59th Annual Midwest Ground Water Conference – Conference Program

Tuesday, September 30, 2014
8:30 – 5:15  Field Trip: Water Resources of the Kansas River Alluvial Aquifer (Holiday Inn conference entrance)
5:15 – 7:00  Conference Registration and Mixer, Holiday Inn (Brazilian A)

Wednesday, October 1, 2014
7:00 – 8:15  Registration (hallway), Poster Session setup (Regency A&B), Continental breakfast (Regency C&D)
8:15 – 8:30  Plenary Session (Regency A&B)
             Introductions
             Welcome: Rex Buchanan, Interim Director, Kansas Geological Survey
             Announcements

Keynote Presentation – William Alley, Former Chief, USGS Office of Groundwater (Regency A&B)
8:30 – 9:20  Fracking and Sustainability: Major Challenges in Earth Science Communication

Session I – Groundwater Modeling of Aquifer Systems (Regency A&B)
9:20 – 9:40  Using a three-dimensional hydrogeologic framework to investigate potential sources of springs in the Death
             Valley regional groundwater flow system: Mary C. Hill, Claudia C. Faunt, Wayne R. Belcher, and
             Donald S. Sweetkind
9:40 – 10:00 Simulation of Groundwater Flow and Chloride Transport in the Equus Beds Aquifer:
             Brian Klager and Brian Kelly
10:00 – 10:20 Break (Regency C&D), Visit exhibits (hallway)

Session II – Groundwater Modeling of Aquifer Systems (continued) (Regency A&B)
10:20 – 10:40 Evaluating Water Management Improvement Strategies in the Kansas Lower Republican River Basin:
             Andrea Brookfield, Susan Stover, Chris Gnau, and Chris Beightel
10:40 – 11:00 Post Audit Results for the Platte West Well Field Groundwater Model--How Good Were Our Predictions?:
             Luca DeAngelis
11:00 – 11:20 Improving Our Understanding of Groundwater in the Ozarks--An Overview of the U.S. Geological Survey
             Ozark Regional Aquifer Study: Brian R. Clark, Phillip D. Hays, and Anna Nottmeier

Session III – Karst Hydrogeology, Groundwater Resources (Regency A&B)
11:20 – 11:40 An Update on the Recharge Area of Selected Large Springs in the Ozarks:
             Jerry L. Prewett, James W. Duley and Cecil Boswell
11:40 – 12:00 A new artificial recharge approach using direct push wells for aquifer storage and recovery in near-surface
             aquifers: A case study in the Lower Republican River basin: Gaisheng Liu, Steve Knobbe, Ed Reboulet,
             Don O. Whittemore, Falk Hänel, and James J. Butler, Jr.
12:00 –1:00  Lunch – provided (Regency C&D)

Session IV A – Concurrent Session – Groundwater-Surface Water Interactions (Regency A)
1:10 – 1:30  Consequences of Rapid Snowmelt Events on Soil Nutrient Loss in a Mesic Tallgrass Prairie, the Konza
             Prairie LTER Site, northeastern Kansas: G. L. Macpherson
1:30 – 1:50  Documenting Stream/Groundwater Interaction in the South Platte River:
             Douglas Hallum, Steven Sibray, and Leslie Howard
1:50 – 2:10  Integrated Water Management Modeling for Adaptive Management of Groundwater System in Nebraska:
             Mahesh Pun

Session IV B – Concurrent Session – Groundwater and Energy Production (Regency B)
1:10 – 1:30  Combustion of Pine/Macroalgae Pellets of Varying Mixture Composition
             Christopher Depcik, Edward Peltier, Val Smith, and Jin Ho Yun
1:30 – 1:50  The Impacts of Carbon Dioxide Storage in the Saline Arbuckle Aquifer on Freshwater Aquifers in Kansas:
             Tiraz Birdie Lynn Watney, Paul Gerlach, Michael Kilion, Eugene Holubnyak, Jennifer Raney, Tandis
             Banjoli, Gene Williams, Minh Nguyen, and Brownie Wilson
1:50 – 2:10  Potential Impacts of Hydraulic Fracturing on Drinking Water Resources:
             Steve Randtke
**Session V – Posters (Regency A&B) and Exhibits (hallway) Session**

2:10 – 3:10  
View and discuss posters with authors; visit exhibits

- Surface and Groundwater Data Collection and Application for Integrated Water Management in Nebraska:  
  Carol Myers Flaute, Mahesh Pun, and Jennifer Schellpeper
- Playa Wetland Distribution and Geomorphology in Western Kansas Using a LiDAR-Derived DEM:  
  Melissa Goldade and William C. Johnson
- Groundwater-Level and Storage-Volume Changes in the Equus Beds aquifer near Wichita, Predevelopment to 2014:  
  Cristi V. Hansen and Joshua A. Whisnant
- An analysis of the Ohio River Basin water balance and future predictions under a warming climate:  
  Dave Howarth
- Development of a Modeling Tool for Determining Fully Appropriated Areas in Nebraska:  
  Ruopu Li, Melissa Mosier, Mahesh Pun, Jessie Wietjes, Brandi Flyr, and Sudhansh Chinta
- CO2 Flux From Grassland Headwater Streams:  
  Michael Rawitch and G.L. Macpherson
- Simulation of groundwater flow and effects of potential 21st century climate scenarios on lakes in the Sand Hills region, Nebraska:  
  Nathan Rossman and Vitaly Zlotnik
- Nitrate in Groundwaters in Farmers Elevator Company Site, Sylvan Grove, Kansas:  
  Samuel Stone, Shovan Barua, Michael Vega, Chris Steincamp, and Saugata Datta
- Ground-Water Management Resources and Tools on the Kansas Geological Survey Website:  
  Daniel R. Suchy
- Little Arkansas River and Equus Beds Aquifer Water Quality Before and Concurrent with Large-Scale Artificial Recharge, South-Central Kansas, 1995-2012:  
  Daniel Tappa, Jennifer Lanning-Rush, and Andrew Ziegler

**Session VI A – Concurrent Session – Groundwater Management (Regency A)**

3:10 – 3:30  
Michigan's Ground Water Management Tool:  
Brant O. Fisher

3:30 – 3:50  
Ten Years of Integrated Water Management in Nebraska:  
Jennifer J. Schellpeper

3:50 – 4:10  
INSIGHT: Development of a Web-based Water Information System:  
Brandi Flyr

4:10 – 4:30  
Creating the Climate for Conservation: Nested Systems to Support Agricultural Community Adaptation to Groundwater Scarcity:  
Stephen Gasteyer

4:30 – 4:50  
Groundwater Modeling as a Tool in Drought Management, Rock Valley Rural Water District, Sioux County, Iowa:  
Mike Gannon

**Session VI B – Concurrent Session – Groundwater Quality, Aquifer Characterization (Regency B)**

3:10 – 3:30  
CO2 as a control on microbial activity in anoxic aquifers:  
Matthew Kirk and Qusheng Jin

3:30 – 3:50  
A Case for Direct Groundwater Velocity Measurements:  
J.F. Devlin

3:50 – 4:10  
Evaluating the use of in-well heat tracer tests monitored by DTS as a method of measuring vertical borehole flow:  
Steve Sellwood, David J. Hart, and Jean M. Bahr

4:10 – 4:30  
Characterizing a Glacial Till Aquitard using Ambient and Pumping Stresses:  
David B. Hisz

4:30 – 4:50  
Recent advances in hydrogeologic characterizations of the shallow subsurface using direct-push technology, nuclear magnetic resonance, and distributed temperature sensing:  
Gaisheng Liu, James J. Butler, Jr., Steven Knobbe, Edward Reboulet, Geoffrey Bohling, Elliot Grunewald, and David Walsh

5:00 – 6:00  
Cash bar (Regency C&D)

6:00 – 7:00  
Banquet (Regency C&D)

7:00  
Speaker – Rex Buchanan, Interim Director, Kansas Geological Survey  
Topic: Induced Seismicity
Thursday, October 2, 2014
7:00 – 8:10  Continental breakfast (Regency C&D)

Session VII – High Plains Aquifer (Regency A&B)
8:10 – 8:30  The High Plains Aquifer: Past, Present, and Future:  
Erin M. K. Haacker, Anthony D. Kendall, and David W. Hyndman
8:30 – 8:50  Simulating the Land Surface Response to Drought and Climate Change Across the High Plains:  
Anthony D. Kendall and David W. Hyndman
8:50 – 9:10  WRF Model Sensitivity to Land Surface Model and Cumulus Parameterization under Short-term Climate Extremes over the Southern Great Plains of the United States:  
Lisi Pei, Nathan Moore, Shiyuan Zhong, Lifeng Luo, Dave W. Hyndman, Warren E. Heilman, and Zhiqiu Gao
9:10 – 9:30  Assessing the Major Drivers of Water-Level Declines: New Insights into the Future of the High Plains Aquifer:  
James J. Butler, Jr., Donald O. Whitemore, and Brownie Wilson
9:30 – 19:50  Analysis of chemical storage and transit times to characterize water movement through a thick unsaturated zone overlying the High Plains aquifer, northwestern Kansas:  
Britney S. Katz, Randy L. Stotler, Daniel R. Hirmas, Donald O. Whitemore, James J. Butler, Jr., Jon J. Smith, and Greg A. Ludvigson
9:50 – 10:10  Break (Regency C&D), visit exhibits (hallway)

Session VII – High Plains Aquifer (continued) (Regency A&B)
10:10 – 10:30  Hydrogeomorphic attributes of the High Plains playas, western Kansas:  
William C. Johnson, Mark W. Bowen, Melissa M. Goldade
10:30 – 10:50  Hydrostratigraphic Drilling Record Assessment (HyDRA):  Assessing the Utility of Drillers’ Logs in Development of Three-Dimensional Aquifer Models:  
Carolyn F. Helm and Geoffrey C. Bohling
10:50 – 11:10  Developing a Groundwater Model for the High Plains Aquifer in West-Central Kansas: Hydrostratigraphic Characterization and Delayed Recharge:  
Brownie Wilson, Gaisheng Liu, Geoffrey C. Bohling, Donald O. Whitemore, and James J. Butler, Jr.
11:10 – 11:30  Sedimentologic and Stratigraphic Characterization of Cored Sediments from the High Plains Aquifer System of Western Kansas:  
Greg A. Ludvigson, Jon J. Smith, John Doveton, Rolfe Mandel, Laura Murphy, Anthony Layzell, Randy L. Stotler, and Richard Sleezer
11:30 – 11:50  Recharge characteristics of the High Plains aquifer near a predominately dry river:  
Molly Long, Donald O. Whitemore, Randy Stotler, and James J. Butler, Jr.
11:50  Concluding remarks, Invitation to next year’s conference