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Mammoth Cave Research Symposia

11th Research Symposium 2016

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Apr 18th, 8:00 AM - Apr 20th, 4:00 PM

## 2016 Symposium Schedule of Events

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# **Celebrating the Diversity of Research in the Mammoth Cave Region**

**11<sup>th</sup> 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**

### **Archeology / 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, *Hadenoeus 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 Zanmarini, Natalie Anderson, Chris Clark, Laura Shultz, Rickard Toomey, and Shannon Trimboli

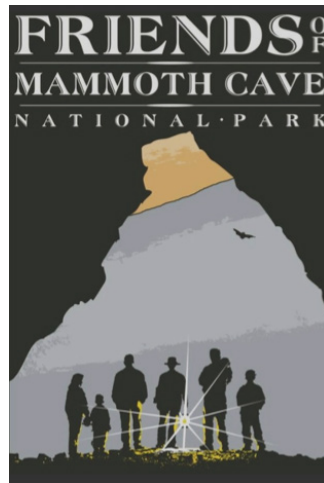
## **TUESDAY, APRIL 19**

- 8:00 Informal meet and greet, registration, load talks
- 8:30 Welcome
- 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 Griffiths, 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  
~ Shelby A. Fulton, Luke E. Dodd, and Lynne K. Rieske
- 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 Philippi, 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  
~ Shannon R. Trimboli, Rickard S. Toomey, III, Kim Weber, and Susan Ryan
- 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 Goves, 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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