant *0402 mice.**¹ Kelly Mouapi - Berea College, Chella David - Department of Immunology, Mayo Clinic, Veena Taneja - Department of Immunology, Mayo Clinic
- 10:45 am **Regulation of EMT Proteins in Breast Cancer Cell Lines.**¹ Mary Wiechart - Wood Hudson Cancer Research Laboratory, Jackie Jansen - Wood Hudson Cancer Research Laboratory, Arielle Marasligiller - Wood Hudson Cancer Research Laboratory, Shane Mulvihill - Wood Hudson Cancer Research Laboratory, Hillary Restle - Wood Hudson Cancer Research Laboratory, Stefan Siwko - Wood Hudson Cancer Research Laboratory, Julia Carter - Wood Hudson Cancer Research Laboratory
- 11:30 am **Lunch** - Restaurant options available at registration
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

PSYCHOLOGY

Jennifer Asmuth, Chair
Centre College

Brian Cusato, Secretary
Centre College

**SATURDAY, NOVEMBER 5, 2011
CURRIS - OHIO RM.**

- 8:00 am **Tangled up in blue.**² Kayla Sizemore - Morehead State University, Katelyn Fugate - Morehead State University, Jacob Burress - Morehead State University, Ryan Jones - Morehead State University, Shari Kidwell - Morehead State University
- 8:15 am **Relationships Between Self Compassion, Mindfulness, and Acceptance.**² Cassie Watkins - Morehead State University
- 8:30 am **A dog or a cookie?: Differential prediction of two child emotion regulation procedures.**¹ Shelby House - Morehead State University, Samantha Spencer - Morehead State University
- 8:45 am **Perceptions of Aging: The Power of Knowledge and Action.**¹ Raven Weaver - Berea College
- 9:00 am **The effects of gender and writing assignment on implicit attitudes of gender roles.**¹ Rachel Krebs - Berea College
- 9:15 am **Behavioral Characterization of Atp13a2 Deficient Mice Carrying a Transgenic Alzheimer's Gene.**¹ Amy K. Clippinger - Northern Kentucky University, Molly Griffith - Northern Kentucky University, Abbey Bailes - Northern Kentucky University, Lindsey Griffith - Northern Kentucky University, Mark Bardgett - Northern Kentucky University, Patrick J. Schultheis - Northern Kentucky University
- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 10:00 am **The Use of Male Calls in the Sexual Conditioning of Male and Female Japanese Quail (*coturnix japonica*).**¹ Hillary Botts - Centre College, Tayllor Vetter - Centre College, Lan Nguyen - Centre College, Emma Julia Jones - Centre College
- 10:15 am **Subchronic Exposure to Alcohol during Adolescence Disrupts Learning in Adulthood: Involvement of NMDA Receptors.**¹ Gianni P. Maione - Morehead State University, Taylor Patrick - Morehead State University, Ilsun M. White - Morehead State University
- 10:30 am **Prolactin and Nest Attachment.**¹ Annie Roessler - Centre College, Melissa Burns-Cusato - Centre College

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:45 am **Relationships Between Psychological Flexibility, Physical Health, and Psychological Distress.**¹ Aaron Ellis - Morehead State University
- 11:30 am **Lunch** - Restaurant options available at registration
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

SCIENCE EDUCATION

Brent Eldridge, Chair
Kentucky Community and Technical
College System

Jay Kirchner, Secretary
Galen College of Nursing -
Cincinnati, OH

SATURDAY, NOVEMBER 5, 2011 I & T 135

- 9:30 am **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 9:45 am **Sharing ideas about assessing student learning.** John G. Shiber, PhD - Kentucky Community and Technical College System
- 10:00 am **Teaching Chemistry Online to Non-science Majors.** Lori Wilson - Eastern Kentucky University
- 10:15 am **Student perceptions of online chemistry classes.** Dr. Shawn Kellie - Kentucky Community and Technical College System
- 10:30 am **Evaluating Informal Karst Education in the United States and Aboard.** Leslie North - Western Kentucky University
- 10:45 am **Positive student retention effects in an Anatomy & Physiology course for RN student nurses via integrating student support services, year two.** Jay Kirchner - Galen College of Nursing, Cincinnati Campus, Joan Brummer - Galen College of Nursing, Cincinnati Campus, Jennifer Myka - Galen College of Nursing, Cincinnati Campus
- 11:30 am **Lunch** - Restaurant options available at registration
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

ZOOLOGY

Richard Durtsche, Chair
Northern Kentucky University

Michael Floyd, Secretary
US Fish & Wildlife Service

SATURDAY, NOVEMBER 5, 2011 I & T 135

- 11:30 am **Lunch** - Restaurant options available at registration
- 1:00 pm **Distribution and Conservation Status of the Cumberland Darter, *Etheostoma susanae*.** Michael A. Floyd - U.S. Fish and Wildlife Service, Matthew R. Thomas - Kentucky Dept. of Fish & Wildlife Resources, Stephanie L Brandt - Kentucky Dept. of Fish & Wildlife Resources
- 1:15 pm **Measuring anuran population dynamics using a combination of automatic call recognition software and conventional field survey methods.**² Jacob Eldridge - Western Kentucky University, Pedro do Amaral - University of Cincinnati, Albert Meier - Western Kentucky University, Richard Bowker - Western Kentucky University, Rafael Marquez - , Juan Francisco Beltran -
- 1:30 pm **Employing Creel Survey Data and Simple Sampling Techniques to Evaluate the Pit-lakes Fisheries of Muhlenberg County, KY.**² Derek L. Rupert - Western Kentucky University, Philip W. Lienesch - Western Kentucky University
- 1:45 pm **Aggressive Acoustic Behavior in *Yasuhikotakia modesta*: Does the Lombard Effect Hold Water?**¹ Bethany N. Coffey - Western Kentucky University, Michael E. Smith - Western Kentucky University
- 2:00 pm **Amphibian Population Dynamics of a Rejuvenating Brown Field.**¹ Mitch Mercer - Northern Kentucky University
- 2:15 pm **Break** - Curris Center, 3rd Floor Concourse or Collins I&T Bldg. outside Room 231
- 4:15 pm **Plenary Session** - Collins I&T Bldg., Room 231 (Freed Curd Auditorium)

¹Undergraduate Research Competition

²Graduate Research Competition

POSTER PRESENTATIONS

This year we will divide the poster presentations into a **morning (AM) session** and an **afternoon (PM) session** according to sections. Each presenter will be provided with an easel and a 4x4 ft. poster board. Each poster board will be identified with a number that matches the presenter's number in the poster portion of the program booklet. All posters will be located in the Curris Center and will be presented in two locations depending on the section. NOTE: Biochemistry and Physiology: see Physiology and Biochemistry.

THE SATURDAY A.M. SESSION:

Curris Center, Small Ballroom	Curris Center, Dance Lounge
Sections: Agriculture, Anthropology & Sociology, Botany, Chemistry, Computer and Information Science	Sections: Cellular & Molecular Biology and Health Sciences
<i>Check in with Ms. Angela Guyton in the small Ballroom</i>	<i>Check in with Mr. Carl Woods in the small Dance Lounge</i>
Presenters: set up between 7:30 - 8:00 a.m. Students entering the URC will have their posters judged starting at 9:00 a.m and the presenters must be present in order to have their posters judged. The A.M. posters must be removed or arrangements made to take them down between 11:30 - 12:00.	

THE SATURDAY P.M. SESSION:

Curris Center, Small Ballroom	Curris Center, Dance Lounge
Sections: Ecology & Environmental Sciences, Engineering, Geography, Geology, Mathematics, Microbiology, Physics & Astronomy, Psychology and Science Education	Sections: Physiology and Biochemistry, Zoology
<i>Presenters will check in with Ms. Angela Guyton in the small Ballroom to be directed to their poster location</i>	<i>Presenters will check in with Mr. Carl Woods in the small Dance Lounge to be directed to their poster location.</i>
Presenters: set up between 12:00 - 1:00 p.m. The URC posters will be judged starting at 2:00 p.m. during which time the presenters must be present at their posters. These posters can be removed at 4:00 p.m.	

SATURDAY MORNING **CURRIS CENTER, SMALL BALLROOM**

AGRICULTURAL SCIENCES

1. **Effect of Additional Nitrogen Application on Wheat.**¹ Trent Briscoe - Murray State University, I.P. Handayani - Murray State University

2. **Stink Bug Species in Organic Blackberries.**¹ Marquita L. Grayson Holt - Kentucky State University, John D. Sedlacek - Kentucky State University, Karen L. Friley - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Michael K. Bomford - Kentucky State University, Sheri B. Crabtree - Kentucky State University, Christopher M. Wales - Kentucky State University
3. **The Process of Evaluating the Progeny of an Unanticipated Cross between a 'Vinson Watts' Tomato (*Solanum lycopersicum*) and an Unknown Cherry Tomato.**¹ Emily Bucklew - Morehead State University, Joshua Riggsby - Morehead State University, C. Brent Rogers - Morehead State University, Debby Johnson - Morehead State University
4. **Beneficial Insects Associated with Fall Established Native Perennial Plant Border Plots.**¹ Jermaine Dunigan - Kentucky State University, John D. Sedlacek - Kentucky State University, Karen L. Friley - Kentucky State University
5. **Soil Organic Carbon and Water Content Associated with Crop Land and Forested Ecosystems.**¹ John McKinney - Murray State University, Iin P. Handayani - Murray State University
6. **Soil Quality Parameters in Response to Agricultural Management Practices.**¹ Katie M. LeBlanc - Murray State University, Iin P. Handayani - Murray State University
7. **Incorporating Winter Annuals into Pasture Rotations for Beef Cattle at the Berea College Farm.**¹ Lisa L. Baxter - Berea College
8. **Out with the hogs and in with the fish: Feasibility of tilapia farming in a former hog-waste lagoon.** Sean Clark - Berea College, Kyle Watkins - Berea College
9. **Ethanol Production Potential from Pawpaw Fruit Agricultural Waste.** Brandon May - Kentucky State University, Michael Bomford - Kentucky State University, Kirk Pomper - Kentucky State University, Jon Cambron - Kentucky State University, Anthony Silvernail - Kentucky State University
10. **Soil Properties Improvements Following Broiler Litter Applications.** X. Liu - Murray State University, I. P. Handayani - Murray State University
11. **Outdoor hog production: average daily gains and behavioral differences of growing hogs with and without access to pasture.**¹ Samantha Kindred - Berea College, Michael Panciera - Berea College

ANTHROPOLOGY AND SOCIOLOGY

12. **Acculturation and body weight status of Chinese American immigrants in Kentucky.** Cecil Butler - Kentucky State University, Lingyu Huang - Kentucky State University, Changzheng Wang - Kentucky State University

BOTANY

13. **Seedling growth of normal and dwarf *Pharbitis nil***. Harold A Simmons - Northwest Community College, Mark Montgomery - Northwest Community College, Sarah Mattox - Northwest Community College, Randall Warren - Northwest Community College

CHEMISTRY

14. **Synthesis of Enantioenriched β -Ketoesters via an Azaferrocene-Catalyzed Ketene-Claisen Condensation.**¹ Chelsey Lloyd - Berea College, Michelle Bloom - Berea College, Mary Robert Garrett - Berea College
15. **Synthesis of Enantioenriched β -Ketoesters via a Quinine-Catalyzed Ketene-Claisen Condensation.**¹ Trena Payton - Berea College, Amanuel Tesfamichael - Berea College, Mary Robert Garrett - Berea College
16. **Synthesis of Isoflavanone Derivatives and Isocoumarins.**¹ Erica Amato - Northern Kentucky University, Kevin Bonfield - Northern Kentucky University, Adam McCallum - Northern Kentucky University, James M. Keeler - Northern Kentucky University, Tony Bankemper - Northern Kentucky University, Jeff Steller - Northern Kentucky University
17. **Single Step Synthesis of Antibiotic Kanamycin Embedded Nanoparticles.** Gavva Shravan - Western Kentucky University, Lakshmisri M Vangala - Western Kentucky University, Rajalingam Dakshinamurthy - Western Kentucky University
18. **Hydrothermal synthesis, structural and thermal properties of two calcium based metal-organic frameworks.** Raj Kishore Vakiti - Western Kentucky University, Dr.Hou-yin Zhao - Western Kentucky University, Dr.Yan Cao - Western Kentucky University, Dr.Wei-Ping Pan - Western Kentucky University, Dr.Bangbo Yan - Western Kentucky University
19. **Kinetics of Michael Addition Reactions in Ionic Liquids.**¹ Brandy N. Bradford - Murray State University, Kevin M. Miller - Murray State University
20. **On- and Off-Metal Synthetic Route to Some Group (VII) Complexes.** Jason Young - Western Kentucky University, Chad Snyder, PhD - Western Kentucky University
21. **Assessment of nanoparticle toxicity using atomic force microscopy.**¹ Matthew Stark - Northern Kentucky University, Joseph Squeri - Northern Kentucky University, Adam Gottula - Northern Kentucky University, Samantha Sutkamp - Northern Kentucky University, Kristi Haik - Northern Kentucky University, Heather Bullen - Northern Kentucky University

22. **Assessment of nanoparticle toxicity using Langmuir compression isotherms.**¹ Adam Gottula - Northern Kentucky University, Joseph Squeri - Northern Kentucky University, Matthew Stark - Northern Kentucky University, Samantha Sutkamp - Northern Kentucky University, Kristi Haik - Northern Kentucky University, Heather Bullen - Northern Kentucky University
23. **Evaluating the implication of enterobactin in Escherichia coli biofilm formation on bone.**¹ Alexander Yarawsky - Northern Kentucky University, Heather Bullen - Northern Kentucky University
24. **A New Metal Organic Framework Containing Ruthenium Polypyridyl Complex.** Yanfen Li - Western Kentucky University
25. **Synthesis, purification, and characterization of analogs of the anticancer drug oxaliplatin.**¹ Virginia Martin - Western Kentucky University, Kevin Williams - Western Kentucky University
26. **Computational Calculations of the Photophysical Properties of Perylenediimide Bridged Silanes.**¹ Sarah Ward - Western Kentucky University, Jeremy Maddox - Western Kentucky University
27. **Ambient Mass Spectral Analysis of Lignin Solubilized in Ionic Liquid Media.** Michael G. Mazzotta - Eastern Kentucky University, Robert B. Pace - Eastern Kentucky University, Darrin L. Smith - Eastern Kentucky University, Laurel A. Morton - Eastern Kentucky University
28. **Synthetic Developments Towards Ergovaline.**¹ Allison Galassie - Eastern Kentucky University, Darrin L. Smith - Eastern Kentucky University, Nathan Tice - Butler University
29. **Reactivity of oxaliplatin and derivatives with biologically relevant ligands.**¹ Amy Poynter - Western Kentucky University, Kevin Williams - Western Kentucky University
30. **Synthesis and structure of a Novel Layered Metalloporphyrin coordination polymer.**¹ Chris Carmichael - Western Kentucky University, Yan-fen Li - Western Kentucky University, Bangbo Yan - Western Kentucky University
31. **Kinetic studies of oxygen atom transfer reaction from trans-dioxoruthenium(VI) porphyrins to sulfides.**¹ Zhibo Yuan - Western Kentucky University, Chiris Abebrese - graduated from Western Kentucky University, Alice Pan - University of Kentucky, Yan Huang - graduated from Western Kentucky University, Rui Zhang - Western Kentucky University
32. **Synthesis of Branched Hydrocarbons.**¹ Alexander Montavon - Eastern Kentucky University, Chufen Jin - Eastern Kentucky University, Buchang Shi - Eastern Kentucky University

33. **Using confocal Raman spectroscopy to analyze nitrate structure at and near the air-water interface.** ¹ Heather Shockley - Western Kentucky University, Matthew J Nee - Western Kentucky University
34. **Photocatalytic Degradation of the X-Ray Contrast Agent Diatrizoate with Raman Spectroscopy.** Sabina Salkic - Western Kentucky University
35. **Development of an Analytical Morse Oscillator Model for Multi-Dimensional Reactive Scattering.** ¹ Aaron W Daniel - Western Kentucky University, Jeremy B Maddox - Western Kentucky University
36. **The Reaction of Halogenated Hydrocarbons with Cysteine and DNA.** ¹ Brittany S. Morgan - Western Kentucky University, Kevin M. Williams - Western Kentucky University
37. **Organohalogen Concentrations in Soil and Pine Needles from Western Kentucky.** ¹ Shirish reddy Boddireddy - Murray State University
38. **An examination of atmospheric composition data from Mammoth Cave National Park.** ¹ Mary Spraggs and Cheyenne Ullrey - Western Kentucky University, Matthew J. Nee - Western Kentucky University
39. **Contamination Profiles of Glyphosate in Agricultural Environment.** Prasanthi Yerneni - Murray State University
40. **Donor-Acceptor Functionalized Siloxane Nanohybrids: Synthesis, Characterization and Particle Morphology.** ¹ Aaron D McKee - Western Kentucky University, Hemali Rathnayake - Western Kentucky University
41. **Reactive group functionalized silsesquioxane nanoparticles for drug delivery applications: Synthesis, characterization, and particle morphology.** ¹ Leslie Wilson - Western Kentucky University
42. **Synthesis of an Ionic Liquid-Tagged Salen Ligand and Its Use in Lignin Oxidation.** Jeremy G. Wallace - Eastern Kentucky University, Joseph Baker - Eastern Kentucky University, Samuel A. Morton, III - University of Kentucky, Laurel A. Morton - Eastern Kentucky University
43. **Synthesis of homoleptic nickel(II) complexes and examination of their coordination dynamics in solution.** ¹ Laura Bishop - Chris Mullins, Dr. Chris Mullins - Campbellsville University, Davinder Kumar - University of Louisville, Dr. Craig Grapperhaus - University of Louisville
44. **Syntheses of Assymmetric Dehydrobenzoannulenes.** ¹ Virginia Perleberg-Nobbe - Northern Kentucky University
45. **Reduction of heavy metals from drinking water by adsorption from limestone with a focus on zinc, copper and lead applications.** Swarna Latha Somasani - Western Kentucky University, Keerthy Mandadi - Western Kentucky University, Sindhu Tumati - Western Kentucky University, Dr. Cathleen Webb - Western Kentucky University

46. **Development of Ionic Liquid-Tagged Metalloporphyrin Catalysts for the Oxidative Depolymerization of Lignin in Ionic Liquid Solvents.** Joseph Baker - Eastern Kentucky University, Andrew Sharits - Eastern Kentucky University, Laurel Morton - Eastern Kentucky University
47. **Synthesis of Fluorescence-Quenching Amino Acids.**¹ Dallas Cook - Berea College, Russell Hammond - Berea College, Haotin Li - Berea College, Matthew Saderholm - Berea College
48. **Characterization of Internally-Quenched Fluorescent Peptide Substrates for the Peptidase Neurolysin.**¹ Elijah Whitaker - Berea College, Diego Moya - Berea College, Melanie Burt - Berea College, Julianna Dolan - Berea College, Matthew Saderholm - Berea College
49. **Molecular Dynamics Modeling of Aqueous Nitrate Solutions.**¹ Logan Eckler - Western Kentucky University, Dr. Matthew Nee - Western Kentucky University
50. **Poly (3-hexylthiophene)-functionalized silsesquioxane nanoparticles by "grafting-from" method using Grignard Metathesis.** Nicholas Wright - Western Kentucky University, Amar Patel - Western Kentucky University, Jenna Binion - Western Kentucky University, Hemali Rathnayake - Western Kentucky University
51. **Enzyme Stability Studies in Ionic Liquids.**¹ Kendra Hargis - Eastern Kentucky University, L. Hope Ellison - Eastern Kentucky University, Martin Brock - Eastern Kentucky University, Laurel A. Morton - Eastern Kentucky University
52. **Synthesis of Porous Elastomeric Beads for Solid Phase Micro Extraction.**¹ Brandon Farmer - Western Kentucky University, Matthew Nee - Western Kentucky University
53. **Quantification of Ethylene Glycol in Biological Samples Using Direct Analysis in Real Time Mass Spectrometry (DART-MS).**¹ Stephanie Kimball - Eastern Kentucky University, Darrin Smith - Eastern Kentucky University, Lori Smith - Veterinary Diagnostic Laboratory, Cynthia Gaskill - Veterinary Diagnostic Laboratory

COMPUTER AND INFORMATION SCIENCES

54. **Statistical Analysis of Microarray Gene Expression Data from a Mouse Model of Toxoplasmosis.** Shrikant Pawar - Western Kentucky University, Claire Rinehart - Western Kentucky University, Cheryl Davis - Western Kentucky University
55. **The ATLAS Tier3 Grid-Supercomputer at Bellarmine University.**¹ Meghan Allen - Bellarmine University, Akhtar Mahmood - Bellarmine University, Faiz Ahmad - Bellarmine University

56. **Models of Cyber Security Data Warehouse Intrusion Detection.** Karla Andrew - Western Kentucky University, Phillip Womble - Western Kentucky University, Keith Andrew - Western Kentucky University, Christopher Klaus - Drighton Research, Stacy Wilson - Western Kentucky University
57. **Bioinformatics support for collaborative research.** Daniel Harris - University of Kentucky, Elisaveta Arnaudova - University of Kentucky, Hannah Atkinson - University of Kentucky, Tommy Bullock - University of Kentucky, Zhenmin Lin - University of Kentucky, Neil Moore - University of Kentucky, Christopher L. Schardl - University of Kentucky, Jerzy W. Jaromczyk - University of Kentucky
58. **Next Allele: A pipeline for calling haplotypes in next generation sequencing datasets.** Charles Bullock - University of Kentucky, Eric O'Neill - University of Kentucky, Rachel Schwartz - Colorado State University, David Weisrock - University of Kentucky

SATURDAY MORNING, DANCE LOUNGE

CELLULAR AND MOLECULAR BIOLOGY

59. **LKB1 effect on MicroRNA expression in lung adenocarcinoma.**¹ Horton Li - Berea College, Jacob M. Kaufman - Vanderbilt University, Joseph M. Amann - Vanderbilt University, David P. Carbone - Vanderbilt University
60. **Synthesis and Characterization of beta-Lactum Antibiotic Capped Gold Nanoparticles.**¹ Helen Thompson - Western Kentucky University, Lakshmisri M Vangala - Western Kentucky University, Rajalingam Dakshinamurthy - Western Kentucky University
61. **Identification of Candidate Basement Membrane Degradors in *Drosophila*.**¹ Sean Shannon - Western Kentucky University, Ajay Srivastava - Western Kentucky University
62. **Identification of the *sox11b* promoter region and creation of transgenic *sox11b* promoter reporter lines.**¹ Lillian Seitz - Bellarmine University, Lakshmi Pillai - University of Kentucky, Wen Wen - University of Kentucky, Ann Morris - University of Kentucky
63. **The role of Activated Leukocyte Cellular Adhesion Molecule in Triple Negative Breast Cancer.** Cecilia Albers - Berea College, Bojana Jovanovic - Vanderbilt University, Brian Lehmann - Vanderbilt University, Shanna Arnold - Vanderbilt University, Joshua Bauer - Vanderbilt University, Jennifer Pietenpol - Vanderbilt University, Harold Moses - Vanderbilt University, Andreis Zijlstra - Vanderbilt University

64. **Genetic and biochemical analysis of germline stem cell development in *Drosophila*.** ¹ Sudan Loganathan - Murray State University, T. Michael Creed - Murray State University, Ming Gao - Murray State University, Jordan Davis - Murray State University, Yanyan Lin - Murray State University, Benjamin Turley - Murray State University, Alexey L. Arkov - Murray State University
65. **The Role of Bone Morphogenic Proteins in Mammary Gland Differentiation.** ¹ Charli Bobbitt - Berea College, Mary Aakre - Vanderbilt University, Agnes Gorska - Vanderbilt University, Anna Chytil - Vanderbilt University, Phil Owens - Vanderbilt University, Hal Moses - Vanderbilt University
66. **A Study of the Unique Potassium Transport of the MDA-MB453 Breast Cancer Cell Line.** ¹ Jordan R. Olberding - Western Kentucky University, Sarah A. Salyer - University of Louisville, Eleanor D. Lederer - University of Louisville, Syed J. Khundmiri - University of Louisville
67. **Runx1 Interacts With Delta Np63alpha to Regulate Target Genes.** ¹ Marceline G. Aengwanama - Berea College, Christopher E. Barton - Department of Biochemistry, Vanderbilt Ingram Cancer Center, Vanderbilt University, Nashville TN, 37232, Jennifer A. Pietenpol - Director, Vanderbilt Ingram Cancer Center, Vanderbilt University, Nashville TN, 37232
68. **Mapping Knobs in the Maize Genome.** ¹ Andrew M. Donovan - Kentucky Wesleyan College, Rasheen Ghaffari - University of Georgia, R. Kelly Dawe - University of Georgia
69. **Recombination Rates Between Variants of Chromosome-10 in *Zea mays*.** ¹ Josiah Zachary - Kentucky Wesleyan College, Lisa Kanizay - University of Georgia, R. Kelly Dawe - University of Georgia
70. **Study of hematopoietic development in *Drosophila* using loss of function RNAi analysis.** ¹ Sorna Kamara - Georgetown College, Cory J. Evans - UCLA, Utpal Banerjee - UCLA
71. **The Effect of Melatonin and Staurosporine on Apoptosis in ECC-1 Cells.** Emily Greene - Georgetown College, Katie Greer - Georgetown College, Dr. Tracy Livingston - Georgetown College
72. **The Effects of Estrogen and Progesterone on Apoptosis in ECC-1 Cells.** ¹ Katherine Greer - Georgetown College, Emily Greene - Georgetown College, Tracy Livingston - Georgetown College
73. **Elucidation of Mechanism of Anti *H.pylori* activity of Hesperidin by Determination of Modulated Expression Endogenous Biomarkers in Laboratory Rats.** Shrikant Pawar - Western Kentucky University, Pinaki Ghosh - Bharati Vidyapeeth Deemed University, Amit D. Kandhare - Bharati Vidyapeeth Deemed University, Tejas P. Gosavi - Bharati Vidyapeeth Deemed University, S. L. Bodhankar - Bharati Vidyapeeth Deemed University

HEALTH SCIENCES

74. ***Proterometra macrostoma* (Trematoda: Azygiidae): Effect of Serotonin and Melatonin on Redial Movement and Emergence of the Cercaria from the Redia and the Snail, *Elimia semicarinata* (Gastropoda: Pleuroceridae).**¹ Juliana Dolan - Berea College, Franceska Mehmeti - Berea College

75. **Hydrophobic interaction of 2-trifluoromethyl-N¹⁰-substituted phenoxazines with bovine serum albumin and reversal of drug resistance in bacterial cells.** K. N. Thimmaiah - Northwest MS Community College, J. L. Sylvester - Northwest MS Community College, M. Montgomery - Northwest MS

76. **Utilization of Plant-derived Cholera Toxin B subunit for Mass Vaccination against Cholera.**¹ Lauren Bennett - Kentucky Wesleyan College, Krystal Hamorsky - Owensboro Cancer Research Program, Nobuyuki Matoba - Owensboro Cancer Research Program, Department of Pharmacology and Toxicology and James Graham Brown Cancer Center

77. **Preventive methods for controlling allergy and asthma-inducing molds in Madagascar hissing-cockroach colonies.**¹ Brian Z. Hedges - Wittenberg University, Andrew J. Jajack - Wittenberg University, Patrick T. Tomko - Wittenberg University, Jay A. Yoder - Wittenberg University

78. **Prevalence of Metabolic Syndrome (MetS) in a Historically Black College and University Student Population.**¹ Courtney Pottinger - Kentucky State University, Avinash M. Tope - Kentucky State University, Phyllis F. Rogers - Kentucky State University

79. **Nitric Oxide Synthase Isoforms Plays a Role in Damaged and Regenerating Retina.** Brennan Carrithers - Georgetown College, Markie Dohrenwend - Centre College

80. **Innate Immune Recognition of Homologous Regions of the G Protein of Human Respiratory Syncytial Virus and Human Metapneumovirus.**¹ Beris Dizdar - Northern Kentucky University, El-Lante Byrd - Northern Kentucky University, Andrew Jones - Northern Kentucky University, Amy Weinstock - Northern Kentucky University, Joseph Mester - Northern Kentucky University

81. **Procedure for preparing purple sweet potato powder.** Lingyu Huang - Kentucky State University, Cecil Butler - Kentucky State University, Changzheng Wang - Kentucky State University

SATURDAY AFTERNOON **CURRIS CENTER, SMALL BALLROOM**

ECOLOGY AND ENVIRONMENTAL SCIENCE

1. **Macroinvertebrate community response to disturbance from thermo-erosional gullies in two Arctic headwater streams.** Jeffrey R. Kampman - Murray State University, Michael B. Flinn - Murray State University
2. **The effects of *Phragmites* management on auran diversity at Clear Creek Wildlife Management Area.**¹ Katlyn Hitz - Murray State University
3. **Assessing the effects of Amur honeysuckle control on native plant communities at Woodland Mound Park: Year 6.**¹ Tyler Broering - Northern Kentucky University, Richard Boyce - Northern Kentucky University
4. **The Fishes of the Jessamine Creek Watershed.**¹ Graham H. Howell - Asbury University, Ben F. Brammell - Asbury University
5. **Citizen Awareness of Invasive Plant Species in Kentucky.** John D. Sedlacek - Kentucky State University, Adam Gerughty - Kentucky State University, Jacob Botkins - Kentucky State University, Russell Williams - Kentucky State University, Mara Merlino - Kentucky State University, Tierra Freeman - Kentucky State University
6. **Winter Management of an Invasive Species, Garlic Mustard, *Alliaria petiolata*, in Wooded Habitat.** Jacob Botkins - Kentucky State University, Russell Williams - Kentucky State University, Adam Gerughty - Kentucky State University, John D. Sedlacek - Kentucky State University
7. **Testing the use of Lotek archival tags (LATs) for monitoring foraging activity in the Lake Erie Watersnake (*Nerodia sipedon insularum*).**¹ Lindsey Korfel - Wittenberg University
8. **A survey of the distribution and habitat preferences of the crayfish of Hickman and Jessamine Creek watersheds.**¹ Matthew W. Engler - Asbury University, Ben F. Brammell - Asbury University
9. **White Tailed Deer in Frankfort, Kentucky: Population Assessment and Implications for the Community.** Jon Cambron - Kentucky State University, Terrell Holder - Kentucky State University, Mark Rasche - Kentucky State University, Kiah Rodriguez - Kentucky State University, Mike Ward - Kentucky State University, John D. Sedlacek - Kentucky State University

10. **The effect of temperature on weight gain in hatchling Variable Kingsnakes, *Lampropeltis mexicana thayeri*.**¹ Benjamin A. Rausch - Wittenberg University, Stephanie K. Hurst - Wittenberg University, Richard S. Phillips - Wittenberg University
11. **Avian species diversity at seed feeders in rural and urban Ohio.**¹ Patrick M. Tomko - Wittenberg University, Lauren A. Meeks - Wittenberg University, Nicole E. Vrettos - Wittenberg University, Tiffany M. Edler - Wittenberg University, Richard S. Phillips - Wittenberg University
12. **Movement of *Peromyscus* in retired farmland habitat of Ohio.**¹ Alec M. Van Dyke - Wittenberg University, Richard S. Phillips - Wittenberg University
13. **Assessing Kentucky State University's Recycling Program.** Regie Smith - Kentucky State University, Rodney Ripberger - Kentucky State University, Brandan Burfict - Kentucky State University, Dustin Hodges - Kentucky State University, John D. Sedlacek - Kentucky State University
14. **Detection and mapping of invasive plant species and hiking trails at Indian Fort Mountain in Berea, KY.**¹ Katherine D. Webb - Berea College, Alyssa B. Hanna - Berea College
15. **Chemical alarm cue response in two centrarchid species exhibiting varying degrees of piscivory.**¹ Demetria M. Todd - Asbury University, Ben F. Brammell - Asbury University
16. **The Effect of Growing Tall Fescue Grass on Soil Organic Matter.** Topaz Prawito - Murray High School, Iin P. Handayani - Murray State University
17. **The effects of prescribed fire on amphibian and reptile diversity in an oak-grassland restoration area .** Robert Knopp - Murray State University, Howard Whitman - Watershed Studies Institute

ENGINEERING

18. **Reinventing the Electric Vehicle: Design of a flexible research vehicle for future studies at Berea College.**¹ Tierah Ellard - Berea College, Brian Easterday - Berea College, Jordan Monger - Berea College, Matthew Jenkins - Berea College
19. **A custom Matlab program for ERP feature detection in psychological and physiological disorders using wavelets.** Zachary A Clemans - University of Louisville, Ayman El-Baz Ph.D. - University of Louisville, Tato Sokhadze Ph.D - University of Louisville
20. **Toyota Prius Hybrid Plug-in.** Krishnanunni Unnikannan - Western Kentucky University, Dr Michael McIntyre - University of Louisville, Dr Doug Harper - Western Kentucky University, Robert Kessinger - Western Kentucky University, Megan Young - Western Kentucky University, Joesaph Lantham - Western Kentucky University

21. **Analysis of Induced Gamma Waveforms in ADHD and Autism via Data Alignment.** Eric Gross - University of Louisville, Ayman El-Baz - University of Louisville, Estate Sokhadze - University of Louisville, Lonnie Sears
22. **Electron Backscatter and Parametric Fracture Characterization of Concrete Disk Surfaces Imaged in a Large Chamber SEM.** Keith Andrew - Western Kentucky University, Shane Palmquest - Western Kentucky University, Edward Kintzel - Western Kentucky University, Marshall Henson - Western Kentucky University

GEOGRAPHY

23. **Multiple Storm Event Impacts on Epikarst Storage and Transportation of Organic Soil Amendments in South-Central Kentucky.** Sean Vanderhoff - Western Kentucky University, Jason Polk - Western Kentucky University, Chris Groves - Western Kentucky University, Ben Miller - WKU Hoffman Environmental Research Institute, Carl Bolster
24. **Evolving Tools for the Evaluation of Human/Landscape Interactions in Limestone Karst Terrains.** Victoria Allen - Western Kentucky University, Jason Polk - Western Kentucky University, Leslie North - Western Kentucky University, Chris Groves - Western Kentucky University, Taylor Hutchinson - Western Kentucky University
25. **Using Infographics to Promote Public Awareness of the Water Cycle and the Worldwide Water Crisis.** Jonathan Oglesby, Dr Leslie North, Dr Chris Groves and Dr Jason S Polk - WKU Hoffman Environmental Research Institute

GEOLOGY

26. **Dryosaurus specimens from the Aaron Scott Quarry (Jurassic, Morrison Formation) of Utah.¹** Nathaniel Hall - Northern Kentucky University, Janet Bertog - Northern Kentucky University
27. **Using ReMi to Develop a Subsurface Velocity Profile of a Landslide in Northern Kentucky.¹** Sean Reed - Northern Kentucky University, Thomas Brackman - Northern Kentucky University

MATHEMATICS

28. **Modeling Heat Transfer on Various Grids with Discrete Exterior Calculus.¹** Julie Lang - Morehead State University
29. ***A mathematical approach to polyphenisms in Ambystoma tigrinum nebulosum.*** Jeffrey Young - Murray State University, Morgan Geile - Murray State University

MICROBIOLOGY

30. **Growth kinetics of *Pseudomonas* subgroups isolated from a single human home.** Ogochukwu Onyiri - University of Louisville, Susanna Remold - University of Louisville
31. **Seroprevalence of *Trypanosoma cruzi* and other vector-borne pathogens in Kentucky canines.**¹ Travis W. Beeler - Western Kentucky University, Alison R. Emmert - Western Kentucky University, Debbie Reed - Murray State University, Cheryl D. Davis - Western Kentucky University

PHYSICS AND ASTRONOMY

32. **Laser Ablation of Boron Fullerenes.**¹ Marissa Brown - Berea College, Mackenzie Endres - Berea College, Rohan Isaac - Berea College, Tommy Boykin - Berea College, Amer Lahamer - Berea College
33. **Monte-Carlo Simulation Studies using the ATLAS Detector at the Large Hadron Collider (LHC) at CERN.**¹ Sean Dockery - Bellarmine University, Antonin Verlet-Benadri - Bellarmine University, Meghan Allen - Bellarmine University, Akhtar Mahmood - Bellarmine University, Faiz Ahmad - Bellarmine University
34. **Seismic Planar Wave Modeling.** Jacob Holbrook - Morehead State University, Dr. Babiuc - Marshall
35. **Spacetime Diagram Approach to Mapping Tachyonic (non)Causality.**¹ John M. Wilson - Western Kentucky University, Akhil Ghanta - Gatton Academy, Shane Masuda - Gatton Academy, Keith Andrew - Western Kentucky University
36. **Exploring Natural VLF Radio Emissions Using the INSPIRE VLF-3 Receiver .** Daniel Wayne Burton - Morehead State University, Jennifer Birriel - Morehead State University, Ignacio Birriel - Morehead State University
37. **Reflectance Properties of Ground Surfaces and The Implications for Night-Time Light Pollution.**¹ James T. Little - Morehead State University, Jennifer J. Birriel - Morehead State University
38. **Ground state energies and configurations of nanoclusters in 2 and 3 dimensions.**¹ James Peruggia - Berea College, Fidel Tewolde - Berea College, Martin Veillette - Berea College
39. **The Identification of Few Layer Graphene and the Growth of Nanoribbons on Silicon Nitride Substrates.**¹ Christopher B. Yaluma - Berea College

40. **Forensic Physics Application: A Stress Analysis on Ballistic Fabrics Using a Large Chamber Scanning Electron Microscope.**¹ Jason J. Leszczewicz - Western Kentucky University, Edward Kintzel - Western Kentucky University, Keith Andrew - Western Kentucky University
41. **Influence of Boundary Conditions on Metastable Lifetime for the Ising Model on Hyperbolic Plane.**¹ Dipendra Sharma Chapagain - Berea College, James T. Molchanoff - West Virginia Wesleyan University, Howard L. Richard - Marshall University
42. **Examination of Fossil Samples from an Electron Backscatter and SEM Survey of Surface Morphology Including the Cambrian Trilobite.** Kristopher Andrew - South Warren High School, Edward Kintzel - Western Kentucky University, Keith Andrew - Western Kentucky University, Karla Andrew - Western Kentucky University

PSYCHOLOGY

43. **A survey on the attitudes of athletes, coaches and athletic trainers toward sport-related concussions.**¹ Laura Hansen - Centre College, Chelsea Benham - Centre College, Kent Crick - Centre College, William George - Centre College, Leah Oberst - Centre College
44. **Dissociable Alcohol Effects on Emotion Recognition in College Students.**¹ Josh Stephens - Morehead State University, Sarah Schoenhagen - Morehead State University, Dr. Ilsun M. White - Morehead State University
45. **Brief Instruments to Assess Knowledge of Attention Deficit / Hyperactivity Disorder.** Sean P. Reilley - Morehead State University, Shawna K. McPherson - Morehead State University
46. **The Robust Beauty of Using Path Analysis to Explore Retention, Graduation, and Academic Performance at a Small Liberal Arts College.**¹ Kristina Carter - Berea College, Sara Dean - Berea College, Valerie Frost - Berea College, Alena Gordienko - Berea College, David Porter - Berea College
47. **Differential relations of shame and guilt to relational problems and coping styles.**¹ Lauren Young - Morehead State University, Carole J. Olson - Morehead State University, David R. Olson - Morehead State University

SCIENCE EDUCATION

48. **Graphing Skills in the General Chemistry Laboratory.**¹ Kevin Beers - Northern Kentucky University, Kereen Monteyne - Northern Kentucky University

SATURDAY AFTERNOON, DANCE LOUNGE

PHYSIOLOGY AND BIOCHEMISTRY

49. **Crayfish hindgut: a model system for examining central and peripheral control mechanisms.**¹ Potenza, J.B. - Transylvania University, Holsinger, R.C. - University of Kentucky, LeBlancq, M.J. - Brock University, St. Catharines, Mercier, A.J. - Brock University, St. Catharines, Cooper, R.L. - University of Kentucky
50. **Heart and ventilatory measures in crayfish during copulation.** R.M. Cooper - Lafayette High Sch, H. SCHAPKER-FINUCANE - University of Kentucky, M. ADAMI - University of Kentucky, R.L. Cooper - University of Kentucky
51. **Analysis of Lipid Composition of Human Meibum, Using Matrix Assisted Laser-Desorption Ionization Time-of-Flight Mass Spectrometry, in Relation to Age.**¹ Evelyn Robuck - Asbury University, Douglas Borchman - University of Louisville, Bruce Branan - Asbury University
52. **Metabolism of Alkylanilines by Genetic Variants of Human N-acetyltransferase 1.**¹ Aaron Carrithers - Transylvania University, Mark Doll - University of Louisville, David Hein - University of Louisville
53. **Motor nerve transection produces rapid synaptic depression.**¹ Ann S. Cooper - University of Kentucky, R.L. Cooper - University of Kentucky
54. **GlioLab: Development of a CubeLab Platform for International Space Station Based Biomedical Research.**¹ Will L. Grey - Morehead State University, Cara E. DeMoss - Morehead State University, Darrin L. DeMoss - Morehead State University, Benjamin K. Malphrus - Morehead State University
55. **Pathophysiological conditions with hypercalcemia.**¹ M. Crum - University of Kentucky, M.M. Robinson - University of Kentucky, A.D. Robinson - University of Kentucky, R.L. Cooper - University of Kentucky
56. **Utilizing Split-Ubiquitin Membrane Yeast Two-Hybrid System in order to Identify Protein Interactions With G-Protein Coupled Receptor nob5.**¹ Matthew G. Dudgeon - Georgetown College, MATTHEW C. SMITH - University of Louisville, RONALD G. GREGG - University of Louisville
57. **Adenosine Receptors Modulate Sodium Uptake in Human Renal Proximal Tubule Cells.**¹ Andrew Howard - Centre College, Earl H. Rudolph - Georgetown University, William J. Welch - Georgetown University

58. **Spermiogenesis and spermatid ultrastructure within the Imbricate Alligator Lizard, *Barisia imbricate*.**¹ Katherine F. Touzinsky - Wittenberg University, Justin Rheubert - Saint Louis University, Kevin Gribbins - Wittenberg University
59. **Use of gene expression in native sunfish as a biomarker of contaminant exposure.** Ben F. Brammell - Asbury University, David K. Peyton - Morehead State University, Kelly R. Barnett - Morehead State University, Joshua C. Ferrell - Morehead State University, Andrew J. Wigginton - University of Kentucky
60. **Comparison of Motor and Cognitive Function in Two Substrains of C57BL/6 Mice.**¹ Amy Ashworth - Northern Kentucky University, Jocelyn Fowler - Northern Kentucky University, Mary McKay - Northern Kentucky University, Christine Perdan Curran - Northern Kentucky University
61. **Genetic differences in motor function in mice exposed to polychlorinated biphenyls (PCBs) during gestation and lactation.**¹ Helen Garber - Northern Kentucky University, Amy Ashworth - Northern Kentucky University, Jocelyn Fowler - Northern Kentucky University, Mary McKay - Northern Kentucky University, Christine Perdan Curran - Northern Kentucky University
62. **Is there evidence of trade-offs in cognitive ability and immunocompetence in adult white-footed mice (*Peromyscus leucopus*)?**¹ Shelby Blalock - Murray State University, Laura Francisco - Murray State University

ZOOLOGY

63. ***Proterometra macrostoma* (Trematoda: Azygiidae): Location of the Redia and Emergence Path from the Snail Intermediate Host, *Elimia semicarinata* (Gastropoda: Pleuroceridae).**¹ Erica Berg - Berea College, Bailey King - Berea College, Michon Martin - Berea College
64. **An observational study of a parasitic blowfly (*Protocalliphora deceptor*) in the nests of Carolina chickadees (*Parus carolinensis*).**¹ Cassie Volker - Northern Kentucky University, Allison Rigger - Northern Kentucky University, Ashley Haws - Northern Kentucky University, Lindsey Walters - Northern Kentucky University
65. **Parental care by Carolina chickadees, *Parus carolinensis*.**¹ Ashley Haws - Northern Kentucky University, Allison Rigger - Northern Kentucky University, Cassie Volker - Northern Kentucky University, Lindsey Walters - Northern Kentucky University
66. **White-footed Mice (*Peromyscus leucopus*) and Deer Mice (*Peromyscus maniculatus*): Identification and Potential Population Shifts in Kentucky and Minnesota.**¹ Samantha Stewardson - University of Pikeville, Stephanie Blair - University of Pikeville, Joseph Whittaker - Concordia College

67. **Ectoparasites load on *Peromyscus* from Kentucky forest sites.**¹
Stephanie Blair - University of Pikeville, Samantha Stewardson - University of Pikeville, Joseph C. Whittaker - Saint Catharine College
68. **High temperature resistance for success of the red velvet mites in the landscape.**¹ Nicole A. Perry - Wittenberg University, Patrick M. Tomko - Wittenberg University, Brian Z. Hedges - Wittenberg University, Jay A. Yoder - Wittenberg University
69. **Female bed bugs exhibit reduced ability to maintain water balance after multiple traumatic insemination events.**¹ Andrew J. Jajack - Wittenberg University, Nicole A. Perry - Wittenberg University, Brian Z. Hedges - Wittenberg University, Jay A. Yoder - Wittenberg University
70. **Effect of water on the hatching success of tick eggs.** Jay A. Yoder - Wittenberg University, Benjamin A. Rausch - Wittenberg University, Brian Z. Hedges - Wittenberg University
71. **DNA Barcodes and the Origin of the Caribbean Cicada Killer Wasp.**¹
Whitney Thomas - Northern Kentucky University, Amanda Couch - Northern Kentucky University, Zach Malmstrom - Northern Kentucky University, Jon M. Hastings - Northern Kentucky University, Maggie Whitson - Northern Kentucky University, Patrick J. Schultheis - Northern Kentucky University
72. **Beyond mtDNA: morphology and nuclear gene flow suggests taxonomic oversplitting in the ringneck snake *Diadophis punctatus*.** Frank M. Fontanella - Morehead State University
73. **Measurement of differential acid concentration along the developing gastrointestinal tract of tadpoles with an improved pH microprobe.**¹
Sarah Cross - Northern Kentucky University
74. **A dissolved oxygen microprobe for measuring gut anaerobic fermentation in developing vertebrates.**¹ Katherine Bachman - Northern Kentucky University, Kelsey Carnahan - Northern Kentucky University, Dr. Richard Durtsche - Northern Kentucky University
75. **Male green salamanders, *Aneides aeneus*, may help defend some nest sites.** Paul V. Cupp, Jr. - Eastern Kentucky University
76. **Thermal tolerance and acclimation in house crickets, *Acheta domesticus*.**
Paul V. Cupp, Jr. - Eastern Kentucky University

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1960-1961	H. H. LaFuze	2009	Robin Cooper
1961-1962	Charles Whittle	2010	Nancy Martin

Past Meeting Locations of the Kentucky Academy of Science

1914-33	No records available	1969	Murray State University
1935	University of Kentucky	1970	Georgetown College
1936	Western Kentucky State College	1971	Eastern Kentucky University
1937	University of Louisville	1972	Morehead State University
1938	Morehead College	1973	Transylvania College
1939	Murray State College	1974	Centre College
1940	University of Kentucky	1975	University of Louisville
1941	Eastern Kentucky State College	1976	University of Kentucky
1942	University of Kentucky	1977	Western Kentucky University
1943	University of Louisville	1978	Eastern Kentucky University
1944	University of Kentucky	1979	Northern Kentucky University
1945	No annual meeting	1980	Transylvania University
1946	University of Louisville	1981	Murray State University
1947	Western Kentucky State College	1982	Ashland Oil, Inc.
1948	University of Kentucky	1983	University of Louisville
S1949	Cumberland Falls State Park	1984	Kentucky State University
F1949	Eastern Kentucky State College	1985	Morehead State University
1950	University of Louisville	1986	Lexington, Ky (with SSMA)
1951	University of Kentucky	1987	Western Kentucky University
1952	Georgetown College	1988	Eastern Kentucky University
S1953	Ashland	1989	University of Kentucky
F1953	University of Kentucky	1990	Northern Kentucky University
S1954	Berea College	1991	Owensboro
F1954	University of Louisville	1992	Ashland Community College
S1955	Cumberland Falls State Park	1993	Georgetown College
F1955	Kentucky State College	1994	Paducah Community College
1956	Eastern Kentucky State College	1995	Western Kentucky University (Joint Meeting with TAS)
S1957	Western Kentucky State College and Mammoth Cave State Park	1996	Kentucky State University
F1957	Berea College	1997	Morehead State University
S1958	National Bridge State Park	1998	Jefferson Community College, S.W.
F1958	University of Kentucky	1999	Eastern Kentucky University
S1959	Lake Cumberland State Park	2000	University of Kentucky
F1959	Western Kentucky State College	2001	Middle Tennessee State (Joint Meeting with TAS)
S1960	Murray State College	2002	Northern Kentucky University
F1960	University of Louisville	2003	Western Kentucky University
S1961	Morehead State College	2004	Murray State University
F1961	University of Kentucky	2005	Eastern Kentucky University
1962	Eastern Kentucky State College	2006	Morehead State University
1963	University of Kentucky	2007	University of Louisville
1964	Morehead State College	2008	University of Kentucky
1965	University of Kentucky	2009	Northern Kentucky University
1966	Kentucky Wesleyan College	2010	Western Kentucky University
1967	University of Louisville		
1968	Western Kentucky University		

97th Annual Meeting of the Kentucky Academy of Science
November 2011
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