Celebrating the Diversity of Research in the Mammoth Cave Region

11th Research Symposium at Mammoth Cave National Park

Schedule of Events

April 18-20, 2016
Mammoth Cave National Park Training Center
MONDAY, APRIL 18

8:00  Informal meet and greet, registration, load talks
8:30  Welcome, Special Opening Event
9:00  Ethnographic Overview and Assessment of Mammoth Cave National Park: A Progress Report  
      ~ Michael Ann Williams, Kristen Clark, Eleanor Hasken, and Rachel Haberman
9:45  Break
9:55  Where Did They Go? An Analysis of Out-Migration from Mammoth Cave National Park During Creation  
      ~ Collins Eke
10:20 Flint Ridge Cave History and Legends  
     ~ Norman L. Warnell and Stanley D. Sides
10:45 Research and Resources in WKU Special Collections  
      ~ Nancy Richey
11:10 Announcements
11:15 Lunch - on your own
12:45 Civilian and Soldier Graffiti of Hundred Dome (Coach) Cave, Kentucky, 1859 -1862  
     ~ Marion O. Smith and Joseph C. Douglas
1:10  Archeological Excavations in Advance of the Historic Tour Trail Rehabilitation  
     ~ Steven Ahler and Rebecca L. Hummel
1:35 Documentation and Conservation of the 1812-Era Saltpeter Works in Mammoth Cave, Kentucky  
     ~ George M. Crothers and Christina A. Pappas
2:05 Break
2:15 Recent Investigations at 15Ed23: Historic and Cultural Resources in a Disturbed Cave Environment  
     ~ Joseph C. Douglas, Alan Cressler, George Crothers, Marion O. Smith, Kristen Bobo, and Justin Carlson
2:40 1852 Journey to Mammoth Cave StoryMap  
     ~ Katie Algeo
3:05 Announcements
3:10 Break, Poster setup
3:25 - 5:00  Poster session
7:00  Mammoth Cave: A Place Called Home (Held at the Cave City Convention Center)  
      ~ Cheryl Beckley, WKU PBS
POSTER SESSION

Archaeology / History
Evaluation of an Early Nineteenth Century Brick Kiln at the Gardner House in Hart County, Kentucky
~ Lauren Kenney and Darlene Applegate

New Discovery Cultural Artifact Inventory and Analysis Project Update
~ David Kime, Jillian Goins, Robert Jensen, Clayton Johnson, Alessa Rulli, and Victoria Voss

Biology / Ecology
Oak Regeneration in Mammoth Cave National Park
~ Bill Moore and Carl Nordman

Surveys for the Diamond Darter (Crystallaria cincotta), an Endangered Species Known Historically from the Green River in Kentucky
~ Matthew R. Thomas and Stephanie L. Brandt

12 Years Conducting MAPS at Mammoth Cave National Park: What Have We Learned?
~ Brice Leech

Recent Winter Bat Numbers at Mammoth Cave National Park: Pre/Post White-Nose Syndrome Arrival
~ Steven Thomas

The Effects of the Fungus Beauvaria sp. on the cave cricket, Hadenoecus subterraneus
~ Christina Walker, Derrick Jent, and Claire Fuller

Education / Interpretation
Chronicling Mammoth Cave Data Visualization
~ Matthew Beckerich, Jared Koshiol, Noah Love, Greta Lowe, Celeste Shearer, and David Kime

Youth Engagement in Public Health at Mammoth Cave National Park: A Pilot Alternative Spring Break Program
~ Laura Shultz, David Wong, Amy E. Thomas, Rick Toomey, and Shannon Trimboli

Six Americas: Where Do Teachers Stand
~ Jeanine Huss and Cheryl Messenger

Geology / Hydrology
Drainage to Mammoth Cave National Park
~ Chris Groves, Katie Algeo, and Laura Myers

Clastic Sediments in Karst as a Vehicle for Contaminant Transport: Lithofacies and Transport Mechanisms
~ Rachel Bosch and William B. White

Green River Alluvial Terraces at Mammoth Cave and Glacial Valley Trains on the Ohio River: Genetic Correlation Revisited
~ Joseph A. Ray

Spatial Distribution Map of Small Caves within Mammoth Cave National Park
~ Bill Copeland

Resource Management
Meta-Analysis of Research Conducted at Mammoth Cave National Park, 1980-2013
~ Andrea Bachman, Nicole Erb, Ellen McPhillips, Matthew Rice, Tawni Riker, and David Kime

Exploration of Mammoth Cave Pools with Submersible Remotely Operated Vehicles
~ S. Altenstadter, O. Hennis, C. Johnson, A. Willett, S. Hammer, and E. Wong

Redevelopment of Historic Tour Cave Trails
~ Rickard S. Toomey III and Steve Kovar

Continuing Measures in Response to White-nose Syndrome at Mammoth Cave National Park
~ Gina Zanarini, Natalie Anderson, Chris Clark, Laura Shultz, Rickard Toomey, and Shannon Trimboli
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| 8:40  | The Freshwater Mussels and the Green River: Conservation, Protection, and Management of a Vital Resource in North America  
       ~ Monte McGregor, Bobby Carson, and Ken Kern                          |
| 9:05  | In Situ Survival and Performance of Juvenile Mussels in Streams and Correlations with Water and Sediment Quality Factors  
       ~ Wendell Haag, Jacob Culp, Monte McGregor, James Stoeckel, and Robert Bringolf |
| 9:30  | Potential Evidence for Arsenic Mineralization in Mussel Shells in the Upper Green River Basin, Kentucky  
       ~ Autumn Turner, Chris Groves, Aaron Celestian, and Albert Meier       |
| 9:55  | Break                                                                |
| 10:10 | Host-Parasite Associations of Small Mammal Communities: Implications for the Spread of Lyme Disease  
       ~ Matthew Buchholz and Carl Dick                                       |
| 10:35 | Amphibians and Reptiles of Mammoth Cave National Park: What Have We Learned After 13 Years of Monitoring  
       ~ John MacGregor                                                       |
| 11:00 | Over Half a Century of Mammoth Cave National Park Mid-winter Bird Count Data  
       ~ Blaine Ferrell                                                        |
| 11:25 | Announcements                                                         |
| 11:30 | Lunch - on your own                                                   |
| 1:00  | The Effects of Rainfall on Vernal Herbs  
       ~ Janis LeMaster and Albert Meier                                        |
| 1:25  | Conducting a Biological Inventory of Sloan’s Crossing Pond  
       ~ Miranda Thompson, Jason A. Matthews, and Christy Soldo               |
| 1:50  | Video Presentation: Monitoring Cave Organisms, Cumberland Piedmont Inventory and Monitoring Network  
       ~ Kurt Helf, Steven Thomas, and Michael Durham                           |
| 2:15  | Break                                                                |
| 2:25  | The Activity of *Myotis sodalis* and *Myotis septentrionalis* Changes on the Landscape of Mammoth Cave National Park Following the Arrival of White-nose Syndrome  
       ~ Rachael Griffitts, Luke E. Dodd, and Michael J. Lacki               |
| 2:50  | Summary of 2015 Winter Bat Monitoring at Mammoth Cave National Park  
       ~ Laura Shultz, Chris Clark, Rick Toomey, and Shannon Trimboli       |
| 3:15  | Evaluating the Energetic Value of Lepidoptera Using Bomb Calorimetry  
| 3:40  | Break                                                                |
| 3:50  | Organization and Development of the Eyes of *Ptomaphagus hirtus*, the troglobitic small carrion beetle of Mammoth Cave  
       ~ Markus Friedrich, Jasmina Kulacic, and Elke Buschbeck                 |
| 4:15  | Strip Adaptive Cluster Sampling with Application to Cave Crickets  
       ~ Kurt Lewis Helf, Tom Philipp, Bill Moore, and Lillian Scoggins       |
| 4:40  | Cave Research Activities in and around Mammoth Cave National Park  
       ~ Pat Kambesis and Bob Osburn                                           |
| 5:05  | Announcements                                                         |
| 7:30  | CRF map salon and social (Held at Hamilton Valley Research Facility)  |
WEDNESDAY, APRIL 20

8:00  Informal meet and greet, registration, load talks
8:30  Welcome
8:40  Tracing Carbon in Karst Environments in South-central Kentucky to Identify Changes in Groundwater Dynamic Under Varying Landuses
    ~ Chelsea Ballard, Jason Polk, and Kegan McClanahan
9:05  Measurement of Inorganic Carbon Fluxes from Large River Basins in South Central Kentucky Karst
    ~ Connor Salley and Chris Groves
9:30  An Overview of the Reverse Flow Patterns of River Styx in Mammoth Cave, Kentucky: 2009-2012
9:55  Break
10:10 The Effect of Faulting on Past and Present Hydrogeology in Long Cave, Mammoth Cave National Park
    ~ Rickard A. Olson and Rickard S. Toomey
10:35 Use of Multiphysics Simulation to Model Environmental Conditions Associated with Bat Hibernacula
    including Preliminary Indication of Impacts on Saltpeter Vats in Mammoth Cave
    ~ Aaron Bird, Rick Olson, Rick Toomey, Aaron Addison, and Rachel Bosch
11:00 What Data Analytics Can do for You!
    ~ Leyla Zhuhadar, J. Kirk Atkinson, Albert Meier, and Ouida Meier
11:25 Announcements
11:30 Lunch - on your own
1:00  The Max Kämper Map of Mammoth Cave - A Centennial Restoration
    ~ Tres Seymour
1:25  Natural Resource Condition Assessment for Mammoth Cave National Park
    ~ Cate Webb, Chris Groves, and Katie Algeo
1:50  Quantitative Dye Studies to Evaluate the Spill Response System for Mammoth Cave National Park
    ~ JeTara Brown, Thomas Byl, Rickard S. Toomey, III, and Lonnie Sharpe, Jr.
2:15  Break
2:25  Modeling Activity of the Indiana Bat (Myotis sodalis) at Mammoth Cave National Park using Remotely-
    sensed Descriptors of Forest Canopy Conditions
    ~ L. E. Dodd, N. S. Skowronski, M. B. Dickinson, L. K. Rieske, and M. J. Lacki
2:50  Citizen Science at Mammoth Cave National Park: Integrating Research and Education
    ~ Shannon R. Trimboli
3:15  Undergraduate Research Projects Help Promote Diversity in the Geosciences
    ~ De’Etra Young, Shannon R. Trimboli, Rickard S. Toomey, III, and Thomas Byl
3:40  Announcements and Closings
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McCoy Blue Hole, WKU Green River Preserve

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Matt McClintock

Symposium organized and hosted by:
The WKU branch of The Mammoth Cave International Center for Science and Learning
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Symposium sponsored by: WKU’s Ogden College of Science and Engineering, the Cave Research Foundation, Northern Kentucky University’s Honors Program, the Cave City Convention Center, and the Friends of Mammoth Cave National Park


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