Kentucky Water Resources Annual Symposium
March 28, 2016

7:30 Registration
8:00 Welcome & Introduction by Dr. Lindell Ormsbee, Director, UK/KWRRI

PLENARY SESSION
8:30 Flint Water Study Team and Flint Residents: Lead Discovery and Citizen Science, Min Tang, Dept. of Civil and Environmental Engineering, Virginia Tech University
9:30 Poster Session

Track 1

10:30 Groundwater
Proposed Bill to License Closed-Loop Geothermal System Vertical Borehole Well Drillers, Bart Davidson, Kentucky Geological Survey, David Jackson and Scotty Robertson, Kentucky Division of Water
Using Oil and Gas Data to Assess the Distribution of Fresh and Saline Water in Northeastern Kentucky, Ethan Davis, Kentucky Geological Survey
A Pilot Study to Assess Baseline Groundwater Chemistry for the Berea Sandstone and Rogersville Shale Play Area, Eastern Kentucky, Junfeng Zhu and others, KGS
Investigation of Limestone Aquifer Characteristics in the Elizabethtown, Kentucky Area, Chuck Taylor and others, Kentucky Geological Survey

Track 2

10:30 Soils
Controlled Drainage in Western Kentucky: Mitigating Water Stress and Reducing Nutrient Loss to Surface Waters in Grain Crop Production, Ethan Snyder and Carrie Knott, Plant and Soil Sciences, University of Kentucky
Comparing Simulated Soil Properties to Field Derived Values in Forested and Grassland Catena of MLRA 120, Trinity Baker and others, Integrated Plant and Soil Sciences, University of Kentucky
Soil Infiltration Rates in Six Agricultural Fields of Western Kentucky, Landon Gibbs and Iin Handayani, Dept. of Agricultural Science, Murray State University
Investigation of the Climate Modeling Factors Impacting Forecasted Streamflow for Central Kentucky, Nabil Al Aamery and others, Dept. of Civil Engineering, University of Kentucky

11:50—1:10 Awards Luncheon (Awards for Outstanding Contributions Related to Water Resources)

Karst
1:10 Characteristics of Cover-Collapse Sinkholes in Kentucky, James C. Currens, Kentucky Geological Survey
1:30 Data and Model Investigation of a Fluviokarst System in the Bluegrass Region: Water, Sediment, and Carbon Interactions, Adnan Husic and others, Dept. of Civil Engineering, University of Kentucky
1:50 Sourcing and Dynamics of Karst Hydrologic Inputs on Harmful Algal Bloom Occurrences in Kentucky Lakes, Robert Schaefer and Jason Polk, Dept. of Geography and Geology, Western Kentucky University
2:10 Investigation of Fecal Contamination in the Little River Basin, Kentucky Using Microbial Source Tracking and Fecal Indicator Bacteria, 2013-2014, Mac A. Cherry, USGS, Kentucky Water Science Center

Environmental Impact
1:10 Toward Rapid Detection of Phytophthora cinnamomi in Appalachian Streams, Kenton Sena and others, Dept of Forestry, UK
1:30 Arsenic in Water and Risk of Cancer in Humans, Steven Lamm and others, Center for Epidemiology and Global Health, Washington, DC
1:50 Examining the Impacts of Valley Fills in Stream Ecosystems on Amphibian and Aquatic Insect Communities in Southeastern Kentucky, John Bourne and Stephen Richter, Patuxent Research Refuge, Laurel, MD and Eastern Kentucky University
2:10 The Wetlands Prioritization Tool, Caroline Chan, Kentucky Division of Water

Source Water Protection
3:00 Kentucky’s Source Water Protection Assistance Program, Robert Blair and James Calhoun, Watershed Management Branch, Kentucky Division of Water and Jessica Moore, U.S. EPA, Dallas, Texas
3:20 Source Water Protection Assistance Program, Trumbull County Water District #1 Customer Outreach Program, Andrew Stark, Trumbull County Water District #1, Bedford, KY
3:40 Kentucky Rural Water Association and Water Utilities’ Efforts in Protecting Drinking Water Sources, Jack Stickney, Kentucky Rural Water Association, Bowling Green, KY
4:00 Source Water Protection for the Riverbank Filtration System, Kay Ball and Rob Newman, Louisville Water Company, Louisville, KY

Stream Restoration
3:00 Bankfull Open Channel Flow Model: Development and Applications for Stream Restoration Design, Charles Davis and Brian Belcher, Beaver Creek Hydrology, LLC, Lexington, KY
3:20 Using Stream Restoration for Pollution Reduction, Wanda Lawson, Stantec Consulting Services, Inc., Louisville, KY
3:40 KDFWR Hatchery Creek Stream and Wetlands Restoration Project - A Unique Opportunity to Maximize Trout Habitat, Create Recreational Opportunities and Provide Mitigation Credits: Planning & Design, Oakes Routt and others, Stantec Consulting Services, Inc., Louisville, KY
4:00 KDFWR Hatchery Creek Stream and Wetlands Restoration Project - A Unique Opportunity to Maximize Trout Habitat, Create Recreational Opportunities and Provide Mitigation Credits: Construction & Lessons Learned, Eric Dawalt and others, Ridgewater, LLC, Lexington, KY
1. Fecal Coliforms and E. coli levels in Surface Waters from McConnell Springs, 2011-2015, David Price, Division of Water Quality, Lexington-Fayette County Government

2. Buried Soils as an Important Control on C Storage along Human-Impacted Floodplains in Kentucky, USA, Ashley Casselberry and Gary Stinchcomb, Dept. of Geosciences & Watershed Studies Institute, Murray State University

3. Buried Soils are an Important Chemical Interface Controlling Mineral Weathering and Solute Gradients along River Corridors, Gary Stinchcomb, Ashley Casselberry, and Abigail Smith, Dept. of Geosciences & Watershed Studies Institute, Murray State University

4. Geospatial Evaluation of Sewer Gas to Indoor Air Pathways Relevant for Vapor Intrusion, Evan Willett and Kelly Pennell, Dept. of Civil Engineering, University of Kentucky

5. Investigation of the Upper Mississippi Embayment Aquifer System Hydrostratigraphy using Integrated Geophysical Methods: Jackson Purchase, Kentucky, Marie Cooper and others, Dept. of Earth and Environmental Sciences, University of Kentucky

6. Evaluating Pedestrian Compaction Variation Under Different Ground Use Systems in Calloway County, Kentucky, Gunner Decker and Iin Handayani, Huston School of Agriculture, Murray State University

7. Land Cover Pixel Shift in the Kentucky River Basin and Its Effects on Spatial Statistics, Demetrio Zourarakis, Commonwealth Office of Technology

8. Effects of Various Land Uses in Stewart County, TN on Selected Soil Properties, Tanner McIntyre and Iin Handayani, Hutson School of Agriculture, Murray State University

9. Differences in Soil Characteristics among Natural and Agricultural Ecosystems in Western Kentucky, Cody Masterson and Iin Handayani, Hutson School of Agriculture, Murray State University

10. Incorporating Human Impacts and Natural Processes to Assess Sinkhole Risk, William Pierskally Jr. and Junfeng Zhu, Dept. of Earth and Environmental Sciences and Kentucky Geological Survey, University of Kentucky

11. Virtual 3D Model for Contaminant Flow with Groundwater Due to Underground Pipe Burst for Education and Outreach, C.V. Chandramouli and others, Dept. Mechanical Engineering, Purdue University, Calumet, Hammond, Indiana

12. Nutrient TMDL for Deep River Watershed using KY Nutrient Tool, C.V. Chandramouli and others, Dept. Mechanical Engineering, Purdue University, Calumet, Hammond, Indiana

13. Designing Polyphenolic Nanocomposite Materials for the Capture and Sensing of Polychlorinated Biphenyls in Contaminated Water Sources, Angela Gutierrez and others, Dept. of Chemical and Materials Engineering, University of Kentucky

14. Emerging Trends in Kentucky Lake Water Quality: 25 Years and Over 500 Cruises, Susan Hendricks, Hancock Biological Station, Murray State University

15. Does Light Penetration Affect the Pelagic Fish Community in Kentucky Lake, Timothy Spier and others, Dept. of Biological Sciences, Murray State University

16. Long-Term Effects of Forestry Best Management Practices on Hydrology and Water Chemistry in Three Appalachian Headwater Catchments, Kameryn Wright and others, Biosystems and Agricultural Engineering, University of Kentucky

17. Progress Toward Improved Statewide Groundwater-Level Monitoring, Chuck Taylor and others, Kentucky Geological Survey

18. Detection of Percopsis omiscomaycus (trout -perch) using eDNA in Eastern Kentucky Streams, Ben Brammell and others, Dept. of Natural Sciences, Asbury University, Wilmore, KY

19. Seasonal Fluctuations in Salamander eDNA in Central Kentucky Streams, Ronald Sams and others, Dept. of Natural Sciences, Asbury University, Wilmore, Kentucky

20. Engaging Students in Community Climate Resilience and Education, April Haight, Center for Environmental Education, Morehead State University