

2011 WESTERN SOUTH DAKOTA HYDROLOGY CONFERENCE

PRELIMINARY PROGRAM

Thursday, April 28, 2011
Alpine/Ponderosa Rooms
Rushmore Plaza Civic Center

7:00 – 8:00 a.m.	REGISTRATION	
8:00 – 9:10 a.m.	Plenary Session 1 in Alpine and Ponderosa Rooms – Overview of Select Research Studies (1.0 PDH) Moderator – Mark Anderson , Director of the U.S. Geological Survey South Dakota Water Science Center, Rapid City, SD	
8:00 – 8:10 a.m.	Welcome, general information	Mark Anderson and Daniel Driscoll , U.S. Geological Survey
8:10 – 8:30 a.m.	Transient pressure analysis in core holes at the 4850-ft level at DUSEL	Larry Stetler , Hladysz Zbigniew , South Dakota School of Mines and Technology, Walter Weinig , and Roman Popielak , Golder Associates, Inc.
8:30 – 8:50 a.m.	Investigations of low-probability flood recurrence for the Black Hills of western South Dakota	Dan Driscoll , James O'Connor , Tessa Harden , U.S. Geological Survey, Matthew Bunkers , National Weather Service, Steve Sando , and Janet Carter , U.S. Geological Survey
8:50 – 9:10 a.m.	Overview of research activities on the geochemistry, geomorphology, and Quaternary history of alluvial sediment along the Lower Cheyenne and Belle Fourche Rivers, western South Dakota	John Stamm , U.S. Geological Survey, and Nicholas Geibel , U.S. Army Corps of Engineers
9:10 – 9:40 a.m.	REFRESHMENT BREAK in Rushmore F	
9:40 a.m. – 12:00 p.m.	Concurrent Session 2A in Alpine Room – Cheyenne River Studies (2.5 PDH) Moderator – Joanne Noyes , South Dakota Department of Environment and Natural Resources	Concurrent Session 2P in Ponderosa Room – Floods and Other Hazards (2.5 PDH) Moderator – Melissa Smith , National Weather Service
9:40 – 10:00 a.m.	<i>Biogeochemical factors controlling arsenic fate and transport within historical mining-impacted watersheds of western South Dakota – James Stone</i> , South Dakota School of Mines and Technology	<i>Perspectives obtained from examination of flood accounts for the Black Hills of western South Dakota – Janet Carter and Dan Driscoll</i> , U.S. Geological Survey
10:00 – 10:20 a.m.	<i>Concentrations of selected metals in alluvial deposits along the Lower Cheyenne and Middle Belle Fourche Rivers, western South Dakota – Galen Hoogestraat, John Stamm, Kathleen Neitzert, Barbara Rowe</i> , U.S. Geological Survey, and Nicholas Geibel , U.S. Army Corps of Engineers	<i>Flood-frequency analyses from paleoflood investigations for primary drainages in the east-central Black Hills of South Dakota – Tessa Harden, James O'Connor, and Dan Driscoll</i> , U.S. Geological Survey
10:20 – 10:40 a.m.	<i>Characterization of the alluvial sediment along the Lower Cheyenne and Belle Fourche Rivers in western South Dakota using direct-current electrical resistivity – Katrina Marini, Larry Putnam</i> , U.S. Geological Survey, and Nicholas Geibel , U.S. Army Corps of Engineers	<i>Regional perspectives from paleoflood investigations for primary drainages in the east-central Black Hills of South Dakota – Dan Driscoll, James O'Connor, and Tessa Harden</i> , U.S. Geological Survey
10:40 – 11:00 a.m.	<i>Arsenic speciation in sediment and pore waters of the historical mining-impacted Belle Fourche and Cheyenne River floodplains – Bryce Pfeifle, James Stone</i> , South Dakota School of Mines and Technology, John Stamm , U.S. Geological Survey, and Nicholas Geibel , U.S. Army Corps of Engineers	<i>Storm surge modeling in the Chesapeake Bay due to the probable maximum hurricane – Ahmed (Jemie) Dababneh and Benjamin Ferguson</i> , Paul C. Rizzo Associates, Inc.
11:00 – 11:20 a.m.	<i>A classification of alluvial landforms associated with mine tailings along the Belle Fourche River, western South Dakota – Jason Alexander, John Stamm, Brenda Woodward, and Paul Lamothe</i> , U.S. Geological Survey	<i>Rainfall estimates and hydrologic response for storm of July 29-30, 2010 in eastern South Dakota – Ryan Thompson</i> , U.S. Geological Survey, Michael Gillispie , National Weather Service, and Dan Driscoll , U.S. Geological Survey
11:20 – 11:40 a.m.	<i>Estimation of alluvial erosion and deposition rates at two temporal and spatial scales along the Belle Fourche River – Brenda Woodward, Jason Alexander, and James Howle</i> , U.S. Geological Survey	<i>Tsunami flooding due to a probable maximum earthquake in the Makran Subduction Zone – Ahmed (Jemie) Dababneh and Paul Martinchich</i> , Paul C. Rizzo Associates, Inc.

11:40 a.m. – 12:00 p.m.	<i>Geochronology of terrace deposits of the Belle Fourche and Cheyenne Rivers, western South Dakota, based on optically stimulated luminescence</i> – Robert Hendricks , South Dakota School of Mines and Technology, John Stamm , Shannon Mahan , U.S. Geological Survey, and J. Foster Sawyer , South Dakota School of Mines and Technology	<i>Probable maximum flood determination in an arid region on the south side of the Arabian Gulf</i> – Paul Martinchich and Ahmed (Jemie) Dababneh , Paul C. Rizzo Associates, Inc.
12:00– 1:30 p.m.	LUNCH with John T. Loucks Distinguished Lecture in Rushmore G Room – Dr. Victor Baker (1.0 PDH) University of Arizona Tentative title: <i>Flood and Megaflood Paleohydrology</i>	
1:30 – 3:30 p.m.	Concurrent Session 3A in Alpine Room – Surface-Water Quality Issues (2.0 PDH) Moderator – Dr. Scott Kenner , South Dakota School of Mines and Technology	Concurrent Session 3P in Ponderosa Room – Remote Sensing and Climate (2.0 PDH) Moderator – Dr. Matthew Bunkers , National Weather Service
1:30 – 1:50 p.m.	<i>Water-quality standard suitability for Skunk Creek in eastern South Dakota using HSPF</i> – Jason Lambert , RESPEC, and Scott Kenner , South Dakota School of Mines and Technology	<i>Remote sensing for water quality monitoring and watershed assessment on the Lake Traverse Reservation</i> – Jeppe Kjaersgaard , Mary O'Neill , Boras Shmagin , and James Sampson , South Dakota State University
1:50 – 2:10 p.m.	<i>Development of acute and chronic temperature criterion for protection of cold-water fisheries in the Black Hills</i> – Lacy Pomarleau , RESPEC, Scott Kenner , South Dakota School of Mines and Technology, and Cory Foreman , RESPEC	<i>Simulating spatio-temporal water dynamics of landscape wetland complex for ecosystem services evaluation in Prairie Pothole Region, USA</i> – Shengli Huang , Omar Abdul Aziz , Claudia Young , Devendra Dahal , Contractors to USGS EROS, and Shuguang Liu , USGS EROS
2:10 – 2:30 p.m.	<i>Life-cycle assessment analysis of engineered stormwater control methods common to urban South Dakota watersheds</i> – Tyler Hengen and James Stone , South Dakota School of Mines and Technology	<i>A hydrological perspective for site suitability of biofuels production using satellite images</i> – Ramesh Singh , Contractor to USGS EROS, Shuguang Liu , and Larry Tieszen , USGS EROS
2:30 – 2:50 p.m.	<i>Monitoring stormwater quality in two drainage basins in Rapid City, South Dakota</i> – Emily Fisher , Keri Schiferl , South Dakota School of Mines and Technology, Galen Hoogestraat , U.S. Geological Survey, and Scott Kenner , South Dakota School of Mines and Technology	<i>Interpolating evapotranspiration estimates between satellite overpass dates</i> – Jeppe Kjaersgaard , South Dakota State University, Richard Allen , and Ricardo Trezza , University of Idaho
2:50 – 3:10 p.m.	<i>Spring Creek watershed implementation project</i> – Brittney Molitor , Pennington County, Jared Oswald , and Justin Krajewski , RESPEC	<i>Examination of the Missouri River water temperature record for evidence of change</i> – Mark Anderson and Jeremy Warner , U.S. Geological Survey
3:10 – 3:30 p.m.	<i>Water quality monitoring and hydraulic modeling for the Spring Creek watershed</i> – Thomas Schmitz , Peter Rausch , and Scott Kenner , South Dakota School of Mines and Technology	<i>Radar criteria indicating the presence of hail in High Plains thunderstorms</i> – Shawn Honomichl and Andrew Detwiler , South Dakota School of Mines and Technology
3:30 – 4:00 p.m.	REFRESHMENT BREAK in Rushmore F	
4:00 – 5:20 p.m.	Concurrent Session 4A in Alpine Room – Mining Issues (1.5 PDH) Moderator – Dr. Jenifer Sorensen , Matrix Consulting Group, Inc.	Concurrent Session 4P in Ponderosa Room – Ground-Water Issues (1.5 PDH) Moderator – Dr. Foster Sawyer , South Dakota School of Mines and Technology
4:00 – 4:20 p.m.	<i>A comparison of water usage for mineral and agricultural development for the Dewey-Burdock area</i> – Mark Hollenbeck , Powertech	<i>Sickness caused by onsite wastewater systems in the Black Hills</i> – Perry Rahn , South Dakota School of Mines and Technology
4:20 – 4:40 p.m.	<i>Removal of heavy metals from mine water with a limestone-based method</i> – Arden Davis , David Dixon , South Dakota School of Mines and Technology, Cathleen Webb , Western Kentucky University, and Haile Betermariam , South Dakota School of Mines and Technology.	<i>Groundwater mixing and flow characterization using hydrochemical data: Wind Cave and southern Black Hills</i> – Andrew Long , Joshua Valder , U.S. Geological Survey, and Mark Ohms , National Park Service
4:40 – 5:00 p.m.	<i>Reconnaissance investigation of bottom sediment metals and radionuclide concentrations within Black Hills region lakes and impoundments</i> – Rohit Sharma , James Stone , Michelle Kelly , Aaron Oswald , and Chrisotpher Lupo , South Dakota School of Mines and Technology	<i>Estimating recharge to the High Plains aquifer in South Dakota using a soil-water balance approach</i> – Anneka LaBelle , Kyle Davis , South Dakota School of Mines and Technology, Larry Putnam , U.S. Geological Survey, and Thomas Fontaine , South Dakota School of Mines and Technology
5:00 – 5:20 p.m.	<i>To Bloom or Not to Bloom – A Didymo Story from Rapid City to Chile</i> – P.V. Sundareshwar , South Dakota School of Mines and Technology, and Tom Durkin , NASA South Dakota Space Grant Consortium	<i>Microgravity methods to investigate groundwater storage and specific yield in the Madison and Minnelusa aquifers</i> – Karl Koth , South Dakota School of Mines and Technology, and Andrew Long , U.S. Geological Survey
5:30 – 7:00 p.m.	POSTER SESSION AND EVENING SOCIAL (with refreshments) in Rushmore F	
	Black Hills Aquifer Atlas: Compilation of 1:24,000-scale Maps in a GIS Format	Alvis Lisenbee , Arden Davis , Maribeth Price , and Deborah Brewer , South Dakota School of Mines and Technology

	Characterization of Fe and S mineral phases associated with uraninite oxidation	Rajneesh Jaswal, Gursharan Singh, Emily Squillace , South Dakota School of Mines and Technology, Ravi Kukkadapu , Pacific Northwest National Laboratory, Brandy Stewart , Montana State University, S. Sevnic Sengor , University of California, Davis, Brent Peyton , Montana State University, Nicolas Spycher , Lawrence Berkley National Laboratory, Timothy Ginn , University of California, Davis, and Rajesh Sani , South Dakota School of Mines and Technology
	Monitoring bank erosion on the Missouri River on the Lower Brule Reservation	Kathleen Neitzert , U.S. Geological Survey, George Honeywell , Environmental Protection Office, Lower Brule Sioux Tribe, and Ryan Thompson , U.S. Geological Survey
	Monitoring bank erosion on the Missouri River on the Lower Brule Reservation with ground-based Light Detection and Ranging (LiDAR)	Ryan Thompson , U.S. Geological Survey, James Sanovia , Calvin Cutchall , Oglala Lakota College, Kathleen Neitzert , U.S. Geological Survey, George Honeywell , Environmental Protection Office, Lower Brule Sioux Tribe, and Charles Jason Tinant , Oglala Lakota College
	Geothermal resources of western South Dakota	Kelli McCormick , South Dakota Department of Environment and Natural Resources
	3-D Geologic modeling of an in situ uranium project in South Dakota	Crystal Hocking , RESPEC, and Matt Minnick , Colorado School of Mines
	Moving towards a technical specification for fluorescence excitation-emission mapping and absorbance analysis of colored dissolved organic matter	Michael Oweimrin and Adam Gilmore , HORIBA Jobin Yvon, Inc.
	Mat level hydrodynamic processes and distribution of <i>Didymosphenia geminata</i> blooms in Rapid Creek watershed, South Dakota	Mebratu Abessa , PV Sundareswar , Scott Kenner , Andrew Detwiler , and Sikchiya Upadhayay , South Dakota School of Mines and Technology
	Analysis of bottom sediments for metal and radionuclide concentrations within Black Hills reservoirs	Michelle Kelley , James Stone , Rohit Sharma , Aaron Oswald , and Christopher Lupo , South Dakota School of Mines and Technology
	Effects of land management change on water quantity and quality in the James River Basin	Yiping Wu , Contractor to USGS EROS, and Shuguang Liu , USGS EROS