

Conference Program
AGU Hydrology Days 2004
March 10 - March 12, 2004

Urban Hydrology - Cherokee Park Room

The Effect of Stormwater Controls on Sediment Transport in Urban Streams

Christine A. Rohrer, P.E.
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Larry A. Roesner, PhD, P.E.
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Implementing residential greywater reuse as a viable option for sustaining the urban water supply.

Christine Marjoram
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Larry A. Roesner, P.E.
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Preliminary Analysis of Early Operation at the Udall Extended Detention Natural Area in Fort Collins, Colorado

Jeremiah Knuth
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Kevin McBride P.E.
Water Quality Group, Stormwater Division, Utilities Department, City of Fort Collins, Fort Collins

Water Use Study of CSU's Foothills Campus

Melanie Criswell, M.S. Candidate. Environmental Engineering, Civil Engineering Department, Colorado State University, Fort Collins

Larry A. Roesner. Environmental Engineering, Civil Engineering Department, Colorado State University, Fort Collins

Studying of Bedslope Effect of an Urban River, on the Concentration Profile of a Pollutant, through Mathematical Modeling.

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Water Quality - Cherokee Park Room

Hydrologic and Water Quality Modeling for River Water Quality Standards Compliance, Case Study: Selenium Levels in the Lower Gunnison Basin in Western Colorado

R. Blair Hanna
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Jim C. Loftis
Civil Engineering Department, Colorado State University, Fort Collins

Assessing Irrigation-Induced Selenium and Iron in the Stream-Aquifer System of the Lower Arkansas River Valley

Joseph P. Donnelly
Graduate Research Assistant and MS candidate, Civil Engineering Department, Colorado State University, Fort Collins

Timothy K. Gates
Civil Engineering Department, Colorado State University, Fort Collins

QUAL-W2 Two-Dimensional Hydrodynamic and Water Quality Modelling on the Missouri River Mainstem System

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Selenium Monitoring for the Uncompahgre River in the Lower Gunnison Basin in Western Colorado

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Jim C. Loftis
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Big Thompson Phosphorus Study

Jim Loftis
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Melanie Criswell, Liz Fagen, Elaina Holburn, Jenny Mueller
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Amanda Suedmeier
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Extension Of ADM1 For Modeling Unsteady Anaerobic Reactor

Durmus Cesur
GIS/Database Administrator, Information Technology Division, San Antonio River Authority, San Antonio, TX

Hydraulics - Cherokee Park Room

Use Of A Rock Ramp For Grade Control – Dueñas Bridge Case

Julio M. Kuroiwa, Alfredo J. Mansen and Edgar Rodriguez
Mansen Kuroiwa Ings SAC, Lima, PERU

Evaluation of the Effects of Dam Re-operation on Establishment of Riparian Vegetation, Verde River, Arizona

C.G. Wolff
Senior Hydraulic Engineer, Mussetter Engineering, Inc., Fort Collins

Robert A. Mussetter
Principal Engineer, Mussetter Engineering, Inc., Fort Collins

Michael D. Harvey
Principal Geomorphologist, Mussetter Engineering, Inc., Fort Collins

Spatial variability of coarse bedload transport and its temporal changes over highflow seasons

Kristin Bunte, Steven R. Abt and Kurt Swingle
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Representing the Bed Roughness of Gravel Bed Rivers in Computational Fluid Dynamics

Shaun Carney
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Brian Bledsoe
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Hydraulic Modeling Analysis of the Middle Rio Grande, Corrales Reach

Jason M. Albert
Civil Engineering Department, CSU

Groundwater - Virginia Dale Room

Mapping a Former Channel of the South Platte River within the Tamarack Ranch Wildlife Area Using Electrical Resistivity

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William E. Sanford
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Dennis L. Harry
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Ground and Surface Water Interaction in Ephemeral Wetlands, San Luis Valley, Colorado

Brian Kappen, William Sanford
Department of Geosciences, Colorado State University

John Sanderson, Graduate Degree Program in Ecology, Colorado State University

The Subsurface Flow and Transport Experimental Laboratory: A New Department of Energy User's Facility for Intermediate-Scale Experimentation.

M. Oostrom, T.W. Wietsma, and N.S. Foster
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Analyses of Multiple Well Hydraulic Tests in Fractured Aquifers with Implications for Tracer Tests

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Peter G. Cook
CSIRO Land & Water, Glen Osmond, South Australia

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School of Chemistry, Physics and Earth Sciences, Flinders University, Adelaide, Australia

Petroleum Hydrocarbon Contamination Of Groundwater In Suez: Causes Severe Fire Risk

Sameh M. Afifi
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Impacts of Forest Fires - Cherokee Park Room

Effectiveness of PAM Treatments in Reducing Post-fire Erosion on the Schoonover Fire, Colorado Front Range

Daniella Rough and Lee H. MacDonald
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Comparisons Of Post-Fire Runoff And Erosion Rates Using A Rainfall Simulator, Colorado Front Range

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Hillslope Erosion Processes after High Severity Wildfires, Colorado Front Range

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Effects of a Wildfire and Salvage Logging on Hillslope Erosion: Star Fire, Placer County, California

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Remediation - Industrial Releases - Virginia Dale Room

In-Situ Remediation of Chlorinated Solvents via Zero Valent Iron and Stabilization

Mitch Olson, Tom Sale, Charles Shackelford, and David Castelbaum
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Direct Measurement of LNAPL Migration via Tracer Dilutions

Ryan Taylor, Tom Sale, and Mark Lyverse
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Microbial Community Dynamics of MTBE and BTEX Degradation

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Development of a Well Bore Based Electrolytic Reactor for Use in Groundwater Contaminant Plume Remediation

Eric Petersen
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Field Demonstration of a Sequential Electrolytic Permeable Reactive Barrier for Ground Water Treatment

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The Use of Cross-linked Polyacrylamide as a Soil Amendment

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Claire Foster
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Contaminant Transport - Acid Mine Drainage - Cherokee Park Room

Tracing the Hydrologic Connection between Turquoise Lake and Local Mine Dewatering Tunnels with Dissolved Sulfur Hexafluoride (SF₆)

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Watershed Transport of Mine Wastes

Mark Velleux
Rosalia Rojas-Sanchez
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Quantifying Waterlogging and Salinization Impacts in the Eastern Arkansas River Valley, Colorado

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Simulation of Dispersion of Pollutant by Eddy Field.

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Aquatic Habitat - Cherokee Park Room

Mapping Aquatic Habitat Characteristics In Stream Networks

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Investigation of Habitat Formation and Fish Use during a Range of Flows in a Sand-bed Stream, the Pecos River, New Mexico

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Effect of Irrigation on Stream Depletion and Fish Habitats in an Eastern Colorado River

Steven Griffin
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Two-Dimensional Hydrodynamic Modeling of the Rio Grande to Support Fishery Habitat Investigations

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Flow Requirements of Endangered Fishes and Water Supply Forecasting: Use of Physical Characteristics of Streamflows in Snowmelt-Dominated Rivers

Margaret A. Matter
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Luis Garcia
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A Geomorphic Assessment of the Eagle River at Camp Hale

John Meyer
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Water Interactions: Systems at Risk - What Can the Science of Hydrology Do?

András Szöllösi-Nagy

Director of the Division of Water Sciences of UNESCO
Secretary of the International Hydrological Programme of UNESCO

Landscape Evolution - Fluvial Geomorphology - Cherokee Park Room

Analysis of feedbacks between hydrologic response and long-term drainage basin evolution

Peter Solyom
School of Geography and the Environment, Oxford University, Oxford, UK

Gregory E. Tucker
Cooperative Institute for Research in Environmental Sciences (CIRES) and Department of Geological Sciences, University of Colorado, Boulder

A Comparison of the Geometrical Properties of Experimental and Natural River Basins Across a Range of Scales

J.D. Niemann
Department of Civil Engineering, Colorado State University

L. Hasbargen
Department of Geosciences, Indiana University Northwest

Landscape Evolution in High-Elevation Andean River Basins, Northern Peru: Mass Failure and Fluvial Transport

Stuart C. Trabant
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Distributions of local height differences for spatially-random assemblages of particle patches to approximate surface roughness of random arrangements of sediment particles.

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Jorge A. Ramírez
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Initial analysis and comparison of surface roughness scaling relationships in two single-variable cellular models for particle interactions

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Ellen E. Wohl
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Resistance partitioning in step-pool channels

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Stochastic Approaches - Virginia Dale Room

Statistical downscaling in operational rainfall forecast

Nicola Rebora
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Scaling of Peak Flows with Respect to Drainage Area During Single Rainfall Events

Vijay Gupta
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Seasonal Cycle Shifts in Hydroclimatology over the Western US

Satish Kumar Regonda, Balaji Rajagopalan and Martyn Clark
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OTHA – Omaha Tools for Hydrologic Analysis - Time-Series/Statistical Analysis Programs for Water Resources

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Neural Network Modeling of Climate Change Impacts on Irrigation Water Supplies in Arkansas River Basin

Elgaali Elgaali and Luis A. Garcia
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Erosion – Sedimentation - Cherokee Park Room

Sediment Yield Estimates from Ungaged Tributaries to the Middle Rio Grande, New Mexico

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Sediment Production and Delivery from Unpaved Forest Roads in Upper South Platte River

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Sediment yield and stream stability analysis of the Yalobusha River before and after a watershed scale stream rehabilitation project.

Brett Jordan
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Predicting Flow Regime for Ungauged Streams in CO, WA, and OR

Stephen C. Sanborn
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Overbank Sedimentation due to Beaver Activity in a Mountain Landscape

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Suspended and substrate sediment sizes of the Lower Rio Puerco, New Mexico

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GIS – Agriculture - Irrigation - Virginia Dale Room

Analysis of DEM accuracy, grid cell size, and alternative flow routing algorithms for estimating topographic attributes

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Quantification of Climate Change Impacts on Irrigation Water Demand in the Arkansas River Basin- Spatial Approach

Elgaali Elgaali and Luis A. Garcia
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Spatial Modeling using Remote Sensing, GIS, and Field Data to Assess Crop Yield and Soil Salinity

Ahmed Eldeiry and Luis A. Garcia
Integrated Decision Support Group, Department of Civil Engineering, Colorado State University

Enterprise GIS for San Antonio River Authority

Durmus Cesur
GIS/Database Administrator, Information Technology Division, San Antonio River Authority, San Antonio, TX

Numbers Tell the Tale: The Role of Data in Environmental Policy Making

Paul A. Portney
President
Resources for the Future

**Ammons Hall
Colorado State University
Watershed Hydrology and Modeling - Cherokee Park Room**

Quantification of the Uncertainty Associated with Precipitation and Recharge Estimates of Desert Basins in Nevada

Brian J. Epstein
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Justin Huntington
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The TopoFlow Hydrologic Model: A New Community Project

S. D. Peckham
University of Colorado, Boulder, Colorado

Larry Hinzman and Matt Nolan,
University of Alaska, Fairbanks

New Capabilities of the South Platte Mapping and Analysis Program – Estimating Consumptive Use of Groundwater and Depletions to the South Platte in Colorado

Luis A. Garcia
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Basin-Scale Stream-Aquifer Modeling of the Lower Arkansas River, Colorado

Enrique Triana
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Civil Engineering Department, Colorado State University, Fort Collins

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Geospatial Interoperability in Modeling Frameworks - The ‘GEOLEM’ Approach

Olaf David, Roland J. Viger and Luis A. Garcia
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Representation of Wetlands for Integrated Hydrologic Models

Alaa Aly
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Snow Hydrology – Cherokee Park Room

Mountain block recharge from snowmelt runoff in the Colorado Rocky Mountains

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Jord Gertson
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Persistence of Topographic Controls on the Spatial Distribution of Snow in Rugged Mountain Terrain, Colorado, USA

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Streamflow Predictability in the Upper versus Lower Colorado River Sub-basins

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GeoTool: A Modeling Toolbox for Geomorphic Analysis

Brian P. Bledsoe
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David A. Raff
United States Department of the Interior, Bureau of Reclamation, Flood Hydrology Group, Denver, CO

Whitney Borland and the Bureau of Reclamation - 1930 - 1972

Ernie L. Pemberton
Head, Sedimentation Section, USBR 1970-1982

Robert I. Strand
Head, Sedimentation Section, USBR 1982-1994

Management – Policy Issues - Cherokee Park Room

Applied Stochastic Hydrology

Jerson Kelman, Ph.D.
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Water Storage Policy for Colorado

Neil S. Grigg
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Optimization of multi-reservoir system operation: Application to the Geum river basin, Korea

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Deriving Willingness to Pay Estimates for Colorado Water Rights: The Lake Sherwood Area in Fort Collins, Colorado

Adam Smith
Natural Resources Recreation and Tourism, Colorado State University, Fort Collins

Bayesian Learning in Water Management

Abedalrazq Khalil
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Climatology - Cherokee Park Room

On The Sensitivity of Regional Hydrologic Fluxes to Climatic Changes

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A Review Of The 2003 Water Year In Colorado

Nolan J. Doesken
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Michael A. Gillespie
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Developing a Homogeneous Data Series of Pan Evaporation Across the Conterminous United States for Analysis of Long-Term Trends.

Michael Hobbins, Jorge A. Ramirez, and Thomas C. Brown

Developing a Long-term, Continental-scale, High-resolution Time-series of Spatially Distributed, Topographically Corrected Solar Radiation.

Michael Hobbins, Jorge A. Ramirez, and Thomas C. Brown

The Recent High Precipitation Period Reported for Fort Collins

Marvin Criswell

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Posters

Numerical Simulation of Groundwater Recharge and Discharge in Escarpment Retreat

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Droughts in Finland – past, present and future

Esko Kuusisto

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Modeling Complex Interactions of Overlapping River and Road Networks in a Changing Landscape

Brent Read, Paul W. Box, Alan P. Covich, Todd A. Crowl, Armando Gonzalez-Caban, Elias R. Guterrez, Melinda Laituri John B. Loomis, Andrew Pike, Jorge A. Ramirez, Luis E. Santiago, Frederick N. Scatena, C. Dana Tomlin, Ellen E. Wohl.

Groundwater modelling for monitoring purposes in construction projects

Cinzia Miracapillo

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Fuzzy Clustering-based Neural Networks for Describing Rainfall-Runoff Process

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Solutions of the linearized Richards equation with arbitrary boundary and initial conditions: flux and soil moisture respectively

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Inverse Estimation of Soil Hydraulic Properties Over the Landscape on Two Agricultural Sites in Colorado

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Space-Time Modeling of Agricultural Landscape Variability Using AgSimGIS

James C. Ascough II, Timothy R. Green, Jan E. Cipra, Lajpat R. Ahuja, and Liwang Ma
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Predicting Cumulative Watershed Effects using Spatially Explicit Models

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Effects of Storm Runoff on Stream Temperature and Water Quality in Urbanized Areas along the Wasatch Mountains, Utah

Christine Albano
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Steven J. Gerner
Water Resources Division, Utah District, U.S. Geological Survey, Salt Lake City, UT.

Using Stable and Cosmogenic Isotopes to Delineate Flowpaths and Sourcewaters of Acid Mine Drainage in the Mary Murphy Mine, Chaffee Co., Colorado

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Physical models application of flow analysis in regulated reservoir dams

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Challenges, Constraints and Achievements of The Lake Chad 's Saveguard campaign.

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Effect of Surface texture on the clusters of spheres falling in Quiescent Fluids

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