

WELCOME

TO THE 95TH ANNUAL MEETING OF THE KENTUCKY ACADEMY OF SCIENCE

Northern Kentucky University is pleased to host this year's annual meeting of the Kentucky Academy of Science. We are happy to have the opportunity to hold the meeting on campus and to have students as well as faculty interact with colleagues from across the state.

This year marks the largest KAS meeting in its 95-year history. More than 700 are expected to be in attendance, with 392 poster and oral presentations to be presented. In addition, we have exciting special presentations at the Symposium, Plenary Session and Awards banquet.

Friday evening we will celebrate the 400th anniversary of Galileo's use of the telescope to view beyond the earth. Planetarium shows at NKU's Haile Digital Planetarium and telescopes for star-gazing will complement the Symposium Lecture given in the Otto Budig Theater, located in the University Center. The evening will conclude with a social at the University Center.

All the poster and oral presentations will be on Saturday. Oral presentations will be held in either the Dorothy Westerman Herrmann Science Center or adjacent in the Landrum Academic Center. Posters will be presented in the University Center Ballroom. The Plenary Session will be held in the Otto Budig Theater, followed by a reception prior to the Annual Awards Banquet in the new Student Union.

Free parking will be provided both on Friday and Saturday in the Kenton Drive Parking Garage, located across from the Student Union on Kenton Drive. We wish you an enjoyable and engaging 95th KAS annual meeting.

The 95th KAS Annual Meeting
Local Arrangements Committee

KENTUCKY ACADEMY OF SCIENCE

95th Annual Meeting

November 13 - 14, 2009

Hosted by Northern Kentucky University

Highland Heights, KY

GOVERNING BOARD

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Sean Reilley (2012 - Social Sciences).....	Morehead State University
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Claire Rinehart (Editor, Webpage).....	Western Kentucky University
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SYMPOSIUM

Friday, November 13, 2009
Budding Theater - University Center
6:30 - 7:30 p.m.

Presiding: Dr. Heather Bullen
Assistant Professor of Chemistry
Northern Kentucky University

**“Massive Open Star Clusters in Our Galaxy:
Studying the Known and Deducing the Unknowns”**

Margaret Hanson, Ph.D.
University of Cincinnati



Margaret M. Hanson received her Ph.D. degree in Astrophysics from the University of Colorado at Boulder in 1995. That same year she was awarded a Hubble Space Telescope Post-doctoral Fellowship, used to fund a three year appointment at Steward Observatory, at the University of Arizona, in Tucson. She began her position as assistant professor of physics at the University of Cincinnati in 1998. She is now full professor

of physics. Her research activities involve near-infrared spectral studies of stars with high mass and the massive clusters which form them. She has over 50 publications in scientific journals and has been awarded numerous national grants for her work totaling nearly a million dollars. She has been granted time on some of the largest and most competitive telescopes in the world, such as the 8-meter Subaru telescope on Mauna Kea, Hawaii, and most recently on the ESO Very Large Telescope, also 8-meter class, located in Northern Chile. In 2002, Dr. Hanson was awarded the Edith C. Alexander Award for Excellence in Teaching from the McMicken College of Arts & Science. She was honored in 2003 as a Leading Women in Cincinnati for her science outreach work to girls and young women in the community. Presently, she is in her 5th year serving as the Associate Editor-in-Chief of The Astronomical Journal, one of the leading international journals for astrophysics.

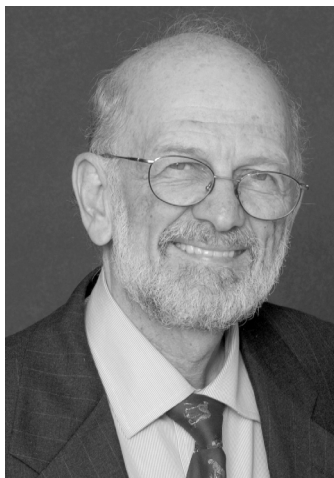
PLENARY SESSION

Saturday, November 14, 2009
Budding Theater - University Center
4:15 - 5:15 p.m.

Presiding: Dr. Robin Cooper
President - KAS
University of Kentucky

“Trace Analysis by Mass Spectrometry: Physics, Chemistry and Biology”

Graham Cooks, Ph.D.
Distinguished Professor of Chemistry
Purdue University



Graham Cooks was born in South Africa and received a Ph. D. at the University of Natal, Pietermaritzburg and also from Cambridge University, UK. He is a Distinguished Professor of Chemistry at Purdue University. His interests involve construction of mass spectrometers and their use in fundamental studies and applications. Early in his career, he worked on energy partitioning during metastable ion fragmentation and contributed to the concept and implementation of tandem mass spectrometry and to desorption ionization, especially matrix-based methods. His interest in minimizing sample work-up and avoiding chromatography contributed to the development of the ambient ionization methods, including desorption electrospray ionization (DESI).

Applications of this method in tissue imaging, forensics and pharmaceuticals are in progress. These same interests also led to the construction of miniature ion trap mass spectrometers and their application to problems of trace chemical detection. His interests in the fundamentals of ion chemistry include chiral analysis and spontaneous chiral resolution in clusters and the possible role of the amino acid serine in the biochemical origins of life. Graham Cooks is a past President of the American Society for Mass Spectrometry and the International Mass Spectrometry Society and a Life Member of the British Mass Spectrometry Society. He has had the pleasure of working with several hundred collaborators from around the world including a hundred Ph. D. students..

AWARDS BANQUET SPEAKER

Saturday, November 14, 6:30 – 9:00 p.m.
Student Union, Room 107

“Engineers – Our Opportunities are Limitless”

Dr. Len Peters, Ph.D.

Secretary for Energy and Environmental Matters
Commonwealth of Kentucky



Governor Steve Beshear’s choice to oversee Kentucky’s energy and environmental protection program is an internationally renowned chemical engineer with demonstrated leadership in research, academia, and management. Dr. Leonard Peters served for the past five years with Battelle Memorial Institute, a leading non-profit applied science and technology development company. During his tenure at Battelle, Dr. Peters was senior vice president and director of the Pacific Northwest National Laboratory, where he oversaw a staff of 4,200. Under his leadership, he realigned the laboratory’s research priorities to meet the needs of its diverse customer base. Dr. Peters has held senior academic and administrative positions at leading universities, including Virginia Tech and the

University of Kentucky. He holds a doctorate in chemical engineering from the University of Pittsburgh and is a prolific author and lecturer. Dr. Peters has been recognized for his achievements with honors ranging from the National Science Foundation Award to the Oak Ridge Associated Universities’ Outstanding Leadership Award.

Kentucky Society of Professional Geologists

13TH ANNUAL FALL CONFERENCE



The purpose of the Kentucky Society of Professional Geologists (KSPG) is to advance the profession, practice, and science of Geology within the Commonwealth of Kentucky. Building on the fifty-year history of the Geological Society of Kentucky, the KSPG was created in 1997 to support and promote Kentucky's program for registration of Professional Geologists. Additional objectives of the Society include providing a forum for disseminating information and educational activities throughout the geological community. Our membership comprises professional scientists, educators, and students. We are pleased to hold our 13th Annual Fall Conference in conjunction with the Kentucky Academy of Science.

More information about the KSPG including an application for membership is available on our website: <http://www.kspg.org>. Annual dues are \$20.

KSPG Meeting Schedule for Saturday, November 14.

8:00am-9:30am	Geology Oral Papers.....	Room 304 Science Center
9:30am-10:00am	Refreshment Break	Science Center Room 300
10:00am -11:00am	KAS Geology Section Meeting and KSPG Business Meeting	Room 304 Science Center
11:00am -12:30am	Geology Posters.....	Ball Room-University Center
.	Lunch on your own	
12:30pm-5:30pm	KSPG Field Trip departs	Science Center Lobby
5:30pm-6:30pm	KAS Business Meeting and Reception.	Room 104 - Student Union
5:30pm-6:30pm	Student Reception.....	Rooms 101 and 102 – Student Union
6:30pm-9:00pm	ANNUAL AWARDS BANQUET	Room 107 - Student Union

PROGRAM SUMMARY

FRIDAY, NOVEMBER 13, 2009

- 9:00am-4:30pm KBRIN - NIH Proposal Development Workshop
Room 105 - Student Union
- 3:00pm-5:00pm KAS Governing Board Meeting
Room 108 - Student Union
- 5:30pm-7:00pm Registration Main Lobby - University Center
- 5:45pm-6:15pm Planetarium Show - *Imagination, Art, Science*
 Haile Digital Planetarium – 4th Floor - Science Center
- 6:30pm-7:30pm **SYMPOSIUM** Budding Theater - University Center
**“Massive Open Star Clusters in our Galaxy:
 Studying the Known and Deducing the Unknown.”**
 Margaret Hanson, Ph.D.
 Professor of Physics - University of Cincinnati
- 7:45pm-8:30pm Planetarium Show - *Earth, Moon, Sun*
 Haile Digital Planetarium - 4th Floor - Science Center
- 8:30pm- 9:15pm Planetarium Show - *Two Small Pieces of Glass*
 Haile Digital Planetarium - 4th Floor - Science Center
- 7:45pm-8:15pm KAS Sectional Officers Meeting
Room 108 - Student Union
- 7:45pm-10:00pm Social.....Upper Lobby - University Center

SATURDAY, NOVEMBER 14, 2009

- 7:00am - 5:00pm Registration Main Lobby - University Center
- 7:00am - 10:00am Refreshments Main Lobby - University Center
- 8:00am - 4:00pm Vendor’s Exhibits..... Main Lobby - University Center
- 8:00am -9:30am Paper Sessions See Table of Contents
- 9:30am -10:00am Refreshment Break
 Science Center 300, Landrum 427, University Center
- 10:00am -11:00am. Kentucky Society of Professional Geologists
 Business Meeting SC - Room 304
- 10:00am-11:30am Paper Sessions See Table of Contents
- 8:00am-11:30am Scientific Posters on Display (Session 1)
 Ballroom - University Center

- 10:00am-11:30am Kentucky Community & Technical College Meetings
 Faculty Meeting..... Landrum Bldg. - Room 205
 Biology Faculty Landrum Bldg. - Room 205
 Chemistry Faculty Landrum Bldg. - Room 203
 Physics Faculty..... Landrum Bldg. - Room 207
- 11:30am- 12:45pm Lunch (see list of possibilities in registration folder)
- 12:00pm- 12:45pm Planetarium Show - *Two Small Pieces of Glass*
Haile Digital Planetarium - 4th Floor - Science Center
- 11:30am-12:45pm KAS Past President’s Luncheon.....Room 104 - Student Union
- 1:00pm-2:15pm Paper Sessions See Table of Contents
- 2:15pm-2:45pm Refreshment Break
 Science Center 300, Landrum 427, University Center
- 1:00pm-4:00pm Scientific Posters on Display (Session 2)
 Ballroom - University Center
- 4:15pm-5:15pm **PLENARY SESSION** Budding Theater - University Center
“Trace Analysis by Mass Spectrometry: Physics, Chemistry and Biology”
 Graham Cooks, Ph.D.
 Purdue University
- 5:30pm - 6:30pm Annual KAS Business Meeting and Reception
Room 104 - Student Union
- 5:30pm-6:30pm Student Reception..... Rooms 101 and 102 - Student Union
- 6:30pm-9:00pm **ANNUAL AWARDS BANQUET**
Room 107 - Student Union
“Engineers – Our Opportunities are Limitless”
 Len Peters, Ph.D.
 Secretary of the Energy and Environment Cabinet
 Commonwealth of Kentucky

Northern Kentucky University Local Arrangement Committee

Charlie Bowen

Rick Boyce

Wayne Bresser

Heather Bullen

Chris Curran

Dan Curtain

Dick Durtsche

Tiffany Freytag

Patrick Hare

Vern Hicks

Miriam Steinitz-Kannan

Eimear Mullen

Scott Nutter

KC Russell

Dan Spence

Maggie Whitson

PRESENTATIONS

AGRICULTURAL SCIENCES

Martin Stone, Chair
Western Kentucky University

Karen Friley, Secretary
Kentucky State University

SATURDAY, NOVEMBER 14, 2009
LANDRUM 100

- 8:00 am **Flower and Synthetic HIPPO Attractancy of Four Common Lady Beetle Species** John D. Sedlacek - Kentucky State University, Daniel J. Sedlacek - St. Leo School, Versailles, KY, Karen L. Friley - Kentucky State University
- 8:15 am **Beneficial Insects in Organically Grown Late-Planted Sweet Corn Baited with Methyl Salicylate-Based PredaLure® Insect Attractant.** Leslye S. Brent - Kentucky State University, John D. Sedlacek - Kentucky State University, Karen L. Friley - Kentucky State University, Michael K. Bomford - Kentucky State University
- 8:30 am **Effect of biofumigation and soil solarization on *Sclerotinia sclerotiorum* in high tunnel vegetable production systems in Kentucky** Brian Geier - Kentucky State University, Michael Bomford - Kentucky State University, Paul Vincelli - University of Kentucky, George Antonious - Kentucky State University
- 8:45 am **Kentucky yield projections for biofuel feedstock crops** Michael Bomford - Kentucky State University
- 9:00 am **The Economic Performance of Mulch Color and Cultivar Selection for Tomato (*Lycopersicon esculentum*) Production in Kentucky** Stephen A. King - Western Kentucky University, Martin J. Stone - Western Kentucky University, Stephen T. Flomo - Western Kentucky University
- 9:15 am **Identification of the Optimal Solvent for Acetogenin Compound Extraction from Pawpaw Ripe Fruit Pulp** Dorothy Badoo - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Kirk W. Pomper - Kentucky State University, Sheri B. Crabtree - Kentucky State University, Hideka Kobayashi - Kentucky State University, Changzheng Wang - Kentucky State University
- 9:30 am **Break** - Science Center 300, Landrum 427, University Center
- 10:00 am **Seedling Rootstock, Scion Cultivar, and Pruning Effects on Yield of Pawpaw** Sheri B. Crabtree - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University

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- 10:15 am **Heirloom and Hybrid Tomato Yield in Organic and Conventional Production Systems.** ² Diana Edlin - Western Kentucky University, Martin Stone - Western Kentucky University, Stephen Flomo - Western Kentucky University, Elmer Gray - Western Kentucky University, Nathan Howell -
- 10:30 am **Investigation of Yield and Quality of Grafted, Heirloom, and Hybrid Tomatoes.** ² Stephen Flomo - Western Kentucky University, Dr. Martin Stone - Western Kentucky University, Dr. Elmer Gray - Western Kentucky University, Diana Edlin - Western Kentucky University, Nathan Howell - University of Kentucky
- 10:45 am **Generation of transgenic *Medicago sativa* expressing "osmotin-chitinase" gene chimera for conferring resistance towards various biotic and abiotic stresses** ² Jahnavir. Kancharla - Western Kentucky University, Ajay Jain - Western Kentucky University, Shivendra V. Sahi - Western Kentucky University
- 11:00 am **Watershed Land Use Impacts on Soil Organic Pools** ² Robert S. Tokosh - Murray State University, Iin P. Handayani - Murray State University
- 11:15 am **Bensulide Residues in Runoff Water from Agricultural Soil** George Antonious - Kentucky State University
- 11:30 am **Heavy Metals in Squash Fruits Grown in Soil Amended with Sewage Sludge** George Antonious - Kentucky State University
- 11:45 am **Lunch** (*see list of possibilities in registration folder*)
- 1:00 pm **Can Pawpaw Fruit Extract be Used to Manage Striped Cucumber Beetle on Squash?** Karen L. Friley - Kentucky State University, John D. Sedlacek - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Kirk W. Pomper - Kentucky State University
- 1:15 pm **An evaluation of the chemopreventive properties of different pawpaw varieties.** ¹ Stephanie M. Kortyka - Bellarmine University, Kirk W. Pomper - Kentucky State University, Dave L. Robinson - Bellarmine University, Joann M. Lau - Bellarmine University
- 1:30 pm **Quantification of Napropamide and Trifluralin in Soil** ¹ Rachel Hayden - Kentucky State University
- 1:45 pm **Effects of Heat and Altered Precipitation on Overall Growth of Selected Species in Managed Grassland** ¹ Jarred Earnest - Asbury College, Rebecca L. McCulley - University of Kentucky, Bruce Branan - Asbury College
- 2:00 pm **Using Simple Sequence Repeat Markers to Evaluate Genetic Diversity Among Native Pawpaw Patches in Iowa and Kentucky** ¹ Jessica N. Durham - Kentucky State University, Li Lu - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Sheri B. Crabtree - Kentucky State University

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- 2:15 pm **Business Meeting & Selection of Officers**
- 2:30 pm **Break** - *Science Center 300, Landrum 427, University Center*
- 2:45 pm **Comparison of Two Spacing Methods for Mixed Plantings of Lettuce and radish.** ¹ John Rodgers - Kentucky State University, Michael Bomford - Kentucky State University, Brian Geier - Kentucky State University
- 3:00 pm **Comparison of Morphotype Percentages of Three Different Genetic Strains of the Freshwater Prawn (*Macrobrachium rosenbergii*) Raised in Ponds in Kentucky** ¹ Latoyah N. Elliott - Kentucky State University
- 3:15 pm **Yield and Quality of Sweet Potatoes Grown in Municipal Sewage Sludge** Eric T Turley - Kentucky State University, George F. Antonious - Kentucky State University
- 3:30 pm **Soil Amendments Modified Antioxidants Content of Sweet Potato Roots** Regina Hill - Kentucky State University, George F. Antonious - Kentucky State University
- 3:45 pm **Effect of Different Schedules of Baby Corn (*Zea Mays* L.) Harvests on Baby Corn Yield, Grain Yield, and Economic Profit Value** Zheng Wang - Western Kentucky University, Elmer Gray - Western Kentucky University, Martin Stone - Western Kentucky University
- 4:00 pm **Break**
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

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ANTHROPOLOGY AND SOCIOLOGY

Cheryl Pan, Chair
University of Kentucky

Lincoln Sloas, Secretary
Morehead State University

SATURDAY, NOVEMBER 14, 2009 LANDRUM 203

- 8:00 a.m. **Clear as Mud: Finding and Utilizing Nonprofits.** Melony Stambaugh - Northern Kentucky University
- 8:15 a.m. **Perception of sweet potatoes as a food source for people in Kentucky** Changzheng Wang - Kentucky State University, Cecil Butler - Kentucky State University, Lingyu Huang - Kentucky State University
- 8:30 a.m. **Cultural Models of Nature and Conservation in Northern Kentucky** Dr. Douglas Hume - Northern Kentucky University
- 8:45 a.m. **Technological advancement and adult learning/education opportunities** Samantha Gambill - Northern Kentucky University, Yushi (Boni) Li - Northern Kentucky University
- 9:00 a.m. **The Impacts of Technological Advancement on Local Community Attachment** Jamie Cupp - Northern Kentucky University, Boni Li - Northern Kentucky University
- 9:15 a.m. **Evaluation of a Chinese dance education program for school children** ² Cheryl Pan - University of Kentucky
- 9:30 a.m. **Business Meeting & Selection of Officers**
- 9:45 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

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BOTANY

Allen Risk, Chair
Morehead State University

Lawrence Alice, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 14, 2009 SCIENCE CENTER 302

- 8:30 a.m. **Additions, Confirmations, and Exclusions to the 2005 printing of Plant Life of Kentucky.** Ronald L. Jones - Eastern Kentucky University
- 8:45 a.m. **Epiphyllous bryophytes in the Appalachian Plateau of Kentucky and Tennessee** Allen C. Risk - Morehead State University, Channing Richardson - Oklahoma State University, Paul G. Davison - University of North Alabama
- 9:00 a.m. **Seven characteristics of highly effective (and ancient) angiosperm trees** Neil Pederson - Eastern Kentucky University
- 9:15 a.m. **The partitioning of vascular plant diversity in a sandstone gorge in eastern Kentucky: a mesohabitat approach.** Allen C. Risk - Morehead State University
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **Hybridization in *Rubus* (Rosaceae) including *R. ursinus* and the "kudzu of California."** Lawrence Alice - Western Kentucky University, Ruby Chang - Western Kentucky University, Brittany L. Sutherland - Eastern Kentucky University
- 10:15 a.m. **Plant biodiversity surrogacy: a case study from a sandstone gorge ecosystem in eastern Kentucky** Allen C. Risk - Morehead State University
- 10:30 a.m. **Evaluation of Genetic Variation Among Native Pawpaw Patches at the Environmental Education Center at Kentucky State University**¹ La'Quida Bowie - Kentucky State University, Li Lu - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Sheri B. Crabtree - Kentucky State University, William Stilwell - Kentucky State University
- 10:45 a.m. **Business Meeting & Selection of Officers**
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

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CELLULAR AND MOLECULAR BIOLOGY

Dawn Anderson, Chair
Berea College

Joseph Mester, Secretary
Northern Kentucky University

SATURDAY, NOVEMBER 14, 2009 SCIENCE CENTER 308

- 8:00 a.m. **Apoptosis of pre-osteoclasts by novel bisphosphonate and alendronate** ² Jivan Yewle, David Puleo and Leonidas Bachas - University of Kentucky
- 8:15 a.m. **The Role of Chlamyrodopsin Protein in the Light Entrainment of the Circadian Clock in Chlamydomonas reinhardtii** ² Shravya Maddi - Western Kentucky University
- 8:30 a.m. **Association of Germline Variants of the *TGFBR1* Gene in Colorectal Cancer Patients** ¹ Kevin Murray, James Schaeper, Jessica DeBrosse, Briana, Sunnie Wang, Larry Douglass, Julia Carter, and Vogt - Wood Hudson Cancer Research Laboratory
- 8:45 a.m. **DNA Sequence Variation in the wingless Gene Product: A Putative Morphogen for Patterning the Eyespot Foci of Buckeye Butterflies (genus *Junonia*)**. ¹ Bonnie S. McCullagh and Jeffrey M. Marcus - Western Kentucky University
- 9:00 a.m. **Influence of ethanol on NKT cell function during hepatic fibrogenesis**. ¹ Prerana P. Aghamkar - Asbury College, Ian N. Hines - University of North Carolina School of Medicine, Bobby R. Baldrige - Asbury College
- 9:15 a.m. **Characterization of the protein pheromones of the salamander *Plethodon cinereus*** ¹ Cristin C. Samuels - Bellarmine University, Kathleen E. Bowen, Damien B. Wilburn, Pamela W. Feldhoff and Richard C. Feldhoff - University of Louisville
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **Myelin-specific antibodies play an important role in PLP₉₁₋₁₁₀ induced EAE in HLA transgenic mice** ¹ Dikshya Bastakoty - Berea College, Ashutosh Mangalam and Chella A. David - Mayo Graduate School
- 10:15 a.m. **Identification of breast tumorigenic cells in a three-dimensional bone colonization assay in vitro** ¹ Kabindra Kafle - Berea College, Joel A. Cassler, Amanda Golemba and Ellen J. Gunn - Purdue University, Julia Kirshner - Purdue University Cancer Center
- 10:30 a.m. **Colocalization of tyrosine hydroxylase with VIP and ChAT in**

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²Graduate Research Competition

- interneurons in the developing rat cerebral cortex**¹ Laura Hench, Donald Allen, Sarah Hawkins, Talha Ijaz and Steve Asmus - Centre College
- 10:45 a.m. **A system for quantifying MutYh-mediated repair activity in mammalian cells using luminescence assays.**¹ Oliver Munyaradzi - Berea College, Alan Raetz and Davis, Sheila S. David - University of California, Davis
- 11:00 a.m. **The Effects of Oxidative Stress on the Expression of OAT1B3 and LMP7 in HCT-8 Colon Cancer Cells.**¹ Joshua Spicer - Asbury College, Woon Lee - University of Kentucky
- 11:15 a.m. **Differential responses of CD4+ and CD8+ cells to super-antigen stimulation**¹ Miluka Gunaratna - Berea College, Ashenafi Tilahun and Govindarajan Rajagopalan - Mayo Graduate School
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 1:00 p.m. **The effect of two drug models on the metastatic migration and viability of PC3, DU145 and Talin-1 over-expressing prostate cancer cells.**¹ Samantha Hargett - Asbury College, Shinichi Sakamoto, Meng Lei Zhu and Natasha Kyprianou - University of Kentucky
- 1:15 p.m. **The Impact of Human Respiratory Syncytial Viral Peptides on Human Natural Killer Cells and Macrophages**¹ Andrew Jones, El-Lantae' Byrd and Joseph Mester - Northern Kentucky University
- 1:30 p.m. **Development of Stable HeLa Cell Lines Expressing FLAG-tagged Syntaxin 6**¹ Christy Read - Kentucky Biomedical Research Infrastructure Network, Dr. Krista Riggs and Dr. Chuan Hu - University of Louisville
- 1:45 p.m. **Migration of fibroblasts involved in mammary carcinoma cell metastasis**¹ Jacob Gunnell - Berea College, Aubie Shaw, Mary Aakre and Harold L. Moses - Vanderbilt-Ingram Comprehensive Cancer Center
- 2:00 p.m. **Characterizing the anti-tumorigenic properties of K-RAS peptide inhibitors.**¹ Kayla Kinker - Berea College, Nadya I. Tarasova, Alla I. Ivanova and David Carbone - Vanderbilt-Ingram Comprehensive Cancer Center
- 2:15 p.m. **Business Meeting & Selection of Officers**
- 4:00 pm **Break**
- 4:15 pm **Plenary Session - Budding Theater - University Center**

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CHEMISTRY

Kevin Revell, Chair
Murray State University

Rui Zhang, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 14, 2009 SCIENCE CENTER 207

- 8:00 a.m. **Longitudinal Cutting of Intact Arrays of Nitrogen-Doped Multiwalled Carbon Nanotubes.**² Nikhil D. Patil and Mark S. Meier - University of Kentucky
- 8:15 a.m. **Organic Conjugated Polymers: Synthesis and Structure-Property Studies.**² Thilanga Liyanage and Mark Watson - University of Kentucky
- 8:30 a.m. **Studying the Morphological Changes in Birch Reduced Nitrogen Doped Multiwalled Carbon Nanotubes (N-MWNTs).**² Aman Preet Kaur and Mark S. Meier - University of Kentucky
- 8:45 a.m. **Surface investigation of nanodiamond derived carbon nano-ions by oxidation**² Mahendra Kumar Sreeramoju - University of Kentucky
- 9:00 a.m. **Role of vapor-phase mass transport during the liquid alkane spreading**² Lingbo Lu and Yuguang Cai - University of Kentucky
- 9:15 a.m. **DNA assisted site-specific immobilization of protein**² Meng Zhong, Jun Fang and Yinan Wei - University of Kentucky
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **SYNTHETIC APPROACHES TO ACENE COMPLEXES OF RUTHENIUM OR MANGANESE**² Uttam R. Pokharel - University of Kentucky
- 10:15 a.m. **Progress towards the total synthesis of 7-epi-clusianone**² M.P. Suresh Jayasekara and Robert B. Grossman - University of Kentucky
- 10:30 a.m. **Detection of Vancomycin with Peptide Probe**² Linliang Yu - University of Kentucky
- 10:45 a.m. **Partition and Change of Arsenic and Selenium Speciation in Flue Gas Desulfurization (FGD) Wastewater**² Ying Wen - Western Kentucky University
- 11:00 a.m. **Surface interactions between biomolecules and Au nanoparticles**² Manish Sethi, GaEun Joung and Marc R. Knecht - University of Kentucky

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- 11:15 a.m. **Organic Electronics for Flexible Applications**² Marsha Loth - University of Kentucky
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 1:00 p.m. **Study of the Influenza A M2 Transmembrane Peptide and C-terminal Chain by Solid-State NMR.**¹ Theint Theint - Berea College, Sarah Cady and Mei Hong* - Iowa State University
- 1:15 p.m. **Synthesis of a new isocyanide ligand to maximize excited-state stability**¹ Stephanie Kramer and Keith A. Walters - Northern Kentucky University
- 1:30 p.m. **Synthesis and spectroscopic studies of fullerene-bipyridine organometallic supramolecular systems**¹ Elizabeth Walsh and Keith A. Walters - Northern Kentucky University
- 1:45 p.m. **Design and synthesis of organic-inorganic hybrid nanostructures for organic photovoltaics.**¹ Aaron D McKee and Hemali Rathnayake - Western Kentucky University
- 2:00 p.m. **Investigating Mesoporous Organosilicates as Carriers for Controlled Delivery of Doxorubicin**¹ Adam McCallum, Emilee Knue and Isabelle Lagadic - Northern Kentucky University
- 2:15 p.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 2:45 p.m. **Characterization of Nanomaterial Interactions with Blood Brain Barrier Models**¹ Stephen Wall, Nana-ama, Anthony Haskamp, Kristi Haik and Heather Bullen - Northern Kentucky University
- 3:00 p.m. **Evaluating New Directions to Improve Biofouling Resistance of Metal(oxide) Substrates**¹ Anthony Haskamp, Aaron Swomley, Hazel Barton and Heather Bullen - Northern Kentucky University
- 3:15 p.m. **Synthesis of novel, asymmetric [14]-pyridoannulenes.**¹ Brenda Barnes and K.C. Russell - Northern Kentucky University
- 3:30 p.m. **Highly conjugated polyphenylene ethynyl oligomers**¹ Aron Huckaba and Dr. Kevin Revell - Murray State University
- 3:45 p.m. **Business Meeting & Selection of Officers**
- 4:00 p.m. **Break**
- 4:15 p.m. **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

COMPUTER AND INFORMATION SCIENCES

Jerzy Jaromczyk, Chair
University of Kentucky

Eric Rouchka, Secretary
University Of Louisville

SATURDAY, NOVEMBER 14, 2009
LANDRUM 205

- 8:00 a.m. **Hierarchical Certification in Sensor Networks** Biswajit Panja - Morehead State University
- 8:15 a.m. **Building a LAM/MPI high performance computer cluster on a shoestring budget** Earle Foskett - Bellarmine University, Muzaffar Ali - Bellarmine University
- 8:30 a.m. **Intrusion Detection in Wireless Mobile Networks**¹ Christopher Estes - Morehead State University, Sherif Rashad - Morehead State University
- 8:45 a.m. **Mass Spectrometry in a Flash: Animations for online tutorials in Analytical Science**¹ Kimberly Hatcher - Northern Kentucky University, Heather Bullen - Northern Kentucky University, Maureen Doyle - Northern Kentucky University
- 9:00 a.m. **Facial Recognition in a Real Time Human Computer Interaction Application**¹ James Gibbs - Morehead State University, Sherif Rashad - Morehead State University
- 9:15 a.m. **Mobile Data Mining Algorithms for Prediction of Mobile Nodes in Wireless Networks**¹ Joshua Bradley - Morehead State University, Sherif Rashad - Morehead State University
- 9:30 a.m. **Business Meeting & Selection of Officers**
- 9:45 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm. **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

ECOLOGY AND ENVIRONMENTAL SCIENCE

Sarah Emery, Chair
University of Louisville

Albert Meier, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 201

- 8:00 a.m. **Conservation genetics of captive and natural populations of the critically endangered Dusky Gopher Frog, *Rana sevos*** Stephen C. Richter - Eastern Kentucky University, Natchia Henry - Eastern Kentucky University, Nina M. Hensley - Eastern Kentucky University, Erin Madeen - Eastern Kentucky University
- 8:15 a.m. **Restoration of native warm season grassland in a Kentucky tall fescue pasture using prescribed fire and herbicides** Sarah L. Hall - Kentucky State University, Robert J. Barney - Kentucky State University, Rebecca L. McCulley - University of Kentucky
- 8:30 a.m. **Land snails as indicators of old growth forests** ² Daniel Douglas - Eastern Kentucky University, David Brown - Eastern Kentucky University, Neil Pederson - Eastern Kentucky University
- 8:45 a.m. **Locating and Quantifying Old-Growth Forest in Eastern Kentucky** ² Adrienne Cooper - Eastern Kentucky University, Dr. Neil Pederson - Eastern Kentucky University
- 9:00 a.m. **Macroinvertebrate communities and patterns of organic matter processing along temporary-perennial hydrologic stream channel gradients in a Cumberland Plateau catchment, U.S.A.** Scott A. Grubbs - Western Kentucky University
- 9:15 a.m. **Impact of the invasive Amur honeysuckle (*Lonicera maackii*, Caprifoliaceae) on stand transpiration in a wetland forest** Richard L. Boyce - Northern Kentucky University, Richard D. Durtsche - Northern Kentucky University, S. Lincoln Fugal - Northern Kentucky University, Andrew Wallace - Northern Kentucky University
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **Watershed Land Use Effects on Organic Matter Pools in Sediment of Kentucky Lake.** ² Robert S. Tokosh - Murray State University, Iin P. Handayani - Murray State University
- 10:15 a.m. **Tree-Ring Applications for Climate Reconstruction using Eastern Redcedar: An Exploratory Study** Cari Leland - Eastern Kentucky University, Neil Pederson - Eastern Kentucky University, Amy Hessel - West Virginia University

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:30 a.m. **Demographics of American ginseng (*Panax quinquefolius*) in Mammoth Cave National Park** ² Danielle M Racke - Western Kentucky University, Sara K Wigginton - Western Kentucky University, Victoria A Gilkison - Western Kentucky University, Larry Johnson - Mammoth Cave National Park, Albert J. Meier -
- 10:45 a.m. **Factors influencing timing and orientation of breeding migrations of a pond-breeding amphibian community** ² Michelle L. Guidugli - Eastern Kentucky University, Stephen C. Richter - Eastern Kentucky University
- 11:00 a.m. **Effects of hydrologic gradients on woody debris breakdown and macroinvertebrate colonization patterns in a Cumberland Plateau watershed in eastern Kentucky, U.S.A.** Robin R. Bernal - Western Kentucky University, Scott A. Grubbs - Western Kentucky University
- 11:15 a.m. **Ecological Investigation of Vertebrate Utilization of Termitaria in the Tsavo Region of Kenya** ² Margaret M Mahan - Western Kentucky University, Michael Stokes - Western Kentucky University
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 1:00 p.m. **Why is the Green River Still Green? : Algal biomass accrual in relation to nutrient availability in the Upper Green River, Kentucky.** ² Mary D. Penick - Western Kentucky University, Scott A. Grubbs - Western Kentucky University
- 1:15 p.m. **"Toxicity" of the fish-killing alga, *Heterosigma akashiwo*, to larval herring and sea urchins** ¹ Tanner Yess - Northern Kentucky University, Paul Dinnel - Western Washington University
- 1:30 p.m. **Temperature acclimation *Lithasia obovata*** ¹ Kelly C Thayer - University of Louisville, James E Alexander - University of Louisville
- 1:45 p.m. **Swarming Behavior in *Daphnia lumholzi*, an Invasive Species in Lake Cumberland, KY.** ¹ Chris Gillespie - Northern Kentucky University, Sara Neel - Northern Kentucky University, Miriam Steinitz Kannan - Northern Kentucky University
- 2:00 p.m. **Business Meeting & Selection of Officers**
- 2:15 p.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

ENGINEERING

Sally Krijestorac, Chair
Morehead State University

Rajeev Madhavannair, Secretary
Morehead State University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 402

- 8:00 a.m. **Importance of civil engineering material class to the construction management students** Sanjeev Adhikari - Morehead State University
- 8:15 a.m. **Kentucky Space High Altitude Balloon Mission to Gather Tropospheric Comet Dust** ² Marc Beck - University of Louisville, Clay Graves - Morehead State University, Nathan Fite - Morehead State University, Brandon Molton - Morehead State University, Katie Brown - Morehead State University, Jonathan Fitzpatrick - Morehead State University, Dr. Benjamin Malphrus - Morehead State University, Zach Jacobs - University of Kentucky
- 8:30 a.m. **AdamaSat: Proving CubeSats Viability in Sub-Orbital Launches** ² Twyman Clements - University of Kentucky
- 8:45 a.m. **Subwatershed Characterization, Massac Creek KY.** ¹ Brian S. Jennings - Murray State University
- 9:00 a.m. **SOCEM: Sub-Orbital CubeSat Experimental Mission** ¹ Anthony Karam - University of Kentucky
- 9:15 a.m. **Business Meeting & Selection of Officers**
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm. **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

GEOGRAPHY

Stuart Foster, Chair
Western Kentucky University

Christine McMichael, Secretary
Morehead State University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 304

- 1:00 p.m. **Northern Kentucky University's Greenhouse Gas Emissions Inventory and Analysis** John Metz - Northern Kentucky University, W. Chris Kaeff - Northern Kentucky University, Jennifer Lantz - Northern Kentucky University
- 1:15 p.m. **Assessing Forest Response to Ice Storm Damage Using Multi-temporal Landsat Imagery** Christi McMichael - Morehead State University
- 1:30 p.m. **Geography Locked Up** Glenn Campbell - Eastern Kentucky University
- 1:45 p.m. **Placenames in Kentucky** Steven Parkansky - Morehead State University
- 2:00 p.m. **Groundwater and Air Temperature Relationship: A Look Back** Glen Conner - Western Kentucky University
- 2:15 p.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 2:45 p.m. **LOST TRACKS (?) KENTUCKY PASSENGER RAIL RENAISSANCE** Glenn Campbell - Eastern Kentucky University
- 3:00 p.m. **"Hidden" Land Cover: Assessing Dynamic Change in Small, 2-D Water Bodies with Landsat 5 and Aerial Imagery and Derivatives** Demetrio P. Zourarakis - Kentucky Division of Geographic Information
- 3:15 pm **An Overview and Update of Site Identification and Selection Activities for the Kentucky Mesonet** Stuart Foster - Western Kentucky University, Rezaul Mahmood - Western Kentucky University
- 3:30 p.m. **Business Meeting & Selection of Officers**
- 4:00 pm **Break**
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

GEOLOGY

Thomas Brackman, Chair
Northern Kentucky University

Michael May, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 304

- 8:00 a.m. **Brine Chemistry in the Appalachian and Illinois Basins of Kentucky-- Implications for Geologic Carbon Sequestration**
Thomas (Marty) Parris - Kentucky Geological Survey, Donna J. Webb - Kentucky Geological Survey, Nick Fedorchuk - College of Wooster, Shannon Daugherty - University of Waterloo, Kathryn Takacs - Kentucky Geological Survey, Anne Schumacher - Department of Earth and Environmental Sciences
- 8:15 a.m. **Pacific Glacier Fluctuations Through the Little Ice Age Transition: Insights from Tree-ring Based and Glacial Geologic Records** Nathan Malcomb - Eastern Kentucky University, Greg Wiles - The College of Wooster
- 8:30 a.m. **Unraveling The Origin Of Pennsylvanian Coal Ball Concretions: Insights From Thin Section Petrography And Scanning Electron Microscopy** Siewers, Fredrick D. - Western Kentucky University
- 8:45 a.m. **Three Dimensional Modeling of Kentucky Oil Fields**¹
Christopher Robards - Murray State University, Tin Nguyen - Murray State University
- 9:15 a.m. **Sequestration Mechanisms in a Gallosilicate Nanoporous Framework**¹ Kristin Leftwich - Western Kentucky University, Aaron Celestian - Western Kentucky University
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **Business Meeting & Selection of Officers**
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

HEALTH SCIENCES

Phyllis Rogers, Chair
Kentucky State University

Avinash Tope, Secretary
Kentucky State University

SATURDAY, NOVEMBER 14, 2009
LANDRUM 401

- 10:00 a.m. **Pb, As, Cd and Hg in canned sardines commercially available in Central and Eastern Kentucky** John Shiber, PhD - Kentucky Community and Technical College System
- 10:15 a.m. **Immunologic effect of the Ayruvedic herb, Ashwagandha (*Withania somnifera*), on a human sample.** ¹ Lincey Knox - Asbury College, Heather Zwickey - Helfgott Research Institute, Portland, OR, Andrew Murison - Helfgott Research Institute, Portland, OR, Andrew Erlandsen - Helfgott Research Institute, Portland, OR, Jeremy Mikolai - Helfgott Research Institute, Portland, OR
- 10:30 a.m. **Prevalence of Obesity Linked Metabolic Syndrome in Young Adults in a College Setting** ¹ De'Andra Robertson - Kentucky State University, Avinash M. Tope - Kentucky State University, Phyllis F. Rogers - Kentucky State University
- 10:45 a.m. **Elevation and EGCG: How Do Growing Conditions Affect Tea (*Camellia Sinensis*)?** ¹ Kenton L. Sena - Asbury College, Bruce Branan - Asbury College
- 11:00 a.m. **Quantities of L-Theanine Present in Varieties of Green Tea** ¹ Lucas Rohrer - Asbury College, Bruce Branan - Asbury College
- 11:15 a.m. **Can two different forms of breast cancer therapy be combined to reduce cell proliferation of both female and male lung cancer cells?** ¹ Shakeeb S. Ahmad - Bellarmine University, Joann M. Lau - Bellarmine University
- 11:30 a.m. **Business Meeting & Selection of Officers**
- 11:45 a.m. **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session - Budding Theater - University Center**

¹Undergraduate Research Competition

²Graduate Research Competition

MATHEMATICS

R. Douglas Chatham, Chair
Morehead State University

Mark Robinson, Secretary
Western Kentucky University

SATURDAY, NOVEMBER 14, 2009
LANDRUM 411

- 8:00 a.m. **A Few Cantor Sets** John Spraker - Western Kentucky University, Emily Burns - Western Kentucky University
- 8:15 a.m. **Sierpinski Portraits** Bruce Kessler - Western Kentucky University
- 8:30 a.m. **Graphs with Disjoint Dominating Sets and Identifying Codes** R. Duane Skaggs - Morehead State University
- 8:45 a.m. **Centrosymmetric solutions to the $n + k$ queens problem** R. Douglas Chatham - Morehead State University, Maureen Doyle - Northern Kentucky University, Robert J. Jeffers - Northern Kentucky University, Walter Kusters - Universiteit Leiden, Jeffrey Ward - Northern Kentucky University
- 9:00 a.m. **Fourier Series - The Gibbs Phenomenon** Andy Martin - Kentucky State University
- 9:15 a.m. **Convergence Analysis of Newton's Method** Mark P. Robinson - Western Kentucky University
- 9:30 a.m. **Break** - Science Center 300, Landrum 427, University Center
- 10:00 a.m. **Destroying all cycles and the existence of a small cycle in a digraph.** Peter Hamburger - Western Kentucky University
- 10:15 a.m. **Curvature in the Classroom** Robert Riehemann - Thomas More College
- 10:30 a.m. **Economic Optimization with Mathematica: Lagrangian Multiplier Method.** ¹ Amir Ahmadi - Morehead State University
- 10:45 a.m. **Using Percentage Change as the Universe of Discourse in Fuzzy Time Series Forecasting** ¹ Meredith Stevenson - Murray State University
- 11:00 a.m. **College Algebra Redesign Project at MSU** ¹ Julie Lang - Morehead State University
- 11:15 a.m. **Mathematical problems in super-resolution image reconstruction** ¹ Tichaona Chiwandamira - Berea College, Sara Evans - Berea College, Larry Gratton - Berea College
- 11:30 a.m. **Business Meeting & Selection of Officers**
- 11:45 a.m. **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session** - *Budding Theater* - University Center

¹Undergraduate Research Competition

²Graduate Research Competition

MICROBIOLOGY

Hazel Barton, Chair
Northern Kentucky University

Bill Staddon, Secretary
Eastern Kentucky University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 302

- 1:00 p.m. **Sequencing and Annotation of the Bacteriophage HK239 Genome** ² Ali Wright - Western Kentucky University, Rodney King - Advisor
- 1:15 p.m. **Is Transcription of the Bacteriophage HK639 Right Operon Antiterminated?** ² Chandrika Kunapuli - Western Kentucky University, Rodney King - Advisor
- 1:30 p.m. **Diverse capacities for DNA damage responses across the genus *Acinetobacter*** ¹ Tyler J. Elam - Morehead State University, Janelle M. Hare - Morehead State University
- 1:45 p.m. **The role of YIaJ on the function and localization of SleB in *Bacillus anthracis*** ¹ Crystal Thomas - Berea College, Casey V. Jakubowski - Virginia Polytechnic Institute & State University, David L. Popham - Virginia Polytechnic Institute & State University
- 2:00 p.m. **Improving current ELISAs used for the detection of *Sarcocystis neurona* in equines.** ¹ Sarah P. Lance - Asbury College, Daniel K. Howe - University of Kentucky, Bobby R. Baldrige - Asbury College
- 2:15 p.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 2:45 p.m. **The effects of epigallocatechin-gallate on the photokilling of *Staphylococcus aureus* by curcumin.** ¹ Christin Cummins - Midway College, William M. McGowan - Midway College
- 3:00 p.m. **Diverse Capacities for DNA Damage Survival across the Genus *Acinetobacter*** ¹ Tyler Elam - Morehead State University, Janelle Hare - Morehead State University
- 3:15 p.m. **Business Meeting & Selection of Officers**
- 4:00 p.m. **Break**
- 4:15 p.m. **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

PHYSICS AND ASTRONOMY

Akhtar Mahmood, Chair
Bellarmine University

Arthur Pallone, Secretary
Murray State University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 301

- 8:00 a.m. **Mossbauer Study of Iron Rich Cereal and Iron Supplement**
Amer S. Lahamer - Berea College, Matthew M. Baily - Berea College, Mohammed H. Yusuf - Berea College
- 8:15 a.m. **Criteria of Wavefunction Goodness** Ed Montgomery - Centre College
- 8:30 a.m. **Atmospheric and Technological Exploration with the POPACS Satellite** ¹ Nathan D. Fite - Morehead State University, Dr. Benjamin Malphrus - Morehead State University, Gil Moore - Utah State University and United States Air Force Academy, Walter Holemans - Space Dynamics Laboratory, Dr. Adam Huang - , Bob Twigg - , Jeff Kruth -
- 8:45 a.m. **Change Is Hard: Evolution of Student Ideas about Motion that Changes Direction** Scott Bonham - Western Kentucky University
- 9:00 a.m. **Mass Predictions of Charmed and Beauty Baryons.** ¹ Ben Draper - Bellarmine University, Akhtar Mahmood - Bellarmine University
- 9:15 a.m. **Magnetic Shielding for Neutron EDM Experiments** ¹ Ramesh Adhikari - Berea College
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **High Altitude Comet Dust Collection Experiment** Daniel C. Graves - Morehead State University, Dr. Benjamin K. Malphrus - Morehead State University, Brandon L. Molten - Morehead State University, Marc B. Beck - University of Louisville, Zach A. Jacobs - University of Kentucky
- 10:15 a.m. **The Transitions between the Normal, Superfluid, and FFLO states in a Fermi gas.** ¹ William D. Norris - Berea College, Martin Veillette - Berea College
- 10:30 a.m. **An Observation of the Galactic Supernova Remnant G352.7-0.1 with the Chandra X-ray Observatory** Thomas Pannuti - Morehead State University, Tiffany Murray - Morehead State University
- 10:45 a.m. **A re-examination of mid-infrared ISOCAM images of HII regions in M33** ¹ Emily Worinkeng - Berea College, Hodari-Sadiki James - Berea College, Tracy Hodge - Berea College

¹Undergraduate Research Competition

²Graduate Research Competition

- 11:00 a.m. **Etching of Single layer Graphene**¹ Jimmy Rop - Berea college
- 11:30 a.m. **Lunch** (*see list of possibilities in registration folder*)
- 1:00 p.m. **Formation Energy of Clusters and the Nucleation Rate** Stetson Roof - Murray State University, Hamid Kobraei - Murray State University
- 1:15 p.m. **CREST veto system status**¹ Sean Bodine - Northern Kentucky University
- 1:30 p.m. **Metamaterials: Perfect Absorber** Daniel E Benton - Morehead State University, Dr. Willie Padilla - Boston College
- 1:45 p.m. **Measuring Coronal Magnetic Twist Injected by Photospheric Rotation**¹ Mohammed Humed Yusuf - Berea College
- 2:00 p.m. **Business Meeting & Selection of Officers**
- 2:15 p.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

PHYSIOLOGY AND BIOCHEMISTRY

Michael Smith, Chair
Western Kentucky University

Michael Fultz, Secretary
Morehead State University

SATURDAY, NOVEMBER 14, 2009
LANDRUM 201

- 8:00 a.m. **Effects of tomato and broccoli on uterine weight of ovariectomized rats** Lingyu Huang - Kentucky State University, Cecil Butler - Kentucky State University, Changzheng Wang - Kentucky State University
- 8:15 a.m. **Effect of Growth Hormone on Cell Proliferation in the Zebrafish (*Danio rerio*) Ear** ² Chia-Hui Lin - Western Kentucky University, Huifang Sun - Western Kentucky University, Julie B. Schuck - Western Kentucky University, Michael E. Smith - Western Kentucky University
- 8:30 a.m. **Effect of rho kinase inhibition alpha-actin, beta-actin, myosin remodeling in the contracting A7r5 smooth muscle cell.** ¹ William R. Hankinson - Morehead State University, Suzette Pike - Morehead State University, Josie M. Maione - Morehead State University, Michael E. Fultz - Morehead State University
- 8:45 a.m. **The Effect of Endothelin-1 and 5-Fluorouracil on Wound Healing of Corneal Endothelial Cells.** ¹ Leah Frazier - Western Kentucky University, Justin Jateczak - Western Kentucky University, Kenneth Crawford - Western Kentucky University
- 9:00 a.m. **Effects of Toxic Metals on the Activity of MutM (Fpg) via a Hyperchromicity Assay** ¹ Andrew Crisologo - Asbury College, Bruce Branan - Asbury College, Laura Busenlehner - Asbury College
- 9:15 a.m. **Biochemical characterization of MurA in *Escherichia coli* in the presence of inhibitors.** ¹ Jordan Feigerle - Centre College, Sarah Wilson - Centre College, Matt Spencer - Centre College, January Haile - Centre College
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **Endothelin-1 reduces expression of the cyclin dependent kinase inhibitor p27kip1 in bovine corneal endothelial cells.** ¹ James Huffman - Western Kentucky University, Kenneth M. Crawford - Western Kentucky University
- 10:15 a.m. **Reduction of copper by Bisphenol A and the potential for DNA damage** ¹ Logan Murphy - Morehead State University, David Saxon - Morehead State University

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:30 a.m. **Identification and characterization of acyl CoA:retinol acyltransferase in the hepatopancrease of the crayfish (*Procambarus clarkii*)**¹ Emily Green - Centre College, Rebecca Lindhorst - Centre College, Bryan Fioret - Centre College, Chase Palisch - Centre College, Stephanie E. Dew - Centre College
- 10:45 a.m. **Rotating speed of the tumbler used for brining affected the water phase salt content of smoked paddlefish meat.**¹ Tasia Smith - Kentucky State University, Cecil Butler - Kentucky State University, Lingyu Huang - Kentucky State University, Steven D. Mims - Kentucky State University, Changzheng Wang -
- 11:00 a.m. **The Association of Pak 1 Expression in Cell Density and in Avoidance of Anoikis in Breast Cancer Cells**¹ Robert Spaulding - Wood Hudson Cancer Research Laboratory, Robert Shields - Wood Hudson Cancer Research Laboratory, Briana Vogt - Wood Hudson Cancer Research Laboratory, Larry Douglass - Wood Hudson Cancer Research Laboratory, Bonnie Richmond - Wood Hudson Cancer Research Laboratory, Ruth Hemmer - Wood Hudson Cancer Research Laboratory, Julia Carter - Wood Hudson Cancer Research Laboratory
- 11:15 a.m. **Energy costs and trade-offs of the adaptive immune system in *Peromyscus polionotus***¹ Sarah Hargis - Murray State University, Renee Levesque - Murray State University, Terry L. Derting - Murray State University
- 11:30 a.m. **Business Meeting & Selection of Officers**
- 11:45 a.m. **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session - Budding Theater - University Center**

¹Undergraduate Research Competition

²Graduate Research Competition

PSYCHOLOGY

Brian Cusato, Chair
Centre College

KatieAnn Skogsberg, Secretary
Centre College

**SATURDAY, NOVEMBER 14, 2009
LANDRUM 506**

- :00 a.m. **"A Headache is a Hot Poker in Your Brain Matter" Metaphoric Production about Health Experiences in Adults** ² Nicholas Rudd - Morehead State University, Alena Hromish - Morehead State University, Caitlin Linepensil - Morehead State University, Lynn Haller - Morehead State University
- 8:15 a.m. **The Reliability and Validity of the Adult Knowledge of Attention Deficit Disorders Scales** ² Julia Dahmane - Morehead State University, Dr. Sean P. Reilley - Morehead State University
- 8:30 a.m. **The Apple Doesn't Fall Far From the Tree. Insightfulness and the transmission of attachment between parent and child.** ² Sexton, Paula - Morehead State University, Fugate, Katelyn - Morehead State University, Vetter, Stacey - Morehead State University, Kidwell, Shari - Morehead State University
- 8:45 a.m. **The Internal Working Model: How parents' behavior may influence children's perceptions of relationships.** ² Jacquelyn Lile - Morehead State University, Britney Maynard - Morehead State University, Shari L. Kidwell - Morehead State University
- 9:00 a.m. **Attachment and children's emotion regulation skills** ² Nicolette Lowe - Morehead State University, Chelsea Baker - Morehead State University, David Turner - Morehead State University, Shari L. Kidwell - Morehead State University
- 9:15 a.m. **The Efficiency of Japanese Quail Sexual Interactions is Enhanced by Sexual Conditioning** ¹ Emily Sither - Centre College, Mariel Smith - Centre College, Brian Cusato - Centre College
- 9:30 a.m. **Break** - *Science Center 300, Landrum 427, University Center*
- 10:00 a.m. **Event Related Potentials Can Predict Sleep-Restricted Cognitive Performance** ¹ Catherine A. Moonan - Centre College, Neil A. Wright - Depauw University, Krista N. Garrod - University of Louisville, Dennis L. Molfese - University of Louisville
- 10:15 a.m. **STIMULATION OF HISTAMINE H3 RECEPTORS IMPROVES MEMORY IN AN ANIMAL MODEL OF MEMORY DISORDERS** ¹ Meredith Blankenship - Northern Kentucky University, Molly S. Griffith - Northern Kentucky University, Mark E. Bardgett - Northern Kentucky University

¹Undergraduate Research Competition

²Graduate Research Competition

- 10:30 a.m. **The Impact of Studying AD/HD Diagnostic Criteria and Case Histories on Successful Malingering on the Adult AD/HD Self-Report Scale-vs.1.1.** ¹ Katherin Austin - Morehead State University, Amy Kiser - Morehead State University, Leah Smith - Morehead State University
- 10:45 a.m. **"Causal" amphetamine administration and changes in stimulant- and withdrawal-related activity in rats.** ¹ Devin R. Gibbs - Morehead State University, Wesley White - Morehead State University
- 11:00 a.m. **The Ability of the CAT-A to Detect Malingered Current AD/HD Symptoms in Adults With and Without Enhanced AD/HD Knowledge.** ¹ Medina Jackson - Morehead State University, Dr. Sean P. Reilley - Morehead State University
- 11:15 a.m. **Preliminary Evaluation of the Detection of Malingered Childhood AD/HD Symptoms in Adults on the CAT-A.** ¹ Kelly D. Gruber - Morehead State University, Nora Weyh - Morehead State University, Dr. Sean P. Reilley - Morehead State University
- 11:30 a.m. **Lunch** (*see list of possibilities in registration folder*)
- 1:00 p.m. **The Effects of Personality and Preparedness on Group Work** ¹ Christine Morris - Berea College
- 1:15 p.m. **The ability of adults to distinguish similarity between pairs of house images and face images both in the upright and inverted position.** ¹ Corwin R. Butler - Asbury College, Jane E. Joseph - University of Kentucky, Bobby R. Baldrige - Asbury College
- 1:30 p.m. **Mate Preference and Mating Strategies in Male Japanese Quail (*Coturnix japonica*)** ¹ Amanda Glueck - Centre College, Brian Cusato - Centre College
- 1:45 p.m. **Repeated Exposure to Psychostimulants on Appetitive Behavior.** ¹ Steven Osbourne - Morehead State University, David Book - Morehead State University, Nicholas Holt - Morehead State University, Lauren May - Morehead State University, Ilsun M. White - Morehead State University
- 2:00 p.m. **Business Meeting & Selection of Officers**
- 4:15 pm **Plenary Session - Budding Theater - University Center**

¹Undergraduate Research Competition

²Graduate Research Competition

SCIENCE EDUCATION

Beth Nolte, Chair
Spalding University

Wilson Gonzales-Espada, Secretary
Morehead State University

SATURDAY, NOVEMBER 14, 2009
LANDRUM 207

- 8:00 a.m. **Undergraduate Fellowship Program at Morehead State University: Impact Assessment** Wilson Gonzalez-Espada - Morehead State University
- 8:15 a.m. **Regional College Student Perceptions and Reactions to Evolutionary Theory** David E. Long - University of Kentucky
- 8:30 a.m. **The Development of Summer Science Inquiry Institute**¹ Jessica Carnes - Berea College, Amy Jones - Berea College, Chris Yaluma - Berea College, Jon Saderholm - Berea College
- 8:45 a.m. **KY Girls STEM Collaborative** Carol Hanley - University of Kentucky, Sherie Kindall - Midway College
- 9:00 a.m. **Examination of Geoscience Education Practices**¹ Stuart Kenderes - Western Kentucky University, Margaret E. Crowder - Western Kentucky University
- 9:15 a.m. **What science majors want in a career? Can school science teaching offer it?** Wilson Gonzalez-Espada - Morehead State University
- 9:30 a.m. **Business Meeting & Selection of Officers**
- 11:30 am **Lunch** (*see list of possibilities in registration folder*)
- 4:15 pm **Plenary Session** - *Budding Theater* - University Center

¹Undergraduate Research Competition

²Graduate Research Competition

ZOOLOGY

Anthony Lentz, Chair
Bellarmine University

Sherry Harrel, Secretary
Eastern Kentucky University

SATURDAY, NOVEMBER 14, 2009
SCIENCE CENTER 305

- 8:30 a.m. **Aquatic systems hypoxia from allochthonous litter of the invasive Amur honeysuckle and its effects on wood frog tadpoles.** Richard D. Durtsche - Northern Kentucky University, Andrew J. Wallace - Northern Kentucky University, Elizabeth K. Droessler - Northern Kentucky University
- 8:45 a.m. **Relationship among Stream Discharge, pH and Fish Abundance in Three Headwater Streams in Southeastern Kentucky** Amy S. Wilson - Eastern Kentucky University
- 9:00 a.m. **Genetic isolation as a result of dam construction: A look at the effects on two species of darters** ² Kerstin Edberg - Western Kentucky University, Philip Lienesch - Western Kentucky University
- 9:15 a.m. **Territoriality of *Neolamprologus multifaciatius* in clumped and dispersed resource habitats** ² Piyumika S Suriyampola - University of Louisville, Perri K Eason - University of Louisville
- 9:30 a.m. **Break** - Science Center 300, Landrum 427, University Center
- 10:00 a.m. **Factors Affecting the Singing Activity of Carolina Wrens (*Thryothorus ludovicianus*) in Urban and Rural Areas** ² Shannon R. Trimboli - Western Kentucky University, ALBERT J. MEIER - Western Kentucky University, JOSÉ PEDRO DO AMARAL - Western Kentucky University, RAFAEL MÁRQUEZ - Western Kentucky University
- 10:15 a.m. **The Incredible Mrs. Cichlid: An Examination of Parental Care Behaviors of a Monogamous Fish** ² Bethany Westrick - Eastern Kentucky University, Dr. Nick Santangelo - Eastern Kentucky University
- 10:30 a.m. **Life History traitsof *Morone mississippiensis*** ² Peter Zervas - Western Kentucky University, Philip Lienesch - Western Kentucky University
- 10:45 a.m. **Bird species associations with hemlock forests of Kentuckyand predictions of the effects of Hemlock Woolly Adelgid on those communities** ² Todd Weinkam - Eastern Kentucky University, David Brown - Eastern Kentucky University
- 11:00 a.m. **Prey-induced phenotypic plasticity in the teeth of hatchery vs. large mouth bass** ² Tamilselvi Selvaraj - Western Kentucky

¹Undergraduate Research Competition

²Graduate Research Competition

University, Dr. Steve Huskey - Western Kentucky University,
Margaret Mahan - Western Kentucky University

- 11:30 a.m. **Lunch** (*see list of possibilities in registration folder*)
- 1:00 p.m. **Randomly amplified fingerprints (RAF) and their applications to butterfly population structure.** ¹ Joseph R. Marquardt - Western Kentucky University, Jeffrey M. Marcus - Western Kentucky University
- 1:15 p.m. **Pattern of suction generation during prey-capture in an elongate fish** ¹ Jason Hall - Western Kentucky University, Steve Huskey - Western Kentucky University
- 1:30 p.m. **Messing with the Thermostat and Frog Effects: tadpole development at different water temperatures** ¹ Bethany Coffey - Western Kentucky University, Mellissa Roy - Western Kentucky University, Juan F. Beltrán - Universidad de Sevilla, Rafael Márquez - MNCN - CSIC, Julia Toja Santillana - , José C. Muñoz Reinoso - , Manuel Chiroso Ríos - , José Pedro S. do Amaral -
- 1:45 p.m. **Comparison of Eastern Kentucky brook trout populations to native Virginia populations** ² Grayson R. Patton - Eastern Kentucky University, Sherry L. Harrel - Eastern Kentucky University
- 2:00 p.m. **Business Meeting & Selection of Officers**
- 2:15 pm **Break** - *Science Center 300, Landrum 427, University Center*
- 4:15 pm **Plenary Session** - *Budding Theater - University Center*

¹Undergraduate Research Competition

²Graduate Research Competition

POSTER PRESENTATIONS

We will this year, as we did last year, 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 4x6 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. Poster presenters must check in at the Ballroom in the University Center.

The **Saturday A.M. session** will include the following sections: **Agricultural Sciences, Botany, Cellular & Molecular Biology, Chemistry, Geology, Engineering and Health Sciences.** These posters will be 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 .** It is very important that the posters are removed at this time in order to allow the P.M. session to set up.

The **Saturday PM session** will include **Computer and Information Science, Ecology and Environmental Science, Mathematics, Microbiology, Physics & Astronomy, Physiology & Biochemistry, Psychology, Science Education and Zoology.** These posters will be 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 at their posters. These posters can be removed at 4:00 p.m. The individual in charge of the poster session is Dr. Patrick Hare. He and his assistants will be available to provide any help that may be necessary for you to set up.

SATURDAY MORNING

AGRICULTURAL SCIENCES

1. **Analysis of Hot Pepper Fruits for Capsaicin Content.**¹ Shanae Kincannon - Kentucky State University
2. **Establishment of Educational Display Gardens at Western Kentucky University Farm.** Claudia Stetter - Western Kentucky University
3. **Effect of praziquantel on natural infections of the snail, *Elimia semicarinata* (Gastropoda: Pleurocerida), with the trematode, *Proterometra macrostoma* (Digenea: Azygiidae).**¹ Cecilia Albers* - Berea College, Adam Chambers* - Berea College, Adam Meador - Berea College, Krystina Sandefur - Berea College, Lee Ware - Berea College, Ronald Rosen - Berea College

4. **A Two-year Evaluation of Disease Susceptibility and Fruit Yield of Selected Heirloom and Hybrid Cultivars of Tomato (*Solanum lycopersicum*).**¹ Joshua Riggsby - Morehead State University, Jennifer Harman - Morehead State University, Brent Rogers - Morehead State University, Debbie Johnson - Morehead State University
5. **Using ultrasound as a quantitative tool to assess body condition score in Quarter and Thoroughbred horses.**¹ Lauren Melzer - Morehead State University, Alecia Raymer - Morehead State University, Niki Wheeler - Morehead State University, Judy Willard - Morehead State University, Troy Wistuba - Morehead State University, Phil Prater - Morehead State University, Broc Sandelin - California State Polytechnic University – Pomona
6. **Is *Collema* sp., a Gelatinous Lichen, a Sustainable Source of Nitrogen for Greenhouse and Nursery Crop Production?**¹ Clarice Esch - Western Kentucky University, Martin Stone - Western Kentucky University
7. **Effects of light conditions on incubating chicks, *Gallus domesticus*.**¹ Crystal Walker - Transylvania University, Vincent Cassone - University of Kentucky
8. **Using Simple Sequence Repeat Markers to Distinguish Scion and Rootstock Tissues on Grafted Pawpaw (*Asimina triloba*) Trees.**¹ Myesha Hollins - Kentucky State University, Li Lu - Kentucky State University, Kirk W. Pomper - Kentucky State University, Jeremiah D. Lowe - Kentucky State University, Sheri B. Crabtree - Kentucky State University
9. **Yield and Fruiting Characteristics of the Pawpaw Variety K8-2; a New Cultivar Release from Kentucky State University.** Kirk W. Pomper - Kentucky State University, Sheri B. Crabtree - Kentucky State University, Jeremiah D. Lowe - Kentucky State University
10. **Third Year Yield Characteristics of Advanced Floricane Fruiting Blackberry Selections from the University of Arkansas Grown 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
11. **Testing for Clonality of Pawpaw (*Asimina triloba*) Patches in Kentucky with Simple Sequence Repeat and Inter-simple Sequence Repeat Markers.** LI, LI - Kentucky State University, KIRK W. POMPER - Kentucky State University, JEREMIAH D. LOWE - Kentucky State University, SHERI B. CRABTREE - Kentucky State University, LAUREN A. COLLINS - Kentucky State University
12. **Evaluation of New Simple Sequence Repeat Markers for Pawpaw (*Asimina triloba*) Genetic Diversity Analysis.**¹ DAVIES, CHANIECE - Kentucky State University, LI LU - Kentucky State University, KIRK W. POMPER - Kentucky

State University, JEREMIAH D. LOWE - Kentucky State University, SHERI B. CRABTREE - Kentucky State University

13. **Soil Properties Changes following Yard Restoration in Sedalia, Kentucky.** Dianna Johnson - Murray State University, Iin Handayani - Murray State University
14. **Antioxidant capacity, phenolic content and cytotoxicity of whole and fractioned pawpaw extracts.** Hideka Kobayashi - Kentucky State University, Changzheng Wang - Kentucky State University, Kirk Pomper - Kentucky State University

BOTANY

15. **The role of pappus ultrastructure in regulating seed hydration in North American dandelions (*Taraxacum officinale*).** Chloé E. Hart - Wittenberg University, Samantha M. Imfeld - Wittenberg University, Kevin M. Gribbins - Wittenberg University, Jay A. Yoder - Wittenberg University, Matthew H. Collier - Wittenberg University
16. **Bioinformatics analysis of a thaumatin-like protein isolated from giant ragweed.** ¹ Catherine M. Brumm - Bellarmine University, Dave L. Robinson - Bellarmine University, Joann M. Lau - Bellarmine University
17. **A clinostat for evaluating plant response to microgravity.** ¹ Sarah M. Roebker - Bellarmine University, Joann M. Lau - Bellarmine University, Dave L. Robinson - Bellarmine University
18. **Screening of a cDNA library from giant ragweed pollen.** ¹ Kaitlin A. Kurilla - Bellarmine University, Katherine M. Ennes - Bellarmine University, Joann M. Lau - Bellarmine University, Dave L. Robinson - Bellarmine University

CELLULAR AND MOLECULAR BIOLOGY

19. **Neurochemical characterization of tyrosine hydroxylase-expressing interneurons in the human cerebral cortex.** ¹ Sarah Hawkins - Centre College, Laura Hench - Centre College, Steve Asmus - Centre College
20. **Analysis of TGF-beta mediated expression of ALCAM in human prostate cancer cell lines.** ¹ James Brian Hamblin - Berea College, Amanda George Hansen - Vanderbilt University, Andries Zujlstra - Vanderbilt University
21. **Monomeric laforin is likely the biological relevant form in Lafora Disease.** ¹ Devin M. Rogers - University of Kentucky, Vikas V. Dukhande - University of Kentucky, Matthew S. Gentry - University of Kentucky
22. **ABO Blood Group Genotyping by PCR-RFLP.** ¹ Travis Wheeler - Eastern Kentucky University, Rebekah L. Waikel - Eastern Kentucky University

23. **Stereological Analysis of Neurons and Glial Cells in the CA1 Region of the Hippocampus in a Rat Model of Wernicke Korsakoff's Syndrome.**¹ Robert Spaulding - Northern Kentucky University, Megan Caroway - Northern Kentucky University, Megan Kramer - Northern Kentucky University, Jared Patton - Northern Kentucky University, Leslie Fausnacht - Northern Kentucky University, Kristi L. Haik - Northern Kentucky University
24. **Analysis in the defect of beta-catenin in dendritic cells from NOC mice.**¹ Alisha Holmberg - Berea College, Sarah Parnell - University of Louisville, Michelle Kosiewicz - University of Louisville, Pascale Alard - University of Louisville
25. **Striatal Nitric Oxide Synthase Neurons in an Animal Model of Wernicke-Korsakoff Syndrome.**¹ Veronica Alamilla - Northern Kentucky University, Megan Caroway - Northern Kentucky University, Megan Kramer - Northern Kentucky University, Jared Patton - Northern Kentucky University, Leslie Fausnacht - Northern Kentucky University, Kristi L. Haik - Northern Kentucky University
26. **Mueller cell injury responses in the regenerating axolotl retina.**¹ Aric J. Johnson* - Western Kentucky University, Justin C. Penticuff* - Transylvania University, Elizabeth A. Debski - University of Kentucky
27. **Mapping clk-3 in the neamtode C. elegans .**¹ Khushbu Patel* - Western Kentucky University, Efuia Wilmot* - Berea College, Jim Lund - University of Kentucky
28. **Function of Upd3 in the Drosophila JAK/STAT pathway.**¹ Sarah Specht - University of the Cumberland, Carlos Sandfoss - University of Kentucky, Travis Sexton - University of Kentucky, Dustin Perry - University of Kentucky, Douglas Harrison - University of Kentucky
29. **Sex specific predisposition of left ventricular hypertrophy via microRNA regulation.**¹ Daniel VanDerPloeg - Eastern Kentucky University, Rebekah Waikel, PhD - Eastern Kentucky University
30. **Generation of a GFP Fusion Protein as an Aid in the Observation of Rage Receptor Activity in Macrophages.** Joshua B. Jones - Eastern Kentucky University, Dr. Rebekah L. Waikel - Eastern Kentucky University
31. **Restriction of Hematopoietic Stem Cell Proliferation by a Pro-Quiescence Kinase. .**¹ Rachel L. Cary - Kentucky Wesleyan College, Lance R. Todd - Kentucky Wesleyan College, Uma Sankar - University of Louisville
32. **Soluble Rage Isolation for Use in Competitive Binding of Advanced Glycation End Products.** Jeffrey Rogers - Eastern Kentucky University, Rebekah Waikel, Ph.D. - Eastern Kentucky University

33. **Pathophysiology of amyloid beta peptides and cells of the human central nervous system.** ¹ Osniel Gonzalez Ramos - Northern Kentucky University, Joseph Mester - Northern Kentucky University
34. **Creating a GAL4 enhancer trap line for studying expression of the CRMP gene.** ¹ Kristina Locker Meissner - Midway College, Deanna Morris - University of Kentucky, John Rawls - University of Kentucky

CHEMISTRY

35. **Organometallic Pyridazine Complexes for Electronic Materials Applications.** Nathan Tice - Eastern Kentucky University, Andrew Preston - Eastern Kentucky University, Marika Wieliczko - Eastern Kentucky University
36. **Synthesis of novel fullerene/bipyridine ligands for photo-induced electron transfer applications.** ¹ Wesley Baas - Northern Kentucky University, Keith A. Walters - Northern Kentucky University
37. **Modified strategy for transition metal/pi-conjugated polymer "molecular wire" synthesis.** ¹ Jessica Baumann - Northern Kentucky University, Alex Ivers - Northern Kentucky University, Dustin Czirr - Northern Kentucky University, Keith A. Walters - Northern Kentucky University
38. **A Novel Pervious Cement Reaction Barrier (PCRb) In Situ Arsenic Remediation System.** Morgan Jones - Western Kentucky University
39. **Design of Fluorescent Glucose Biosensors Employing Genetically Engineered Proteins.** Trajen Head - University of Kentucky, Smita Joel - University of Kentucky, Sylvia Daunert - University of Kentucky
40. **Photochemical production of highly reactive metal-oxo species for the selective oxidation catalysis.** ¹ Eric Vanover - Western Kentucky University, Alice Pan - Western Kentucky University, Gerald Lowery - Western Kentucky University, Rui Zhang - Western Kentucky University
41. **Immobilization of ruthenium complexes in one- or two-dimensional networks of polyoxometallates.** ¹ Samantha A. Hodsdon - Western Kentucky University, Bangbo Yan - Western Kentucky University, Sean Parkin - University of Kentucky
42. **Evaluation of Potential Xanthine Oxidase Inhibitors by Molecular Docking and Bioassays.** ¹ Rahul Patel - Northern Kentucky University, Rachel Medlock - Northern Kentucky University, Chris Elam - Northern Kentucky University, Mike Lape - Northern Kentucky University, Stefan Paula
43. **On-Metal Study for the Synthesis of a Bulky Pyridazine Complex.** Jacob Strain - Western Kentucky University, Chad Snyder - Western Kentucky University
44. **Synthesis and Characterization of Some Substituted Pyridazines.** Justin Mobley - Western Kentucky University, Daniel Hinson - Western Kentucky

University, Daniel Jackson - Western Kentucky University, Chad Snyder, Ph.D.
- Western Kentucky University

45. **On-Metal Synthesis of Some Substituted Rhenium Pyridazyl Complexes.** Chad L. Phillips - Western Kentucky University, Chad A. Snyder, Ph.D. - Western Kentucky University
46. **Discovery of Novel SERCA Inhibitors by Virtual and Experimental Screening of a Compound Library.**¹ Robert Ratliff - Northern Kentucky University, Chris Elam - Northern Kentucky University, Choke Estifanos - Northern Kentucky University, Mike Lape - Northern Kentucky University, David Stanton - , Stefan Paula - Northern Kentucky University
47. **Synthesis and photophysical studies of tungsten(0) isocyanide complexes.**¹ Sviatlana Karasiova - Northern Kentucky University, Andrew Ankenbauer - Northern Kentucky University, Keith A. Walters - Northern Kentucky University
48. **Synthesis, structures and characterizations of two new organic-inorganic hybrid compounds containing polyoxometallates and tris-2,2'-bipyridyl ruthenium(II) ions.**¹ Yan-Fen LI - Western Kentucky University
49. **Exploring Synthetic Parameters for the Preparation and Properties of Functional Organoclays.**¹ Jennifer Hand - Northern Kentucky University, Isabelle Lagadic - Northern Kentucky University
50. **Synthesis of Polymer-Layered Silicate Nanocomposites using One-Step Prepared Organoclays.**¹ Tommy Morgan - Northern Kentucky University, Isabelle Lagadic - Northern Kentucky University
51. **A Computational Study of Solvent Effects on Estrone and 17beta-Estradiol Excited States.**¹ Bridget Gavaghan - Northern Kentucky University, Dr. Patrick M. Hare - Northern Kentucky University
52. **Evaluation of a Molecular Docking Program for Pose Prediction and Virtual Screening Against Dihydrofolate Reductase.** John E. Burden - Spalding University
53. **Off-Metal Synthesis of Some Aryl Substituted Rhenium η⁵-Cyclopenta[*c*]pyridazyl Complexes.** Leif Neathery - Western Kentucky University, Chad A. Snyder, Ph.D. - Western Kentucky University
54. **Normal and Abnormal Carbene Complexes.**¹ Clarín Ellard - Berea College, Samuel M. Rosolina - Berea College, Justin Baldwin - Berea College, Anes Kovacevic - Berea College
55. **Characterization of Pseudomonas aeruginosa and Eschericia coli Biofilm Formation on Metal Oxide Substrates.**¹ Jonathan Pahren - Northern Kentucky University, Allen Morris - Northern Kentucky University, Aaron Swomley - Northern Kentucky University, Hazel Barton - Northern Kentucky

University, Heather Bullen - Northern Kentucky University

56. **Evaluation of Functional Nanomaterials for Biosensing and Alternative Energy Applications.** ¹ Nana-ama Quansah - Northern Kentucky University, Stephen Wall - Northern Kentucky University, Anthony Haskamp - Northern Kentucky University, Wesley Bass - Northern Kentucky University, Keith Walters - Northern Kentucky University, Kristi Haik - Northern Kentucky University, Heather Bullen - Northern Kentucky University
57. **Spectroscopic Analysis of Pseudomonas aeruginosa and Escherichia coli Adsorption to Metal Oxides.** ¹ Allen Morris - Northern Kentucky University, Jonathan Pahren - Northern Kentucky University, Aaron Swomley - Northern Kentucky University, Hazel Barton - Northern Kentucky University, Heather Bullen - Northern Kentucky University
58. **Reaction of Platinum (II) Complexes with Peptides.** Khaja Muneeruddin - Western Kentucky University, Dr. Kevin Williams - Western Kentucky University
59. **Elucidating Loline Alkaloid Biosynthesis.** Sujit . Pawar - University of Kentucky
60. **Detection of Hydroxylate Polychlorinated Biphenyls Employing a Molecular Switch.** ¹ Brittney Metts - Kentucky Wesleyan College, Dr. Sylvia Daunert - University of Kentucky, Krystal Teasley Hamorsky - University of Kentucky
61. **The Bio-Accumulation of Mercury(Hg) in Bat Hair from Atmospheric Deposition.** . ¹ Natosha Mulholland - Western Kentucky University, Melinda Rucks - Western Kentucky University
62. **Evaluating the Implication of Siderophore/Aluminum Oxide Interactions on Biofilm Formation.** ¹ Alyssa Smith - Northern Kentucky University, Heather Bullen - Northern Kentucky University
63. **Evaluation of Oligo(ethylene glycol) Coatings on Stainless Steel as Biofouling Resistant Surfaces.** ¹ Mary Claire Brady - Northern Kentucky University, Anthony Haskamp - Northern Kentucky University, Jonathan Pahren - Northern Kentucky University, Aaron Swomley - Northern Kentucky University, Heather Bullen - Northern Kentucky University
64. **The effects of humidity on the conductivity of DNA.** ¹ Carmen Dibaya - Berea College, John M. Leveritt, III - Tulane University, Ray Shrestha - Tulane University, Sarah Tesar - Tulane University, Alexander L. Bruin - Tulane University
65. **Bi-Functional Mesoporous Silicates as Non-Steroidal Anti-Inflammatory Drug (NSAIDs) Carriers.** ¹ Chrsitina Duffy - Northern Kentucky University, Isabelle Lagadic - Northern Kentucky University

66. **Probing Protein Conformational Changes with Atomic Force Microscopy (AFM).** Sanja Trajkovic - University of Kentucky, Sylvia Daunert - University of Kentucky, Yuguang Cai - University of Kentucky
67. **Solvent Dependence of Estrogen Fluorescence Quantum Yields.**¹ Karla Irizarry - Northern Kentucky University, Kit Yan Chan - Northern Kentucky University, Patrick Hare - Northern Kentucky University
68. **Utilizing 2,6-Dichlorophenolindophenol (DCIP) Towards the Development of a Novel Undergraduate Chemistry Laboratory for Distribution Coefficients.**¹ Chad W. Chumbley - Eastern Kentucky University, Darrin L. Smith - Eastern Kentucky University
69. **Electron-rich annulenes suitable for coupling to electron deficient cores.**¹ Emma Hatfield - Northern Kentucky University, Linda Schutzman - Northern Kentucky University
70. **Incorporation of Europium (III) Complexes into Silica Microspheres.**¹ John Brantley - Western Kentucky University, Les Pesterfield - Western Kentucky University, Stuart Burris - Western Kentucky University
71. **Metal Complexation of Pyoverdinin Siderophores Produced by Pseudomonas Environmental Isolate: Implications in Survival and Growth.**¹ Aaron Swomley - Northern Kentucky University, Allen Morris - Northern Kentucky University, Jonathan Pahren - Northern Kentucky University, Hazel Barton - Northern Kentucky University, Heather Bullen - Northern Kentucky University
72. **The bipolar trajectory surface hopping (BTSH) approach for reactive scattering problems.** Jeremy B. Maddox - Western Kentucky University, Bill Porier - Texas Tech University
73. **Analysis of Alpha-galactosidase from *Aspergillus Niger*.**¹ Lauren E. Lane - Berea College, Matthew J. Saderholm - Berea College
74. **Optimizing the Synthesis of Asymmetric [14]-Dehydrobenzoannulenes.**¹ Catharine Horner - Northern Kentucky University, Wil Talbert - Northern Kentucky University, Le Dao - Northern Kentucky University, Jeff Fortin - Northern Kentucky University, Brenda Barnes - , K.C. Russell -
75. **Service Learning in Analytical Chemistry: Water quality analysis of Bee Creek and Clarks River, Kentucky.**¹ Kristi Adair - Murray State University, Harry Anderson - Murray State University, Ashley Driver - Murray State University, Emily Morris - Murray State University, Erica Riley - , Ashley Winkler - , Bommanna Loganathan -
76. **The Synthesis of Proline-containing Peptides.** Matthew Meter - Berea College, Matthew Saderholm - Berea College
77. **Compositional Changes in Human Tear Lipids with Meibomian Gland Dysfunction.**¹ Sara Ratliff - Eastern Kentucky University

GEOLOGY

78. **Depositional Environment of Split Rock Conglomerate** . ¹ Michael Glassmeyer - Northern Kentucky University
79. **Quaternary Geologic Map of the Alexandria 7.5-Minute Quadrangle East of the Licking River, Northern Kentucky**. ¹ Zach Mergenthal - Northern Kentucky University
80. **Improving approximations of the Mohr-Coulomb failure envelope** . ¹ Jesse Amundsen - Northern Kentucky University
81. **SEDIMENTOLOGY OF THE BRUSHY BASIN MEMBER OF THE MORRISON FORMATION ASSOCIATED WITH THE AARON SCOTT DINOSAUR SITE (JURASSIC), FERRON, UTAH**. ¹ Zach Mergenthal - Northern Kentucky University
82. **Weathering and Erosion of Bones from the Aaron Scott Site near Ferron, Utah (Morrison Formation, Jurassic)**. ¹ Katybeth Coode - Northern Kentucky University
83. **Updates to the Taphonomy of the Aaron Scott Site dinosaur site (Jurassic, Morrison Formation) in Central Utah**. . ¹ Kevin R. Donaldson - Northern Kentucky University, Janet L. Bertog - Northern Kentucky University

ENGINEERING

84. **Synthesis and cytotoxicity of gold/golds nanoparticles with controllable near-infrared resonance and biocompatible surface coating for cancer therapy** . ¹ Deborah Hickman - Transylvania University, Guandong Zhang - University of Kentucky, Andre Gobin - University of Kentucky
85. **KySat-1: A Test-Bed for Small Satellite Technology**. Daniel Erb - University of Kentucky, Dr. James Lumpp - University of Kentucky, Dr. Benjamin Malphrus - Morehead State University

HEALTH SCIENCES

86. **Preliminary Investigation into Human Life Expectancy as Influenced by Country, Age Scale, and Gender for the Period of 1990 to 2006**. Pramod Gupta - Western Kentucky University, Zheng Wang - Western Kentucky University, Elmer Gray - Western Kentucky University
87. **Understanding Glutamate Neurotransmission Before, During, and After Status Epilepticus in Young and Aging Rats**. ¹ M. Elizabeth Deel - University of Kentucky, Michelle L. Stephens - University of Kentucky, Francois Pomerleau - University of Kentucky, Peter Huettl - University of Kentucky, G. A. Gerhardt - University of Kentucky
88. **Pesticide Use and Safety Practices of Small/Limited Resource Fram and Greenhouse Workers in KY**. Frederick N. Bebe - Kentucky State University,

Myna Panemangalore - Kentucky State University

89. **Immobilization of antiviral lectin Griffithsin on magnetic beads** . ¹ Andrew Johannemann - Kentucky Wesleyan College, Kenneth Palmer - University of Louisville
90. **Expression, purification and characterization of recombinant Microcystis viridis Lectin**. ¹ Stacy Webb - Kentucky Wesleyan College, Kenneth Palmer - University of Louisville
91. **Attitudes toward and Influences upon HPV Vaccine Acceptance among Male and Female Filipinos**. ¹ Viktoria Safarian - Transylvania University, Morgan Richardson - Transylvania University, Ruth Kloha - Transylvania University, April Young - University of Kentucky, Dr. Kathleen Jagger - Transylvania University
92. **An evaluation of the chemopreventive properties from venus flytrap (*Dionaea muscipula* Ellis)**. ¹ Daniel G. Eschenbach - Bellarmine University, Jillian C. Goines - Bellarmine University, Dave L. Robinson - Bellarmine University, Joann M. Lau - Bellarmine University
93. **Effect of high isoflavone soy diets on serum cholesterol and triglyceride levels in C57BL/6J mice**. ¹ Daniel Schucter - Northern Kentucky University, April Biddle - Northern Kentucky University, Dr. Falcia Edwards - Northern Kentucky University, Dr Eimear Mullen - Northern Kentucky University
94. **Are Amino Acid Variations in Interleukin-1 Alpha Linked to Alzheimer's Disease?**. ¹ Kyle Brosmore - Northern Kentucky University, Joseph Mester - Northern Kentucky University

SATURDAY AFTERNOON

COMPUTER AND INFORMATION SCIENCES

1. **Alignment of genomes of *C.scatologenes* to NC_009699 (*C.botulinum* F str.Langeland).** Haitao Yu - Western Kentucky University, Chia-Hui Lin - Western Kentucky University, Lipeng Bi - Western Kentucky University, Claire Rinehart - Western Kentucky University
2. **Genomic Comparison of *C. Scatologenes* to *M. Thermoacetica*.** ¹ Alexander Hare - Western Kentucky University, Ben Neal - Western Kentucky University, Jae Lee - Western Kentucky University, Paul Kasinski - Western Kentucky University, Kinchel Doerner - Western Kentucky University, Claire Rinehart - Western Kentucky University
3. **Genomic Comparison of *C.scatologenes* to *C. acetobutylicum*.** ¹ Malika Ahmed - Western Kentucky University, Eric Johnson - Western Kentucky University, Eeswarachandra Chamarthi - Western Kentucky University
4. **Finding Reliable Indicators of False Positive Sequence Matches for *C. scatologenes* Genome Assembly.** ¹ Alan Simmons - Western Kentucky University, Claire Rinehart - Western Kentucky University

ECOLOGY AND ENVIRONMENTAL SCIENCE

5. **Effect of Al & Ca soil availability on *Picea rubens*(Pinaceae) & *Abies balsamea*(Pinaceae) foliar physiology and chemistry in northern New England.** Richard L. Boyce - Northern Kentucky University
6. **Nutrient Limitations in Low Alkalinity, Low Nutrient, Eagle Lake Reservoir, Rowan Co., KY .** ¹ Susan R. Brown - Morehead State University, Brian C. Reeder - Morehead State University
7. **Construction of Thermal Dissipation Probes for Sap Flow Measurement.** ¹ Lincoln Fugal - Northern Kentucky University
8. **Ecology and Geology of the Belize Barrier Reef: Changes since 1973.** ¹ Jessica Webster - Northern Kentucky University, Denice N. Robertson - Northern Kentucky University, Sarah E. Johnson - Northern Kentucky University
9. **Three Centuries of Fire and Forest History in an Old-Growth Quercus Forest on the Cumberland Plateau.** ¹ Josh Taylor - Eastern Kentucky University, Justin Price - Eastern Kentucky University, Adrienne Cooper - Eastern Kentucky University, Ryan McEwan - Dayton University, Neil

Pederson - Eastern Kentucky University

10. **Impacts of surface mining on Asian Clam growth and mortality in tributary streams.**¹ Maranda Elswick - Pikeville College, Jane Argentina - Virginia Polytechnic Institute and State University, Joseph Whittaker - Pikeville College
11. **Impacts of surface mining on sediments and water quality in tributary streams.**¹ Maranda Elswick - Pikeville College, Jane Argentina - Virginia Polytechnic Institute and State University, Joseph Whittaker - Pikeville College
12. **identification of DNA biomarkers for determining sources of fecal pollution in water.** Kevin Andrew - Gatton Academy of Mathematics and Science in Kentucky, Rick Fowler - Western Kentucky University, Claire Rinehart - Western Kentucky University, Jonathan Quito - Western Kentucky University
13. **Comparison of amphibian communities in artificial and natural ponds in forested ecosystems.** Andrea Drayer - Eastern Kentucky University, Stephen Richter - Eastern Kentucky University
14. **A Test for the Role of Early Experience on House Sparrow Exploration, Neophobia, and Innovative Feeding Behavior.** Kelly Spratte-Lennington - University of Kentucky, Amanda L. Ensminger - University of Kentucky, Ian R. K. Steward - University of Kentucky, David F. Westneat - University of Kentucky
15. **Accumulation of heavy metals in mayflies (Heptageniidae) at the Paducah Gaseous Diffusion Plant, then (1987-1991) and now (2008-2009).** Andrew J Wigginton - University of Kentucky, Ben F Brammell - University of Kentucky, Alissa M Carlton - University of Kentucky, Scott J Holliday - University of Kentucky
16. **Population and abundance differences of small mammals inside and outside deer exclosures in Minnesota.** Joseph C. Whittaker - Pikeville College, Sara B. Ocasio-Ortiz - University of Puerto Rico - Rio Piedras Campus
17. **A Dendrochronological Study of Uncommonly Sensitive Post Oak and Pignut Hickory Populations With Implications for Future Stand Development.**¹ Nicholas D. Tomko - Eastern Kentucky University, Emily Downer - Eastern Kentucky University, Neil Pederson - Eastern Kentucky University
18. **Influences of Pasture and CREP Tallgrass Plantings on Avian Community Composition in Summer and Winter.** Aaron Hulsey - Western Kentucky University, Cabrina Hamilton - Western Kentucky University, Wayne Mason - Western Kentucky University, Albert J. Meier - Western Kentucky University
19. **Influences of Microbial Networks on Food Webs.**¹ Justine Missik - Western Kentucky University, Kati Coates - Western Kentucky University, Jonathan L. Bowers - Western Kentucky University, Stuart Borrett - University of North

Carolina, Wilmington, Albert J. Meier - Western Kentucky University

20. **Horizontal Transmission of Dengue viruses among *Aedes aegypti* and *Aedes albopictus* Larvae.** Jeffrey Bara - University of Louisville, Susanna Remold –
21. **An assessment of water quality within the Green River, Kentucky watershed using the Kentucky Division of Water (KDOW) Diatom Bioassessment Index (DBI).** Richard E. Schultz - University of Louisville, James E. Alexander - University of Louisville, David A. Word - University of Louisville, Jeffrey D. Jack - University of Louisville
22. **Fiber Optic Biosensors for *In Situ* Monitoring of Hydroxylated PCB's.**¹ Neha Ray - Henry Clay High School, Joel Smita - University of Kentucky, Kendrick Turner - University of Kentucky, Sylvia Daunert - University of Kentucky

MATHEMATICS

23. **e-Statistics: Teaching Without a Physical Textbook.** Bradley A. Schneider - Morehead State University, Dr. Lloyd R. Jaisingh - Morehead State University

MICROBIOLOGY

24. **Development of an improved replicating plasmid for *Myxococcus xanthus*.**¹ Stacy Assan - Berea College, Wesley Black - Virginia Polytechnic Institute & State University, Zhaomin Yang - Virginia Polytechnic Institute & State University
25. **Revealing the potential ABC transporter genes of a soil bacterium *Exiguobacterium acetylicum* by using signature NRPS primers.** Williard Mazhawidza - Kentucky State University, Narayanan Rajendran - Kentucky State University
26. **Strategies for Identification of Polyhydroxyalkanoate Inclusion Proteins.** Tiffany Stacy - Morehead State University, Jacob Jordan - Morehead State University, Lynn Eisenhour - Morehead State University, Douglas Dennis - Morehead State University
27. **Characterization of a potential Type I secretion system in *Burkholderia pseudomallei*.**¹ Emmanuel Davis - Berea College, William Grose - University of Georgia, Eric LaFontaine - University of Georgia
28. **Archaeal diversity in a marble cave of Northeastern Brazil.** Marcelo Augusto de Freitas Kramer - Laboratório de Biologia Molecular e Genômica, CB, DBG, UFRN, Natal, RN, Brazil, Lucymara Fassarella Agnez Lima - Laboratório de Biologia Molecular e Genômica, CB, DBG, UFRN, Natal, RN,

¹Undergraduate Research Competition

Brazil

29. **The Culturable Fungal Diversity of Caves.** ¹ Alexis Henry - Northern Kentucky University, Hazel A. Barton - Northern Kentucky University
30. **Wind Cave Lakes: The Purest Water on Earth?.** ¹ Mckenzie Vater - Northern Kentucky University, Juan Giarrizzo - Northern Kentucky University, Jens Kallmeyer - University of Potsdam, Hazel A. Barton - Northern Kentucky University
31. **Microbial Atrazine Degradation in Cave and Karst Aquifers.** ¹ Katarina Schneider - Northern Kentucky University, Brandon Iker - Northern Kentucky University, Hazel A. Barton - Northern Kentucky University
32. **Decontamination Strategies to Stop the Spread of White-Nose Syndrome.** ¹ Elizabeth Shelley - Northern Kentucky University, Tim Williams - Northern Kentucky University, Hazel A. Barton - Northern Kentucky University
33. **Testing the Effectiveness of Filtration, Iodine Tablets, Bleach, Chlorine Dioxide, Bioling, and Ultra Violet Light as Methods to Remove Bacterial Contamination from Water.** ¹ David M. Henson - Georgetown College, Mark C. Johnson - Georgetown College

PHYSICS AND ASTRONOMY

34. **Measurement of Muon Flux and Lifetime Using a Cosmic Ray Muon Detector.** ¹ Richard Jelsma - Bellarmine University, Akhtar Mahmood - Bellarmine University
35. **A Study of Ultra-Cold Atoms in the Strongly Interacting Regime.** ¹ Brandon Brown - Berea College, Martin Veillette - Berea College
36. **Mid-Infrared Observations of IC133 .** ¹ Hodari-Sadiki James - Berea College, Emily Worinkeng - Berea College, Tracy Hodge - Berea College
37. **Tracking the Moon: An Open-Ended Laboratory Activity in Astronomy for Non-Science Majors.** Raymond C. McNeil - Northern Kentucky University
38. **Using Commercial Digital Cameras to Document Night Sky Brightness in Morehead, KY.** James Kevin Adkins - Morehead State University, Jennifer Birriel - Morehead State University
39. **Super Massive Black Hole Monitoring Concentrating on BL Lac & 3C 454.3.** ¹ Mark Hageman - Thomas More College, Wesley Ryle - Thomas More College, Mark Broering - Thomas More College
40. **A multi wavelength (X-ray, optical, and radio) survey for supernova**

remnants in nearby galaxies M101 and NGC4258. . ¹ Tabitha Aldridge - Morehead State University, Doug Staggs - Morehead State University, Thomas Pannuti - Morehead State University

41. **Development of an online INSPIRE VLF-3 receiver at Morehead State University.** Douglas Haase - Morehead State University, Jennifer Birriel - Morehead State University
42. **Structural and Magnetic Studies of Cobalt-ferrite for Potential Pressure Sensor Applications.** ¹ Michael Fuehner - Northern Kentucky University, Wayne J. Bresser - Northern Kentucky University, Chari Ramkumar - Northern Kentucky University

PHYSIOLOGY AND BIOCHEMISTRY

43. **Inhibition by Metal Ions in the Horseradish Peroxidase/o-Phenylenediamine System.** Thomas Owens - Georgetown College, Todd M. Hamilton - Georgetown College
44. **Using heart rate as a bioindex to assess various sensory perceptions in non-sighted cave crayfish.** ¹ Marti Robinson - University of Kentucky, Michael Baker - University of Kentucky, Sonya Bierbower - University of Kentucky, Dr. Robin L. Cooper, Ph.D. - University of Kentucky
45. **Developing A Biomarker for Pre-clinical and Clinical Lafora Disease Treatment.** ¹ Mary Beth Johnson - University of Kentucky, Matthew Gentry, PhD. - University of Kentucky
46. **Effects of Estrogenic Action in the Aging Lung.** ¹ JEFF MARSCHALL - University of Louisville, SHANE MCDONALD - University of Louisville, ERIN SHARIFF - University of Louisville, N. COLE PHELPS - University of Louisville, ANDREW M. ROBERTS - University of Louisville, CYNTHIA CORBITT - University of Louisville
47. **Leaf Leachates of the Invasive Shrub Amur Honeysuckle in Aquatic Systems: Oxygen-binding Proteins.** ¹ Stephanie J. Hayes - Northern Kentucky University, Richard D. Durtsche - Northern Kentucky University
48. **Parameters affecting immune system development in nestlings house sparrows, *Passer domesticus*.** ¹ Lily Thompson - Centre College, Ian R. K. Stewart - University of Kentucky, David F. Westneat - University of Kentucky
49. **Development and Role of Peripheral Auditory Structures in *Otocinclus affinis*.** SRI KIRAN KUMAR REDDY BOTTA - Western Kentucky University, MICHAEL E. SMITH - Western Kentucky University
50. **A rapid procedure to obtain accurate body weight of experiemntal rats .** Cecil Butler - Kentucky State University, Lingyu Huang - Kentucky State University, Changzheng Wang - Kentucky State University
51. **Genetic Susceptibility to PCB-induced Neurotoxicity.** ¹ Cellesitne Kamau-

Cheggeh - Northern Kentucky University, Rikki Floyd - Northern Kentucky University, Andrea Mynhier - Eastern Kentucky University, Emily Altenhofen - Northern Kentucky University, Sarah Kraemer - Northern Kentucky University, Breann Hays - Northern Kentucky University, Amber Evans - Northern Kentucky University

52. **Marble-burying behavior in PCB-treated mice varying at the Cyp1a2 locus.** ¹ Breann Hays - Northern Kentucky University, Rikki Floyd - Northern Kentucky University, Emily Altenhofen - Northern Kentucky University, Sarah Kraemer - Northern Kentucky University, Celestine Kamau-Cheggeh - Northern Kentucky University, Christine Perdan Curran - Northern Kentucky University
53. **Genetic Susceptibility to PCB-induced Motor Dysfunction .** ¹ Emily Altenhofen - Northern Kentucky University, Sarah Kraemer - Northern Kentucky University, Rikki Floyd - Northern Kentucky University, Breann Hays - Northern Kentucky University, Celestine Kamau-Cheggeh - , Amber Evans - , Christine Perdan Curran –
54. **Autonomic Response to Multiple Sensory Modalities In Crayfish.** Michael Baker - University of Kentucky, Marti Robinson - University of Kentucky, Sonya Bierbower - University of Kentucky, Robin L Cooper - University of Kentucky
55. **Testing acidity in the gastric tissue of model vertebrates with a microelectrode/microinjection perfusion system..** ¹ Kelly M. Stuard - Northern Kentucky University, Suzanne Q. Summe - Northern Kentucky University, Richard D. Durtsche - Northern Kentucky University

PSYCHOLOGY

56. **Influence of Marijuana Use on the Effects of d-Amphetamine.** ¹ Sean J. Durkin - University of Kentucky, Megan M. Poole - University of Kentucky, Craig R. Rush - University of Kentucky
57. **The Effects of Physical Attractiveness, Gender, and Job-type on Personnel Selection.** ¹ Bozhidar Bashkov - Berea College
58. **Evoked brain potential study of the stages of information processing abnormalities in autism..** ¹ Tommy Carroll - Asbury College, Tato Sokhadze - University of Louisville, Bobby R. Baldrige - Asbury College
59. **-Offspring Kin Recognition in Japanese Quail.** ¹ Emily Gregory - Centre College, Melissa Burns-Cusato - Centre College
60. **INTRACELLULAR pH IN OLFACTORY NEUROEPITHELIAL CELLS DERIVED FROM BIPOLAR SUBJECTS AND PSYCHIATRICALY NORMAL CONTROLS.** Sarah Rae Killingbeck - Transylvania University, YongLin Gao - University of Louisville, Fred Roisen - University of Louisville, Rif S El-Mallakh - University of Louisville

61. **Differential Effects of Physiological Stress and Cortisol on Simple Learning.** ¹ Jeffery Dobson - Morehead State University, Ilsun White - Morehead State University
62. **An Examination of Achievement Goal Types and Academic Self-Efficacy.** ¹ Debra Blaacker - Berea College, Robert Smith - Berea College, Hope Reuschel - Berea College, Alyssa Seibers - Berea College
63. **A Time Course of Methamphetamine (METH) Effects on Food Consumption and Interaction With an Object.** ¹ Amanda Adkins - Morehead State University, Chelsea Baker - Morehead State University, Nora Weyh - Morehead State University
64. **The Effects of Cognitive Defusion vs Restructuring on Distress.** Jared Dillow - Morehead State University, J T Blackledge - Morehead State University
65. **Acute effects of energy drinks on behavioral control.** ¹ Meagan A. Howard - Northern Kentucky University, Cecile A. Marczynski - Northern Kentucky University
66. **Success through Creativity: How Academic Orientations are Affected by Creative Self-Efficacy .** ¹ Alyssa Seibers - Berea College, Hope Reuschel - Berea College, Debra Blaacker - Berea College, Dr. Robert Smith - Berea College
67. **Comparing Male Quail Responses to Arbitrary and Species Typical Auditory Cues .** ¹ Ryan Will - Centre College, Stephanie Lipstreu - Centre College, Lindsey Lewis - Centre College, Brian Cusato - Centre College
68. **Impact of Multiple AD/HD Case Studies on Malingering.** ¹ Tina Ward - Morehead State University, Medina Jackson - Morehead State University, Jonathan Rakes - Morehead State University, Dr. Sean Reilley - Morehead State University
69. **The Bulls-Eye Value Survey on Value Based Living: An Examination of Validity.** ¹ Cory Ruffing - Morehead State University, Cassiah Winkle - Morehead State University, Zach Goble - Morehead State University, Jared Dillow - Morehead State University, Jennifer Taylor - Morehead State University, J.T. Blackledge - Morehead State University
70. **Linking creative self-efficacy with academic outlooks in adolescents .** ¹ Hope Reuschel - Berea College, Debra Blaacker - Berea College, Alyssa Seibers - Berea College, Robert Smith - Berea College
71. **Personality, one's preferred worship style, and current worship satisfaction.** ¹ Jessica Abner - Asbury College, Dr. Janet B. Dean - Asbury College

72. **Dissociation between Priming and Recognition of Facial Expressions.** David Book - Morehead State University, Steven Osborne - Morehead State University, Ilsun White - Morehead State University
73. **Acute Effects of MDMA (Ecstasy) on Simple Learning and Social Interaction in Rats.** ¹ Lauren May - Morehead State University, Katherine Ledger - Morehead State University, Alyssa Addison - Morehead State University, Shayla Miller - Morehead State University, Dr. Ilsun M. White - Morehead State University
74. **The Big Five: Relations with behavioral approach, inhibition and interpersonal problems.** ¹ Keri Burge - Morehead State University, Katie Grigsby - Morehead State University, Alyssa Addison - Morehead State University, Dr. David Olson - Morehead State University

SCIENCE EDUCATION

75. **Chemistry Unwired.** Brent Eldridge - Kentucky Community and Technical College System
76. **Assessing Undergraduate Genetic Literacy and the Impact Instruction.** ¹ Laura Rihm - Northern Kentucky University, Bethany V. Bowling - Northern Kentucky University
77. **Engaging students in natural variation in the introductory biology laboratory via a statistics-based inquiry approach.** David Thompson - Northern Kentucky University, Bethany V. Bowling - Northern Kentucky University, Maggie Whitson - Northern Kentucky University
78. **SKyTeach: A New Model for Math and Science Teacher Preparation.** Scott Bonham - Western Kentucky University
79. **Biodiversity Outreach Program: Dioramas in the Classroom.** ¹ Sarah Hamilton - Northern Kentucky University, Bethany Vice Bowling - Northern Kentucky University, Richard D. Durtsche - Northern Kentucky University

ZOOLOGY

80. **The effects of enhanced sensory perception on learning and memory retention in *Drosophila*.** ¹ Ann S. Cooper - University of Kentucky, Kim Changsoo - Sch. of Biol. Sci. and Technol., Chonnam National Univ. Gwangju, Robin L. Cooper - University of Kentucky
81. **Size comparisons of the bottlebrush crayfish (*Barbicambarus cornutus*) in the upper Green River, KY.** ¹ Amy Etherington - Campbellsville University, Richard K. Kessler - Campbellsville University

82. **Aggregation in the cave cricket by a pheromone (propionic acid) present in feces by experiments conducted on cave walls.** Michael R. Condon - Wittenberg University, Travis J. Croxall - Wittenberg University, Brady S. Christensen - Wittenberg University, Jay A. Yoder - Wittenberg University, Horton H. Hobbs III - Wittenberg University
83. **Preliminary ultrastructural analysis of spermiogenesis in the American Alligator (*Alligator mississippiensis*; Crocodylidae, Reptilia).** Daniel P. Jackson - Wittenberg University, Marla L. Anzalone - Wittenberg University, Kevin M. Gribbins - Wittenberg University
84. **Cave orb weaver spiders as a possible source of fungal pathogens to cave crickets in a small northeastern Kentucky cave.** Horton H. Hobbs III - Wittenberg University, Travis J. Croxall - Wittenberg University, Brady S. Christensen - Wittenberg University, Jay A. Yoder - Wittenberg University
85. **Behavioral Context of Sound Production in *Otocinclus affinis*.** ¹ Amanda M. Beers - Western Kentucky University, Michael E. Smith - Western Kentucky University
86. **Responses of salamanders to simulated environmental vibration.** ¹ Marie Damron - Pikeville College, Robert Arts - Pikeville College, Joseph Whittaker - Pikeville College
87. **Isolation of mitochondrial DNA to identify *Peromyscus leucopus* and *P. maniculatus*.** ¹ Kimberly Williams - Pikeville College, Mark Bolt - Pikeville College, Joseph C. Whittaker - Pikeville College
88. **In vitro retraction of the distome body of *Proterometra macrostoma* into it's cercarial tail: Effect of selected ions, light, and subsequent cercarial swimming.** ¹ Adam Meador* - Berea College, Kelly Njine Mouapi* - Berea College, Krystina Sandefur* - Berea College, Lee Ware* - Berea College, Cecilia Albers - Berea College, Adam Chambers - Berea College, Ronald Rosen
89. **Kentucky Spring Salamanders, *Gyrinophilus porphyriticus*, Avoid Eastern Garter Snake Odors.** Paul Cupp - Eastern Kentucky University
90. **Effects of Swim Bladder Deflation on Sound Localization in *Otocinclus affinis*.** ¹ Patrick Stewart - Western Kentucky University, Michael E. Smith - Western Kentucky University
91. **Sound Production in *Polyphylla decemlineata*.** ¹ Gayatri Bhaskar - Western Kentucky University, Michael E. Smith - Western Kentucky University
92. **Evaluation of a commercial sound recorder as a tool to determine anuran species diversity and abundance in a wetland.** ¹ Amanda K. Bourne - Northern Kentucky University, Richard D. Durtsche - Northern Kentucky

University

93. **Effects of *Lonicera maackii* Leaf Consumption.** ¹ Andrew J. Wallace - Northern Kentucky University, Richard D. Durtsche - Northern Kentucky University

94. **Variation in Critical Thermal Maxima of Eastern Narrowmouth Toads, *Gastrophryne carolinensis*, over a Latitudinal Gradient.** Paul Cupp - Eastern Kentucky University

Past Presidents of the Kentucky Academy of Science

1914-1915	Joseph H. Kastle	1961-1962	Charles Whittle
1915-1916	N.F. Smith	1962-1963	Lyle Dawson
1916-1917	A.M. Miller	1963-1964	R.A. Chapman
1917-1918	R.C. Ballard	1964-1965	C.B. Hamann
1918-1919	J.E. Barton	1965-1966	John M. Carpenter
1919-1920	Paul P. Boyd	1966-1967	Robert M. Boyer
1920-1921	W.H. Coolidge	1967-1968	Paul G. Sears
1921-1922	George D. Smith	1968-1969	Orville Richardson
1922-1923	Lucien Becker	1969-1970	Lloyd Alexander
1923-1924	W.R. Jillson	1970-1971	Karl Hussung
1924-1925	Cloyd M. McAllister	1971-1972	Louis Krumholz
1925-1926	Austin R. Middleton	1972-1973	Marvin W. Russell
1926-1927	W.G. Burroughs	1973-1974	Donald Batch
1927-1928	W.D. Valleau	1974-1975	Ellis V. Brown
1928-1929	G.D. Bucker	1975-1976	Frederick M. Brown
1929-1930	Frank L. Rainey	1976-1977	Charles Payne
1930-1931	V.F. Payne	1977-1978	Charles Kupchella
1931-1932	Anna A. Schnieb	1978-1979	Charles V. Covell
1932-1933	George Roberts	1979-1980	Larry Giesmann
1933-1934	John S. Bangson	1980-1981	William P. Hettinger, Jr.
1934-1935	Alfred M. Peter	1981-1982	Ted M. George
1935-1936	J.S. McHargue	1982-1983	J.G. Rodriguez
1936-1937	Robert T. Hinton	1983-1984	Gary Boggess
1937-1938	L.Y. Lancaster	1984-1985	Joe Winstead
1938-1939	W.R. Allen	1985-1986	Charles V. Covell
1939-1940	A.W. Homberger	1986-1987	Larry Giesmann
1940-1941	Charles Hire	1988	William P. Hettinger, Jr.
1941-1942	G.B. Pennebaker	1989	Richard N. Hannan
1942-1943	J.T. Skinner	1990	Debra K. Pearce
1943-1944	L.A. Brown	1991	W. Blaine Early, III
1944-1945	L.A. Brown	1992	Douglas L. Dahlman
1945-1946	P.J. Kolachov	1993	Charles N. Boehms
1946-1947	Ward Sumter	1994	Larry P. Elliott
1947-1948	Alfred Brauer	1995	Robert O. Creek
1948-1949	Morris Scherago	1996	William S. Bryant
1949-1950	W.E. Blackburn	1997	Marcus McEllistrem
1950-1951	E.P. Penrod	1998	Patricia K. Doolin
1951-1952	Harvey B. Lovell	1999	Gordon K. Weddle
1952-1953	Thomas Herndon	2000	Blaine R. Ferrell
1953-1954	C.B. Hamann	2001	Ron Rosen
1954-1955	R.H. Weaver	2002	Jerry Warner
1955-1956	J.G. Black	2003	Robert Barney
1956-1957	A.M. Wolfson	2004	Robert Kingsolver
1957-1958	William M. Clay	2005	Bruce Mattingly
1958-1959	William B. Owsley	2006	Miriam Kannan
1959-1960	Pete Panzera	2007	Nigel Cooper
1960-1961	H.H. LaFuze	2008	John Mateja
		2009	Robin Cooper

Past Meeting Locations of the Kentucky Academy of Science

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

**96th Annual Meeting of the Kentucky Academy of Science
November 2010
Host: Western Kentucky University**