Conference Program
AGU Hydrology Days 2015

March 23 - March 25, 2015

Program at a Glance

	March 23		March 24		March 25
			Registration		Registration
8	Registration	8	Posters	8	Posters
8:45	Eco-Hydrology	9	Water Supply		
		8:30	High Park Fire	8:30	Poster Session
	Mid-morning break		Mid-morning break		Mid-morning break
10:30	Eco-Hydrology	10:15	Water Supply	9:30	Erosion and Sedimentation
		10:00	High Park Fire	9:30	Latin America
12 - 2	Lunch Borland Lecture in Hydrology	12 - 2	Lunch Hydrology Days Award Lecture	12 - 2	Lunch Borland Lecture in Hydraulics
2	Climate - Precipitation Extremes	2	Hydraulics - CFD	2	Watershed Modeling - Model Integration
	Mid-afternoon break		Mid-afternoon break		Mid-afternoon break
4	Contaminant - Fate and Transport	4	Stream and Lake Water Quality	3:45	Ungaged Basins - Urban Hydrology
			Deadbeat Dams		
	Adjourn		Adjourn		Hydrology Days Ends

		Monday
Date	**Time**	**Session**
March 23	**8:00**	**Registration - Cherokee Park Room - Lory Student Center**
March 23	**8:45**	**Eco-Hydrology - Interdisciplinary WATER research**
		Chair: Professor José L. Chávez **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
	8:45	**Assessment of Imjin Riverine Wetland Function Using Hydrogeomorphic Method**
		Seungjin Hong, Taekmin Kim, Duck Hwan Kim, Dae Gun Han, Changhyun Choi, Hung Soo Kim Department of Civil Engineering, Inha University, Korea
	9:00	**Analysis of Relationship between Inundation Depth of Flow Duration and Plant Habitat**
		Jung Wook Kim, Dae Wung Lee, Yon Soo Kim, Seung Jin Hong, Hyung Soo Kwon, Hung Soo Kim Department of Civil Engineering, Inha University, Korea
	9:15	**Estimation of sensible heat flux of a drip-irrigated vineyard using the aerodynamic temperature model in Talca-Chile**
		Marcos Carrasco-Benavides, Samuel Ortega-Farías, Luis Morales-Salinas and José L. Chávez Department of Agricultural Sciences, Catholic University of Maule, Chile; E-Mail: mcarrascob@ucm.cl
	9:30	**Monolithic weighing lysimeter-based alfalfa evapotranspiration rates evaluation using micrometeorological instruments**
		Abhinaya Subedi, José L. Chávez, Allan A. Andales Department of Civil and Environmental Engineering, Colorado State University
	9:45	**Evaluation of Water Stress Coefficient Methods to Estimate Actual Corn Evapotranspiration in Colorado**
		Emily G. Kullberg, José L. Chávez, and Kendall DeJonge Department of Civil and Environmental Engineering, Colorado State University
	10:00	**Mapping evapotranspiration at high resolutions using the Surface aerodynamic temperature model and airborne multispectral remote sensing data**
		M. Semin Barlak, José L. Chávez, Prasanna H. Gowda, and Steven R. Evett Department of Civil and Environmental Engineering, Colorado State University
March 23	**10:15**	**Mid-morning break**
March 23	**10:30**	**Eco-Hydrology - Interdisciplinary WATER research**
		Chair: Professor Jorge A. Ramirez **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
I-WATER	10:30	**Systematic river restoration planning**
		David M. Martin, Virgilio Hermoso, Francis Pantus, Jon Olley, Simon Linke, N. LeRoy Poff Department of Biology and Graduate Degree Program in Ecology, Colorado State University
I-WATER	10:45	**Lake-effect snowpack decreases the wintertime mortality of Miscanthus × giganteus in Michigan**
		Gavin R. Roy Department of Atmospheric Science, Colorado State University
I-WATER	11:00	**Developing GAMs to Identify Algal Biomass Controls in Mid-Atlantic Streams**
		Whitney S. Beck Department of Biology, Colorado State University
I-WATER	11:15	**Flow reconstruction and fluvial geomorphic potential for cottonwood dendrochronology**
		Derek M. Schook, Sara L. Rathburn, Jonathan M. Friedman Department of Geosciences, Colorado State University
	11:30	**Evaluation of Optimal Hourly Stomatal Control using Dynamic Programming**
		Jonathan A. Quebbeman and Jorge A. Ramirez Department of Civil and Environmental Engineering, Colorado State University

	11:45	**Vegetation Dynamics under States of Co-limitation and Constrained Resources**
		Jonathan A. Quebbeman and Jorge A. Ramirez Department of Civil and Environmental Engineering, Colorado State University
March 23	**12:00**	**Lunch - North Ballroom - Lory Student Center**
	1:00	**Borland Lecture in Hydrology - North Ballroom - Lory Student Center**
		Soil moisture dynamics and stoichiometry controls on soil nutrient cycling **Professor Amilcare Porporato** **Department of Civil and Environmental Engineering and Nicholas School of the Environment, Duke University**
March 23	**2:00**	**Climate - Precipitation Extremes - Stochastic & Probabilistic Approaches**
		Chair: Professor Jorge A. Ramirez **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
I-WATER	2:00	**Simulating the 2012 High Plains drought using three single column models (SCM)**
		Isaac D. Medina, Scott Denning, Ian T. Baker, Don Dazlich Department of Atmospheric Science, Colorado State University
	2:15	**Investigating drought areal extent through Severity-Area-Probability curves**
		Brunella Bonaccorso, David J. Peres, Antonino Cancelliere Department of Civil, Computer, Construction and Environmental Engineering and Applied Mathematics, University of Messina, Italy
	2:30	**Teleconnections between the ENSO and Precipitation Patterns over South Korea**
		Jai-Hong Lee and Pierre Y. Julien Department of Civil and Environmental Engineering, Colorado State University
	2:45	**Wavelet-based Time Series Bootstrap Model for Multi-decadal Streamflow Simulation Using Climate Indicators**
		Solomon Tassew Erkyihun, Balaji Rajagopalan and Edith Zagona Civil, Environmental and Architectural Engineering, University of Colorado, Boulder
	3:00	**Temporal and spatial signatures of ENSO on the Indian summer monsoon from 1901-2009**
		Emily C. Gill, Balaji Rajagopalan and Peter H. Molnar Department of Civil and Environmental Engineering, University of Colorado at Boulder
	3:15	**A Generalized Spatio-temporal Framework for Climate Informed Extreme Precipitation Analysis**
		Linyin Cheng, Balaji Rajagopalan, Cameron Bracken, Amir AghaKouchak Cooperative Institute for Research in Environmental Sciences, Boulder, CO
	3:30	**A Spatial Bayesian Hierarchical Modeling Approach for Precipitation Extremes**
		Cameron Bracken, Balaji Rajagopalan, Linyin Cheng and Subhrendu Gangopadhyay Department of Civil and Environmental Engineering, University of Colorado, Boulder, CO
March 23	**3:45**	**Mid-afternoon break**
March 23	**4:00**	**Sub-surface Fate and Transport**
		Co-Chairs: Professor Thomas C. Sale and Professor Ryan T Bailey **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
	4:00	**Application of cryogenic core collection at non-aqueous phase liquid (NAPL) contaminated sites**
		Saeed Kiaalhosseini, Thomas C. Sale, Richard L. Johnson, Richard Rogers Department of Civil and Environmental Engineering, Colorado State University
	4:15	**Use of Subsurface Heat Fluxes to Evaluate Continuous Loss Rates of LNAPL**
		Emily Stockwell and Thomas C. Sale Department of Civil and Environmental Engineering, Colorado State University

	4:30	**Natural Rate of LNAPL Losses under Anaerobic Conditions**
		Eric Emerson, Susan De Long and Thomas C. Sale Department of Civil and Environmental Engineering, Colorado State University
	4:45	**Method Development for Long-Term Laboratory Studies Evaluating Contaminant Assimilation Processes in Low-k Zones**
		Rachael L. McSpadden, Mitchell R. Olson and Thomas C. Sale Department of Civil and Environmental Engineering, Colorado State University
	5:00	**Standardized hydraulic conductivity testing of compacted sand-bentonite mixtures used for groundwater protection**
		Shan Tong and Charles D. Shackelford Department of Civil and Environmental Engineering, Colorado State University
	5:15	**Identifying the principal chemical processes governing fate and transport of selenium and nitrate in the stream-aquifer system of the Lower Arkansas River Valley, Colorado**
		Ravi Kumar Tummalapenta and Ryan T. Bailey Department of Civil and Environmental Engineering, Colorado State University
	5:30	**Development of GUI tools for optimizing fluid management in shale oil and gas operations**
		Farnaz Shoaei and Kimberly B. Catton Department of Civil and Environmental Engineering, Colorado State University
	5:45	**Preliminary Assessment of Salinity Transport Modeling in an Agricultural Groundwater System**
		Saman Tavakoli and Ryan T. Bailey Department of Civil and Environmental Engineering, Colorado State University
March 23	**6:00**	**Adjourn**

		Tuesday
Date	Time	Session
March 24	8:00	Registration - Cherokee Park Room - Lory Student Center
March 24	9:00	Water Supply - Water Management
		Chair: Professor Steven R Fassnacht Department of Ecosystem Science and Sustainability, CSU Cherokee Park Room - Lory Student Center
	9:00	Review of the 2014 Water Year in Colorado
		Nolan Doesken and Wendy Ryan Department of Atmospheric Science, Colorado State University
	9:15	Patterns of Snowmelt Rates Across the Southern Rocky Mountains, U.S.A.
		Amanda N. Weber and Steven R. Fassnacht ESS-Watershed Science, Colorado State University
	9:30	Trends in accumulation and melt of seasonal snow in Rocky Mountain National Park
		Glenn G. Patterson and Steven R. Fassnacht EASC-Watershed Science, Colorado State University
	9:45	Russian River Tributaries Water Budget Modeling
		Christopher M. Fields, John W. Labadie and Lynn E. Johnson Department of Civil and Environmental Engineering, Colorado State University
	10:00	Subsurface Water Storage Assessment Model
		Abdulaziz A. Alqahtani and Thomas C. Sale Department of Civil and Environmental Engineering, Colorado State University
March 24	10:15	Mid-morning break
March 24	10:30	Water Supply - Water Management
		Chair: Professor Jorge A Ramirez Department of Civil and Environmental Engineering, CSU Cherokee Park Room - Lory Student Center
	10:30	Water as a human right: antecedents, meaning, and challenges of implementation
		Neil S. Grigg Department of Civil and Environmental Engineering, Colorado State University
	10:45	Estimation of Future Freshwater Supply of Micronesian Atoll Islands using Simulated Climate Data
		Corey D. Wallace and Ryan T. Bailey Department of Civil and Environmental Engineering, Colorado State University
	11:00	Using environmental variables to spatially downscale GRACE observed changes in terrestrial water storage anomalies
		Muhammad Ukasha and Jorge A. Ramirez Department of Civil and Environmental Engineering, Colorado State University
	11:15	A Strategy to Conserve Agricultural Water Use in Colorado's Front Range Region
		Manijeh Mahmoudzadeh Varzi and Ramchand Oad Department of Civil and Environmental Engineering, Colorado State University
	11:30	Determination of the annual water supply allocation for the Northern Colorado Water Conservancy District
		Andrew M. Pineda Water Resources Department Manager, Northern Colorado Water Conservancy District
	11:45	An Evaluation of the Northern Integrated Supply Project: Feasibility of Filling Glade Reservoir
		Kelsey Dudziak, Clint Kimbrell, John Labadie Department of Civil and Environmental Engineering, Colorado State University

March 24	8:30	High Park Fire
		Chair: Professor Lee H MacDonald **Department of Eco-System Science and Sustainability, CSU** **North Ballroom - Lory Student Center**
I-WATER	8:30	**Mulch effects on runoff and sediment production at the hillslope scale in the High Park Fire**
		Codie Wilson, Stephanie Kampf, Lee H MacDonald and Joe Wagenbrenner Department of Geosciences, Colorado State University
	8:45	**Effects of High Park Fire on road surface erosion and road-stream connectivity**
		Gabriel Sosa-Perez and Lee H. MacDonald Department of Geosciences, Colorado State University
	9:00	**Estimating and comparing two extreme post-wildfire peak flows in the Colorado Front Range**
		Daniel J. Brogan, Peter A. Nelson and Lee H. MacDonald Department of Civil and Environmental Engineering, Colorado State University
	9:15	**Suspended sediment loads in the South Fork Cache la Poudre following the High Park fire**
		Sandra Ryan, Mark Dixon and Sara Rathburn US Forest Service, Rocky Mountain Research Station, Fort Collins, CO
	9:30	**Mechanisms and controls on post-fire in-channel sediment transport and storage, South Fork Cache-La Poudre basin, CO**
		Scott Shahverdian, Sara Rathburn, Sandra Ryan-Burkett Department of Geosciences, Colorado State University
March 24	9:45	**Mid-morning break**
March 24	10:00	High Park Fire
		Chair: Professor Lee H MacDonald **Department of Eco-System Science and Sustainability, CSU** **North Ballroom - Lory Student Center**
	10:00	**Stream Nutrient and Carbon Consequences of the 2012 High Park Fire**
		Chuck Rhoades, Derek Pierson, Sandra Ryan-Burkett, Mark Dixon, Jill Oropeza, Jared Heath, Tim Covino and Stephanie Kampf US Forest Service, Rocky Mountain Research Station, Fort Collins, CO
	10:15	**Transport of Black Carbon Across the Terrestrial-Aquatic Interface Following Wildfire: Contributions of Short and Long-term Controls**
		Claudia M. Boot, M.F. Cotrufo, M. L. Haddix, S. Schmeer, S. Kampf, D. Brogan, P. Nelson, C.C. Rhoades, S. Ryan-Burkett, S. Rathburn, and E. K. Hall Natural Resource Ecology Laboratory, Colorado State University
	10:30	**Wildfire Impacts on Water Quality, Macroinvertebrates and Trout: An Initial Survey After the West Fork Complex Fire in the Upper Rio Grande**
		Ashley J. Rust, Jackie Randall, and Terri Hogue Hydrologic Sciences and Engineering, Colorado School of Mines
	10:45	**High Park Fire**
		Lee H. MacDonald Department of Ecosystem Science and Sustainability, Colorado State University
March 24	12:00	**Lunch - North Ballroom - Lory Student Center**
	1:00	**Hydrology Days Award Lecture - North Ballroom - Lory Student Center**
		Hydrologic Sciences on the Edge: The Revolution in Sensing and Strategies **Professor Scott W. Tyler** **Geological Sciences and Engineering, University of Nevada, Reno**

March 24	**2:00**	**Hydraulics - Computational Fluid Dynamics**
		Chair: Professor Subhas K. Venayagamoorthy **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
	2:00	**Lessons learned from the bluestone dam inflow design flood update**
		N. Koutsunis , D. Moses, K. Halstead, and D. Margo Department of Civil and Environmental Engineering, Colorado State University
	2:15	**Towards a New Classification of Rivers based on Generic Gage Height-Discharge Rating Curves for Low-Cost Estimation of Stream Discharge**
		Jeremiah B. Rundall, Benjamin E. Parsons, Steven H. Emerman, Michael R. Jorgensen Department of Physics, Utah Valley University
	2:30	**Evaluation of the standard k-ε closure scheme for modelling stably stratified wall-bounded turbulence**
		Amrapalli Garanaik, Farid Karimpour and Subhas K. Venayagamoorthy Department of Civil and Environmental Engineering, Colorado State University
	2:45	**Mixing in Stably Stratified Wall-Bounded Turbulence**
		Farid Karimpour and Subhas K. Venayagamoorthy Department of Civil and Environmental Engineering, Colorado State University
	3:00	**Numerical simulation of intrusive gravity currents past obstacles in a continuously stratified ambient**
		Jian Zhou and Subhas K. Venayagamoorthy Department of Civil and Environmental Engineering, Colorado State University
	3:15	**Impact of Geometric Design on Mixing Efficiency in Hydraulic Contact Tanks: Sharp Inlets and Baffle Opening Lengths**
		Jeremy S. Carlston and Subhas K. Venayagamoorthy Department of Civil and Environmental Engineering, Colorado State University
	3:30	**An evaluation of 2-D vs 3-D hydraulic analyses investigating the effects of whitewater parks on fish passage**
		Erin R. Ryan, Timothy A. Stephens, and Brian P. Bledsoe Department of Civil and Environmental Engineering, Colorado State University
March 24	**3:45**	**Mid-afternoon break**
March 24	**4:00**	**Stream and Lake Water Quality**
		Chair: Professor Steven H. Emmerman **Department of Earth Science, Utah Valley University** **Cherokee Park Room - Lory Student Center**
I-WATER	4:00	**Investigating the coupled effects of climate change and nitrogen on lake periphyton**
		Isabella A. Oleksy, Jill S. Baron Natural Resource Ecology Laboratory, Colorado State University
I-WATER	4:15	**Prediction system for nitrogen deposition in Rocky Mountain National Park**
		Aaron J Piña, Russ S Schumacher, Brock Faulkner, and A. Scott Denning Department of Atmospheric Science, Colorado State University
	4:30	**Arsenic and Heavy Metals in Backyard Wells in Utah Valley, Utah**
		Sterling M. Roberts, Anthony C. Bradford, Neal B. Christiansen, Skyler K. Tulley, Kyle D. Sills, Lawrence T. Kellum, Jake V. Sorensen, and Steven H. Emerman Department of Earth Science, Utah Valley University
	4:45	**Geochemical Survey of the Sevier River for Assessing the Gold- and Uranium-Bearing Potential of the Mount Belknap Volcanics, South-Central Utah**
		McKay Nelsen, Brock O. Howell, Norman D. Christiansen, Steven H. Emerman, and Steven A. Fellows Department of Earth Science, Utah Valley University
	5:00	**Numerical Simulation of Transport of Mine Tailings in the Watershed of Utah Lake, Utah**
		Joshua S. McNeff, Bret K. Huffaker, Rick J. Lines, Kevin R. Slater, and Steven H. Emerman Department of Earth Science, Utah Valley University

	5:15	**How Do Hyporheic Zones Mediate Stream Solute Loads? Using Antarctic Glacial Melt Streams to Simplify the Problem**
		Adam N. Wlostowski, Michael N. Gooseff, Diane McKnight Department of Civil and Environmental Engineering, Colorado State University
	5:30	**Physical and biological removal of nitrate along a Colorado montane headwater stream: Understanding the role of bidirectional hydrologic exchange at various spatial and temporal scales**
		Erika Smull and Michael Gooseff Department of Civil & Environmental Engineering, Colorado State University
	5:45	**Potential impacts of hydrologic changes on nutrient loads in the South Platte River Basin**
		Ryan W. Webb, Misti D. Sharp, and Benjamin C. Von Thaden Department of Civil and Environmental Engineering, Colorado State University
March 24	**6:00**	**Deadbeat Dams**
		Daniel P Beard **Former Commissioner, U.S. Bureau of Reclamation** **Lory Student Center Theater**
	6:00	**Deadbeat Dams**
		Daniel P Beard Former Commissioner, U.S. Bureau of Reclamation
March 24	**6:00**	**Adjourn**

		Wednesday
Date	**Time**	**Session**
March 25	**8:00**	**Registration - Cherokee Park Room - Lory Student Center**
March 25	**9:30**	**Latin America**
		Chair: Professor Ed Hall **Natural Resources Ecology Laboratory, CSU** **North Ballroom - Lory Student Center**
	9:30	**Niche Shift and Potential Distribution of an Invasive Freshwater Diatom (Didymosphenia geminata) in Southern Chile**
		Sunil Kumar, Vivian Montecino, Ximena Molina, María L.C. Castillo, and Ramiro O. Bustamante Natural Resource Ecology Laboratory, Colorado State University
	9:45	**Colorado State University Chapter of Engineers Without Borders: Potable Water Supply and Distribution in La Criba, El Salvador**
		Christopher Bareither, Brennan Lutkewitte, Cody Oser, Tessa Alford, Gabe Neymark, Griselda Landa-Posas and Teigan Gulliver Department of Civil and Environmental Engineering, Colorado State University
	10:00	**Spatial and Temporal Variability of Snow Cover in the Andes Mountains**
		Freddy Saavedra and Stephanie Kampf Department of Geosciences, Colorado State University
	10:15	**A conceptual framework and preliminary evidence on evaluating net effects of watershed service payments on coupled natural-human systems in Mexico**
		Kelly W. Jones, Heidi Asbjornsen, Alex Mayer, Theresa Selfa, Kathleen Halvorsen, Russ Congalton, Randall Kolka, Leonardo Saenz Department of Human Dimensions of Natural Resources, Colorado State University
	10:30	**Evaluation of alternative weather forcing for hydrologic modeling in tropical basins of Puerto Rico**
		D. Auerbach, Z. Easton, A. Flecker, M.T. Walters, D. Fuka Department of Ecology and Evolutionary Biology, Cornell University
I-WATER	10:45	**Organic carbon storage in steep mountain streams of Chile**
		Nicholas A. Sutfin, Bridget K. Livers, Ellen Wohl, Fernando Ugalde, and Luca Mao Department of Geosciences, Colorado State University
March 25	**9:30**	**Erosion - Sedimentation**
		Chair: Professor Pierre Y Julien **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
	9:30	**GIS-Based Soil Erosion Modeling and Sediment Yield of the N'djili River Basin, Democratic Republic of Congo**
		Patrick Ndolo Goy and Pierre Y. Julien Department of Civil and Environmental Engineering, Colorado State University
	9:45	**Testing the Accelerated Erosion Model for Arsenic Contamination of Groundwater in Kathmandu Valley, Nepal Himalaya**
		Sarah M. Allen, McKenzie M. Ranney, Chid J. Murphy, Santosh Adhikari, Suman Pandey, Steven H. Emerman and Steven A. Fellows Department of Earth Science, Utah Valley University
	10:00	**Optimization of Sangju Weir operations to minimize sedimentation problems**
		Hwa Young Kim and Pierre Y. Julien Department of Civil and Environmental Engineering, Colorado State University
	10:15	**Numerical experiments on the effects of channel width, unsteady flow, and sediment supply on gravel-bed river morphodynamics**
		Jacob A. Morgan and Peter A. Nelson Department of Civil and Environmental Engineering, Colorado State University

I-WATER	10:30	**Magnitude and Frequency of Sediment Transport in Alluvial Channels**
		Joel S Sholtes, Brian P Bledsoe Department of Civil and Environmental Engineering, Colorado State University
	10:45	**Applying Screening Tools to Speed the Evaluation of Uncertainty in Sediment Transport Models**
		Youngjai Jung, Jeffrey D. Niemann and Blair P. Greimann Department of Civil and Environmental Engineering, Colorado State University
	11:00	**Estimation of Sediment Quantity of the Al-Meshkab Regulator Channel**
		Haider Addab and Saleh I. Khassaf Al-Saadi Department of Civil and Environmental Engineering, Colorado State University
	11:15	**When do we need a snorkel? Practical lessons learned on monitoring cobble-bed rivers often barely-wadeable at low flows**
		Daniel W. Baker and Stephen K Adams Department of Civil and Environmental Engineering, Colorado State University
	11:30	**Gravel transport and flow competence curves in mountain streams vary systematically with basin, channel, flow, and bedmaterial characteristics**
		Kristin Bunte, Steven R. Abt, Kurt W. Swingle and Dan A. Cenderelli Department of Civil and Environmental Engineering, Colorado State University
March 25	**12:00**	**Lunch - North Ballroom - Lory Student Center**
	1:00	**Borland Lecture in Hydraulics - North Ballroom - Lory Student Center**
		The Critical Flow Hypothesis Revisited – a 20 Year Retrospective **Dr. Professor Gordon Grant** **USDA Forest Service and College of Earth, Ocean and Atmospheric Sciences, Oregon State University**
March 25	**2:00**	**Watershed Modeling - Model Integration**
		Chair: Professor Mazdak Arabi **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
	2:00	**The Model Optimization, Uncertainty, and SEnsitivity Analysis (MOUSE) Toolbox: Overview and Application**
		James C. Ascough II, Christian Fischer, Nathan Lighthart, Olaf David, Timothy R. Green, Sven Kralisch USDA-ARS-NPA, Agricultural Systems Research Unit, Fort Collins, CO
I-WATER	2:15	**Noninvasive support for interdisciplinary model integration**
		Andre Q. Dozier, Olaf David, Mazdak Arabi, Wes Lloyd, and Yao Zhang Department of Civil and Environmental Engineering, Colorado State University
I-WATER	2:30	**Watershed-scale modeling of riparian biogeochemistry: a hydrologic connectivity framework**
		Rosemary M. Records, Mazdak Arabi, Steven R. Fassnacht, and Ryan T. Bailey Watershed Science – Department of Geosciences, Colorado State University
	2:45	**Assessment of Input Uncertainty Using IPEAT**
		Haw Yen and Jaehak Jeong Grassland, Soil & Water Research Laboratory, USDA-ARS, Temple, Texas
	3:00	**The spatially-distributed AgroEcoSystem-Watershed (AgES-W) hydrologic/water quality (H/WQ) model for assessment of conservation effects**
		James C. Ascough II, Timothy R. Green, Olaf David, Holm Kipka, and Gregory S. McMaster USDA-ARS-PA, Agricultural Systems Research Unit, Fort Collins, CO
	3:15	**Modeling the Hydrology of Watersheds over Java Island, Indonesia**
		Mas Yanto, Ben Livneh and Balaji Rajagopalan Civil Environmental and Architectural Engineering University of Colorado, Boulder
March 25	**3:30**	**Mid-afternoon break**

March 25	3:45	**Ungaged Basins - Urban Hydrology - Flooding**
		Chair: Professor Pierre Y Julien **Department of Civil and Environmental Engineering, CSU** **Cherokee Park Room - Lory Student Center**
	3:45	**The influence of different calibration criteria on a rainfall-runoff model's ability to predict biologically important flow metrics when transferred to ungaged basins**
		Stephen K. Adams and Brian P. Bledsoe Department of Civil and Environmental Engineering, Colorado State University
	4:00	**On the Use of Classifications for Channel Network Structure for Determining Synthetic Unit Hydrographs for Ungauged Basins**
		Almoatasem M. Maamon, Sediqa Hassani, and Jeffrey D. Niemann Department of Civil and Environmental Engineering, Colorado State University
	4:15	**The effect of urbanization on flow duration curves: A case study from selected streams in the Puget Sound Basin, Western Washington**
		Tyler Rosburg, Peter A. Nelson and Brian P. Bledsoe Department of Civil and Environmental Engineering, Colorado State University
	4:30	**Irrigating the urban semi-arid environment: effects on land surface and hydrologic fluxes**
		Bryant Reyes, Terri S. Hogue and Reed M. Maxwell Department of Civil and Environmental Engineering, Colorado School of Mines
	4:45	**Uncertainty and sensitivity in bank stability modeling: implications for estimating phosphorus loading**
		Roderick W. Lammers and Brian P. Bledsoe Department of Civil and Environmental Engineering, Colorado State University
	5:00	**A Hierarchical Modeling Approach to Evaluate Spatial and Temporal Variability of Wastewater Effluent BOD, TSS and Ammonia**
		Bihu Suchetana, Balaji Rajagopalan and JoAnn Silverstein Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder
	5:15	**Colorado Front Range flood of 2013: peak flows, flood frequencies, and impacts**
		Steven E. Yochum US Forest Service, National Stream & Aquatic Ecology Center, Fort Collins, CO
	5:30	**Mapping Maximum Flood Extent Using Multi-Temporal Independent Component Analysis and Landsat-8 Along Colorado's Front Range**
		Stephen Chignell, Ryan Anderson, Melinda Laituri, Paul Evangelista, and David Merritt Department of Ecosystem Science and Sustainability, Colorado State University
	5:45	**Flood Management in Malaysia: SMART**
		Kennard Lai and Pierre Y. Julien Department of Civil and Environmental Engineering, Colorado State University

March 25   **6:00**   **Hydrology Days 2015 ends**

		Compendium of I-WATER Symposium Presentations
		Chair: Professor Jorge A Ramirez **Department of Civil and Environmental Engineering, CSU** **I-WATER: Integrated Water Atmosphere Ecosystem Education and Research - IGERT Program at CSU**
I-WATER		**Mulch effects on runoff and sediment production at the hillslope scale in the High Park Fire**
		Codie Wilson, Stephanie Kampf, Lee H MacDonald and Joe Wagenbrenner Department of Geosciences, Colorado State University
I-WATER		**Lake-effect snowpack decreases the wintertime mortality of Miscanthus × giganteus in Michigan**
		Gavin R. Roy Department of Atmospheric Science, Colorado State University
I-WATER		**Systematic river restoration planning**
		David M. Martin, Virgilio Hermoso, Francis Pantus, Jon Olley, Simon Linke, N. LeRoy Poff Department of Biology and Graduate Degree Program in Ecology, Colorado State University
I-WATER		**Prediction system for nitrogen deposition in Rocky Mountain National Park**
		Aaron J Piña, Russ S Schumacher, Brock Faulkner, and A. Scott Denning Department of Atmospheric Science, Colorado State University
I-WATER		**Simulating the 2012 High Plains drought using three single column models (SCM)**
		Isaac D. Medina, Scott Denning, Ian T. Baker, Don Dazlich Department of Atmospheric Science, Colorado State University
I-WATER		**Magnitude and Frequency of Sediment Transport in Alluvial Channels**
		Joel S Sholtes, Brian P Bledsoe Department of Civil and Environmental Engineering, Colorado State University
I-WATER		**Developing GAMs to Identify Algal Biomass Controls in Mid-Atlantic Streams**
		Whitney S. Beck Department of Biology, Colorado State University
I-WATER		**Noninvasive support for interdisciplinary model integration**
		Andre Q. Dozier, Olaf David, Mazdak Arabi, Wes Lloyd, and Yao Zhang Department of Civil and Environmental Engineering, Colorado State University
I-WATER		**Watershed-scale modeling of riparian biogeochemistry: a hydrologic connectivity framework**
		Rosemary M. Records, Mazdak Arabi, Steven R. Fassnacht, and Ryan T. Bailey Watershed Science – Department of Geosciences, Colorado State University
I-WATER		**Flow reconstruction and fluvial geomorphic potential for cottonwood dendrochronology**
		Derek M. Schook, Sara L. Rathburn, Jonathan M. Friedman Department of Geosciences, Colorado State University
I-WATER		**Organic carbon retention in mountainous headwater streams of the Colorado Front Range, USA**
		Nicholas A. Sutfin and Ellen E. Wohl Department of Geosciences, Colorado State University
I-WATER		**Investigating the coupled effects of climate change and nitrogen on lake periphyton**
		Isabella A. Oleksy, Jill S. Baron Natural Resource Ecology Laboratory, Colorado State University

March 25	8:00	Poster Session
		Chair: Professor Jorge A Ramirez **Department of Civil and Environmental Engineering, CSU** **North Ballroom - Lory Student Center**
		Storage and flux dynamics for an active beaver meadow in the North Saint Vrain Creek, Rocky Mountain National Park, CO
		Pamela Wegener, Tim Covino, Ed Hall, and Ellen Wohl Ecosystem Science and Sustainability Department, Colorado State University
		Thermal conductivity of binary sand mixtures evaluated through the full range of saturation
		Benjamin M. Wallen, Kathleen M. Smits, and Stacy E. Howington Department of Civil and Environmental Engineering, Colorado School of Mines
		Impacts of Thermokarst Bank Degradation on Streambed Sediment Size in the McMurdo Dry Valleys
		Zach Sudman and Michael Gooseff Department of Civil and Environmental Engineering, Colorado State University
		New Approaches for Estimating Snow Surface Roughness
		David Kamin and Steven Fassnacht Department of Ecosystem Science and Sustainability, Watershed Science, Colorado State University
		Assessing Changes to Streamflow from Dam-Regulation at Hog Park Creek in the Southern Rocky Mountains
		Tyler J. Carleton Ecosystem Science and Sustainability – Watershed Science, Colorado State University
		Relative Nutrient Contributions to Lake Yojoa, Honduras
		Jemma Fadum and Ed Hall Department of Ecosystem Science and Sustainability, Colorado State University
		Geometric Methods to Evaluate Snow Surface Roughness
		Steven R. Fassnacht, Iuliana Oprea, Patrick D. Shipman, James Kirkpatrick, George Borleske, Francis Motta, David Kamin ESS-Watershed Science, Colorado State University
		A Sociological study of some determinants of the effectiveness of water users associations in villages in the Nubaria region, Egypt Abstract
		Kareem Ahmed Colorado State University
		Regional variability of controls on post-fire watershed system flow response
		Samuel Saxe, Terri S. Hogue and Lauren Hay Hydrologic Sciences and Engineering, Colorado School of Mines
		Water balance in the headwaters of the Rio Grande River using remote sensing technology
		Skyler Bruno, Kyle Knipper and Terri Hogue Department of Hydrologic Science and Engineering, Colorado School of Mines
		Coping with Global Water Scarcity
		Glenn G. Patterson EASC-Watershed Science, Colorado State University
		On grain roughness in rivers and streams
		Robert T Milhous Hydrologist. Fort Collins, Colorado
		Spatial Precipitation Trends and Effects of Climate Change on the Hawai'ian Hualalai Aquifer
		Alyssa Hendricks and Steven R. Fassnacht ESS-Watershed Science, Colorado State University
		Modeling sediment yield deposition using SWAT model and analysis of factors determining sediment yield: A Case Study of Ankara River basin, Turkey
		Umit Duru, Ellen Wohl, and Mazdak Arabi Department of Geosciences, Colorado State University

Using Geochemical Indicators to Distinguish High Biogeochemical Activity in Sediments

A. Kenwell, A. Navarre-Sitchler, R. Prugue, J. Spear, R. Maxwell, K. Williams
Colorado School of Mines

A Potential of Water Quality Trading in Jordan Lake Watershed, NC

Marzieh Motallebi, Ali Tasdighi, Dana Hoag, Mazdak Arabi, Deanna Osmond, and Caela O'Connell
Department of Agricultural and Resource Economics, Colorado State University

Experimental and numerical study of two dimensional heat and mass transfer in unsaturated soil with and application to soil thermal energy storage (SBTES) systems

Ali Moradi and Kathleen M. Smits
Department of Civil and Environmental Engineering, Colorado School of Mines