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WATER ENGINEERING FOR A SUSTAINABLE ENVIRONMENT

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Ch. Skoulikaris, J. Ganoulis and J. M. Monget

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Soo Jun Kim, Hwan Don Jun, Byung Sik Kim and Hung Soo Kim

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C. L. Wu and K. W. Chau

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Sungwon Kim, Jung-Hun Kim and Ki-Bum Park

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Zohreh Izadifar and Amin Elshorbagy

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J. García Hernández, F. Jordan, P. Sirvent Gimenez, J.-L. Boillat, A. Schleiss

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Ahmed Y. Mohammed

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Fredrik Huthoff

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J. Demetriou and M. Christia

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K. A. Mazurek and A. R. Gheisi

Calibration of 2-D and 3-D Numerical Models of a Large Reservoir Using ADCP Measurements

C. Dorfmann and H. Knoblauch

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Measuring Mixed Bedload Transport with an Acoustic Doppler Current Profiler

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Changes of Bed Configuration Caused by Permeable Groyne of Stone Gabion

H. Muraoka, T. Fushimi, A. Kadota and K. Suzuki

A Study of Sediment Transport Processes Along the Stream Corridor Using Isotopic and Elemental Nitrogen Tracers

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An Experimental Study on Upstream Bed Response Due to Fallingworks Improvement

Muto Yasunori, Kanda Keichi, Zhang Hao and Nakagawa Hajime

On the Resistance to Flow of Alluvial Meandering Streams

A. M. Ferreira da Silva and A. D. Binns

Milltown Dam Removal Impacts on Sediment Transport

Chad E. Bailey and Donald G. Booth

A Concept for Desilting Reservoir Using Numerical and Physical Models

C. Dorfmann and H. Knoblauch

Session	TS-4
Track	A-4 Numerical Modeling
Date/Time	Tuesday, August 11, 2009 / 08:00–09:45

Storm: A Numerical Model for Environmental Surface Flows

Francisco J. M. Simões

A New Second Order Scheme for Solving Saint Venant Equations

Wenxue Chen, Yihong Wu, Zhiping Liu and Xiaochen Guo

A Depth Integrated Model for 3D Turbulence Flows Using Shallow Water Equations and Horizontal Vorticity Equations

T. Uchida and S. Fukuoka

Improving the Performance of Fast Inundation Models Using v -Support Vector Regression and Particle Swarm Optimisation

Yang Liu, Sylvain Néelz and Gareth Pender

A Comparison Among Turbulence Modelling Approaches in the Simulation of a Square Dead Zone

Carlo Gualtieri, Petra Amparo López Jiménez and Jesus Mora Rodríguez

Effect of Bed Shear Stress on Scouring around Rectangular Bridge Piers Protected by Collar

I. Masoud Zokaei, S. Amin Salamatian and Amir Reza Zarrati

Analysis of the Sediment Transport Capabilities of TUFLOW

Cameron G. Jenkins, David J. Wainwright and Rollin H. Hotchkiss

A Numerical Model to Investigate the Influence of Size Distribution on Threshold Shear and Transport for Non-Cohesive Sediments

J. Vareilles and R. J. Perkins

Session	TS-4
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Tuesday, August 11, 2009 / 08:00–09:45

Influence of One Line Vegetation on Stage-Discharge Rating Curves in Compound Channel

K. Shiono, T. Ishigaki, R. Kawanaka and F. Heatlie

Measuring Drag Force of Flexible Vegetation Directly: Development of an Experimental Methodology

Sina Wunder, Boris Lehmann and Franz Nestmann

Lock-Exchange Experiments: Effect of Vegetation Drag on Gravity Currents

Keramaris Evangelos and Prinos Panayotis

Planar Laser-Induced Fluorescence Measurements of Mass Transport in Submerged Vegetated Flow

Taka-aki Okamoto, Iehisa Nezu and Aki Katayama

Mean Velocity Distributions in Open Channel Flows with Submerged and Emergent Vegetation

Jahra Fatima, Hiroyuki Yamamoto, Ryota Tsubaki and Yoshihisa Kawahara

Session	TS-4
Track	B-1 Flow Conveyance Systems
Date/Time	Tuesday, August 11, 2009 / 08:00–09:45

Study on Nonlinear Feedforward Control of Open-Channel Based on Adjoint Equation

Xiaochen Guo, Wenxue Chen, Xiangpeng Mu, Yihong Wu and Zhiping Liu

Residual Chlorine Measurements in Water Supply Networks for Estimating Water Demand Spatial Distribution

A. Di Nardo, M. Di Natale, R. Greco and A. Guida

Anticipation Time Estimation for Feedforward Control of Canal

Wei Cui, Wenxue Chen, Xiaochen Guo, Xiangpeng Mu and Qi Wang

Graph Theory as a Tool for Design of District Metered Water Supply Networks

Armando Di Nardo, Michele Di Natale and Mena Ciarmiello

Demand Pattern and Leakage Identification in Water Distribution Networks

Armando Di Nardo, Michele Di Natale and Michele Iervolino

An Improved Newton-Raphson Method to Simulate Water Distribution Networks

M. M. Vaseti and M. Tabesh

Development of Gradient Method for Pressure-Driven Analysis of Water Distribution Networks

M. Tabesh, V. Arefkhani and H. Tavakoli Far

Session	TS-4
Track	C-1 Eco-Hydraulics
Date/Time	Tuesday, August 11, 2009 / 08:00–09:45

What Should Civil Engineers Learn from Failures in Fishways?

Youichi Yasuda and Yuji Seo

Relationship Between Migration Route of Swimming Fishes and Velocity Characteristics in Pool-Type Fishways with a Trapezoidal Section

Youichi Yasuda and Takashi Ohnishi

Assessing the Behavioural Response of the Iberian Barbel (*Barbus bocage*) in a Pool-and-weir Type Fishway Prototype using EMG Telemetry

B. R. Quintella, C. S. Mateus, A. T. Silva, M. T. Ferreira and P. R. Almeida

3D Flow Simulations in a Pool-Weir-Type Fishway in the Tonghou River

Wen-Yi Chang, Ho-Cheng Lien, Whey-Fong Tsai, Jih-Sung Lai, Wen-Dar Guo, Tung-Jer Hu

Monitoring Seasonal and Daily Upstream Movements of Coarse Fish Through a Fish Pass Using Infrared Technology

J. M. Santos, P. J. Pinheiro, M. T. Ferreira and J. Bochechas

Ecological Measures of Controlling Invasion of Golden Mussel (*Limnoperna fortunei*) in Water Transfer Systems

Mengzhen Xu, Zhaoyin Wang, Xuehua Duan, Meiqi Zhuang and Fabio Teodoro de Souza

General Patterns and Causes of Sand/Gravel Bar Succession to Riparian Vegetation in the Rivers, Korea

H. Woo, M. H. Park, S. J. Chung, H. T. Kim

Session	TS-4
Track	C-5 Climate Influences on Water Flow in Watersheds
Date/Time	Tuesday, August 11, 2009 / 08:00–09:45

Development of an Integrated Algorithm to Evaluate Drought Planning Schemes in an Urban Area: A Case Study

Sara Nazif, Mohammad Karamouz and Hamed Tavakoli Far

Downscaling CGCM Climate Change Output Scenario Using the Artificial Neural Network Model

Kang Boosik and Yang Jeong-Seok

Coupling Simulation of Sediment Yield and Deposition in the Middle and Lower Yellow River Basins: Implications of Land Use Influencing Downstream Fluvial Process

Guangqian Wang, Li He, Xudong Fu, Baosheng Wu and Chunhong Hu

Changes in Deconvolved Baseflow Rates in Canada

G. T. Parker and C.D. Rennie

A Methodology to Estimate the Impact of Climate Change on Flood Frequency Distributions

Andrea Ramsay, Ousmane Seidou and Ioan Nistor

Changes of Stochastic Parameters of Rainfall between Present and Future Climate in Asian Monsoon Regions Simulated from a Super-high Resolution Global Climate Model

Lisako Konoshima and Eiichi Nakakita

Scenario Planning Under Uncertainty Using a Dynamic DSS

P. G. Kathleen O'Neil and David Yates

Impact of Climate Change Scenarios on Streamflow Droughts in Taiwan

Pao-Shan Yu, Shien-Tsung Chen, Chin-Yuan Lin and Ching-Ping Tung

Anticipatory Adaptation to Flood and Drought Disaster due to Climate Change

Y. Sato, K. Tanaka, E. Nakakita and T. Kojiri

Impacts of Climate Change in Lake Koronia Basin, Greece

E. Kolokytha, Y. Mylopoulos and A. Ntota

Impact of Climate Change on Hydrologic Regime in Canard River Watershed, Ontario

M. Rahman, T. Bolisetti and R. Balachandar

Flood Disasters Due to Recent Abnormal Rainfall and Preventive Measures in Japan

H. Oshikawa, A. Hashimoto, K. Tsukahara and T. Komatsu

Analysis of Extreme Rainfall Trends in Denmark

S. Sadri, H. Madsen, P. S. Mikkelsen and D. H. Burn

Groundwater and Surface Water Data Analysis for Sustainable Water Supply Strategy Considering Climate Change Effects in Korea

Jeong-Seok Yang and Boosik Kang

Session	TS-4
Track	E-2 Multi-Process, Data-Driven Modeling
Date/Time	Tuesday, August 11, 2009 / 08:00–09:45

A Neural Network Modelling Approach to Flood Forecasting on the Tiber River

G. Napolitano, L. See and F. Savi

Determining Multivariate Short-Term Forecasts of Groundwater Levels and Reservoir Inflows by Artificial Neural Networks

C. A. S. Farias, K. Suzuki, A. B. Celeste and A. Kadota

Influence of Hydrological Model Complexity on the Estimation of Floods in an Alpine Catchment for PMP Conditions

Théodora Cohen, Javier García Hernández, Jérôme Dubois and Jean-Louis Boillat

ARPTM: A GIS-Based Tool for Pollutant Transport Modeling In River Network

Dongsu Kim and Marian Muste

Flood Control Management for an Alpine Valley in Tyrol — An Integrated Hydrological-Hydraulic Approach

Bernhard Gems, Stefan Achleitner, Matthias Huttenlau, Annegret Thieken and Markus Aufleger

Session : TS-5

Session	TS-5
Track	A-1 The Mechanics of Water Flow
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

3-D Coherent Structure of Kolk-Boil Vortex and Sediment Lift-up over Dunes

Iehisa Nezu, Kazunori Noguchi, Tomohiro Nakajima and Tetsuro Akimoto

Continuous Measurement of the Snow Surface Height and Ice Bottom Height in a Frozen River

Yasuhiro Yoshikawa, Yasuharu Watanabe, Hiroyasu Yasuda and Yasuyuki Hirai

Vortex-strength Models in Hydrodynamics

V. Kolár

Lagrangian Modeling of Flow Over Spillways Using the Moving Particle Semi-implicit Method

A. Shakibaeinia and Y. C. Jin

Supercritical Flow Around a Bend in a Circular Conduit

John Finnie

Session	TS-5
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

Hydraulics of Alluvial Dunes — Preliminary Results

Corrado Gisonni and Willi H. Hager

Statistical Analysis of Bed Form Dynamics

J. Aberle, M. Henning and B. Hentschel

Determining Provenance of Flood-derived Sediments After a 500-Year Flood in a Midwestern Stream Using Isotopic Tracers

Kevin D. Denn, Thanos A. N. Papanicolaou and Christopher G. Wilson

Bed Resistance and Sediment Transport Experiments in Sand, Gravel and Sand-Gravel Antidunes

F. Núñez-González and J. P. Martín-Vide

Session	TS-5
Track	A-4 Numerical Modeling
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

Three-Dimensional Numerical Simulation of Flow and Pollutant Transport with Application to a Shallow, Natural Lake

Xiaobo Chao, Yafei Jia and F. Douglas Shields

Modified Equation Approach applied to 2D Advection-Diffusion Equation with Mixed Derivatives

Monika B. Kalinowska and Pawe M. Rowinski

An Evolutionary -Based Stepwise Approach for Process Identification and Modeling of Highway Stormwater Contaminant Pollutographs

A. Massoudieh and M. Kayhanian

Numerical Modeling of Water and Sediment Flow in a Delta with Natural Vegetation

P. Zinke, N. R. B. Olsen and J. Bogen

Solute Transport in Open-Channel Flows with Submerged Vegetation

Hyeongsik Kang, Sung-Uk Choi and Byungwoong Choi

Session	TS-5
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

Challenges in the Study of Turbulent Coherent Flow Structures in Gravel-Bed Rivers

A. G. Roy and G.M. Marquis

Lateral Distribution of Turbulence and Secondary Currents in Non-uniform Open Channel Flow

Bruce J. MacVicar and Colin D. Rennie

Investigation of Turbulent Structure around Bottom Mounted Structures with Porosity Variations

H. C. Chan, J. M. Leu, M. C. Lee and W. C. Huang

Turbulent Structure in Bottom Layer of a Tidal Estuary

Mahdi Razaz, Kiyosi Kawanisi and Mahmoud F. Maghrebi

Flow Past a Train of Two-dimensional Large Rib Elements in an Open Channel

Vesselina Roussinova, Ram Balachandar and Panneer Selvam

Session	TS-5
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

Energy Dissipation and Residual Energy on Embankment Dam Stepped Spillways

Stefan Felder and Hubert Chanson

Self-Aerated Skimming Flow on Embankment Stepped Spillways

D. B. Bung, A. Schlenkhoff and M. Oertel

Prediction of Oxygen Transfer in Self-Aerated Skimming Flow on Embankment Stepped Spillways

A. Schlenkhoff and D. B. Bung

Effect of Control Section on Stepped Spillway Flow

Michael Pfister

Experimental Testing and Numerical Simulation of the Non-aerated Skimming Flow Over Steeply Sloping Stepped Spillways

Inês Meireles, Fabián A. Bombardelli and Jorge Matos

Session	TS-5
Track	B-3 Hydraulic Machinery for Water and Power Delivery

Date/Time	Tuesday, August 11, 2009 / 10:45–12:30
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Cost-effective Energy Production in Water Pipe Systems: Theoretical Analysis for New Design Solutions

H. M. Ramos, A. Borga and M. Simão

Saving Energy in Parallel Variable-Speed Centrifugal Pumps Operation

D. James Farivar, David Greenwood, Shahrooz Soltani

Effect of Lower Concentration on Erosive Wear of Pelton Turbine Bucket

M. K. Padhy and R. P. Saini

Recent Developments in Hydropower with Very Low Head Differences

G. Müller

A New Concept: The Permeable Lifting Profile – Improving Aerodynamic Performance Using Hints from Natural Evolution

Gabriel Tatu and Tiberiu Barbat

Development and Laboratory Testing of Hydropower Converters for Very Low Head Differences

Jana Hadler, Klaus Brökel and Christian Semlow

Session	TS-5
Track	C-1 Eco-Hydraulics
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

An Experimental Study of 2D Flow Characteristics in a Vertical Slot Fishway

Xue Dong, Mengmeng Xu and Yuping Feng

Multi-function Fish Pass and Minimum Acceptable Flow of the Schwarzach Hydro Power Plant in Austria

Helmut Schönlaub

Two-Dimensional Ecohydraulic Modelling of a Small Dam with a Vertical Slot

Fishway

Luis Cea, Jerónimo Puertas, Luis Pena, Ignacio Fraga, María Bermúdez and Luis Balairón

Assessment for the Adaptation of Vertical Slot fishway for Brazilian Fishes

B. A. F. Duarte, H. A. Santos and M. A. Castro

Computer Code for the Optimal Design of Vertical Slot Fishways Based on Swimming Capabilities of the Target Species

Jerónimo Puertas, Luis Balairón, Luis Cea, Luis Pena, María Bermúdez and Mónica Miguélez

Session	TS-5
Track	S-8 Marine Current Power
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

The Severn Barrage: Hydro-environmental Impact Assessment Studies

Roger A. Falconer, Binliang Lin, Reza Ahmadian and Junqiang Xia

Session	TS-5
Track	E-2 Multi-Process, Data-Driven Modeling
Date/Time	Tuesday, August 11, 2009 / 10:45–12:30

Development of a Dynamic Data Driven Coastal/Estuarine Process Modeling System for Application to Coastal Water Environmental Prediction

Yan Ding and Sam S. Y. Wang

Rainfall Nowcast System with Radar Images

H. H. Nguyen, C. D. Doan and S. Y. Liong

Downscaling Point Precipitation using Neural Networks Model

Sungwon Kim, Minsoo Kyoung, Byung Sik Kim and Hung Soo Kim

High Performance Computing Techniques for Simulation of Urban Flooding Events

S. A. Ciliberti, F. Macchione and M. Mancini

Short-term Urban Water Demand Forecasting Using Artificial Neural Networks

Li Gu

Estimation of the Superficial Water Availability Using ArcHydro Data Model.

Application: Zirahuen River Basin

A. Suárez, J. Velázquez, J. Rivera, C. Patiño, A. Ocón and C. y Astudillo

Hybrid Hydroinformatics System for an Interdisciplinary Research Project

F. Molkenthin, V. Notay and C.-Y. Li

Nutrient/Sediment Interactions in Estuaries

B. Bockelmann-Evans, R. Ahmadian and R. Falconer

Session : TS-6

Session	TS-6
Track	A-1 The Mechanics of Water Flow
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

Three-dimensional Hydrodynamic Model of Single Wall Sticking Tetrahedron Frame

Gao Zhu, Tang Hongwu, Guo Hongmin and Chen Hechun

Dependency of Cavitation Erosion Scale Effects on Measurement Methods

F. Geiger, R. Huber and P. Rutschmann

Vortex Model of Equilibrium Flows in Gravel-Bed Rivers

B. J. Belcher and J. F. Fox

A Universal Distribution of Local Mean Velocities in Boundary Layers Flowing Over Vegetated Bottoms

S. De Felice, P. Gualtieri and G. Pulci Doria

Measurement of Velocities and Characterization of Some Parameters Inside of Free and Submerged Hydraulic Jumps

Luis G. Castillo E

Session	TS-6
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

A DES Study of the Role of Large-Scale Turbulence at a Bridge Abutment of Realistic Geometry with Scour Hole

M. Koken and G. Constantinescu

Experimental Study on 3-Dimensional Scour at Submarine Pipelines

Yushi Wu and Yee-Meng Chiew

Temporal Evolution of Scouring Around a Series of L-head Groynes

Dehghani Amir Ahmad, Barzali Mohsen, Koichi Suzuki and Fazloul Ramin

Scour Hole Formation Around a Pair of Bridge Piers

Ben Ioppolo, Seung Ho Hong, Terry Sturm and Thorsten Stoesser

Physical Model Study of Bridge Abutment and Contraction Scour under Submerged Orifice Flow Conditions

Seung Ho Hong and T. W. Sturm

Session	TS-6
Track	A-4 Numerical Modeling
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

3D Numerical Simulation of Complex Flow Over Weir

Yuki Kajikawa and Osamu Hinokidani

URANS and LES Calculation of Open-channel Flow with Unsteady Hydraulic Jump

K. Ikenaga and A. Nakayama

Formulation of Flow Characteristics in Channel Confluences Using 3D Numerical Modeling

A. Shakibaeinia, M. R. M. Tabatabai and A. R. Zarrati

Numerical Study of Water Depth Effect on Vortex Shedding Using Shallow-Water

Model

Shin-Jye Liang

3D Simulations of the Flow Through the Low Head Turbine Runners by Means of Selected CFD Methods

Maciej Kaniecki and Zbigniew Krzemianowski

Session	TS-6
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

Efficient Space-Time Image Analysis of River Surface Pattern Using Two Dimensional Fast Fourier Transformation

I. Fujita, T. Ando, S. Tsutsumi and H. Hara

Review of Approaches to Estimating Bed Shear Stress From Velocity Profile Measurements

M. M. Piedra, H. Haynes, T. B. Hoey and A. Ervine

Comparison of LSPIV, ADV and PIV Data that is Decomposed to Measure the Structure of Turbulence Over a Gravel-Bed

J. F. Fox and B. J. Belcher

A Theoretical Framework for Fish-eddy Interactions

Aline J. Cotel and Paul W. Webb

In Situ Measurements of Hydrodynamics on Environmental Interfaces Using an Underwater Miniature Particle Image Velocimeter (UWMPIV)

Qian Liao and Harvey A. Bootsma

Session	TS-6
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

Energy Loss in Circular Drop Manholes

F. Granata, G. de Marinis, R. Gargano and W. H. Hager

Flow Features on Gabion Stepped Weirs

U. Fratino and F. M. Renna

Stilling Basin Performance for Stepped Spillways of Mild to Steep Slopes – Type III Basins

K. Warren Frizell, Joseph P. Kubitschek and Jorge Matos

Experimental Results of Flowenergy Dissipation on Stepped Chuteswith Lowslope

Menendez Ciro

Experimental Investigation of Roughened Channels with Cross Beams in Hyghway and Railway Drainage

G. S. Castro, R. F. Carvalho and M. L. Lorena

Space-constrained Stilling Basins for Pipe Outlets

Yeo H. Lim, Jacob O. Wieland and Nicholas Kalenze

Session	TS-6
Track	B-4 Urban Drainage and Flood Protection
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

The Great Midwest Flood of 2008

S. K. Nanda and Michael A. Ports

Improved Algorithm for Generation of Statistically Dependent Hydrological Time Series

Shouhong Wu

Flash Flood Awareness and Prevention

M. Oertel, D. B. Bung and A. Schlenkhoff

Influence of Rainfall Distribution on Urban Flood: A Case Study

A. Paquier, F. Pons, E. Leblois and F. Rodriguez

Flood Prevention in Urban Regions — Transnational Approaches in the Mosel-Saar-Watershed (Germany, France, and Luxemburg)

M. Cassel-Gintz and R. Jüpner

Safety Assessment of Evacuation from Cars in Flood

T. Ishigaki, M. Aoyagi, Y. Baba, K. Toda and H. Shimada

Traditional Flood Management Technologies Adopted in the Saga and Kumamoto Plains of Japan in 17th Century

K. Ohgushi, H. Araki, Y. Shiraki and M. Kuroiwa

Modelling the Effectiveness of Rainwater Harvesting as a Stormwater Management Option

F. A. Memon, A. Fidar, A. Lobban, S. Djordjevic and D. Butler

1D Model of Flood Propagation in a Compound Channel

P. Costabile, C. Costanzo and F. Macchione

Dam Break Flow Modelling and Geographical Distribution of the Roughness Coefficient

R. Paulus, J. Ernst, B. J. Dewals, P. Archambeau, S. Erpicum and M. Piroton

Session	TS-6
Track	C-1 Eco-Hydraulics
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

Cumulative Effect of Enhancement Measures to Improve Habitat of an Endangered Species, the Iberian Nase (*Iberochondrostoma almaca*)

I. Boavida, J. Santos, R. Cortes, M. T. Ferreira and A. Pinheiro

The Importance of Spatial Numerical Discretization for Simulating Velocities in the Lower Athabasca River, Alberta

C. Katopodis and H. K. Ghamry

The Importance of Including Bioenergetic Processes into Numerical Micro-habitat Modeling

C. Hauer, G. Unfer and H. Habersack

Analysis of Aquatic Physical Habitat of Channel Connected Pool Using RIVER2D, Korea

S. J. Chung, H. K. Ahn, D. K. Im and H. Woo

An Application of PHABSIM in Velhas River, Southeast Brazil

H. A. Santos, C. Chaves, C. G. Leal and P. S. Pompeu

Session	TS-6
Track	D-1 Advances in Understanding, Modeling, and Forecasting Waves
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

A Shock-Capturing TVD-WAF Finite Volume Model for Solitary Wave Run-Up

A. Mahdavi and N. Talebbeydokhti

Block Simulation of Wave Overtopping

L. W. Tan and V. H. Chu

The Role of Wave Radiation on Instability of Coastal Current

Camilo E. Pinilla and Vincent H. Chu

The Effect of Avalanche Impulse Waves in Reservoirs

Gabl Roman, Kapeller Gerhard and Aufleger Markus

Two-fluid Numerical Model for Coastal Applications

M. Gabriella Gaeta and Alberto Lamberti

Session	TS-6
Track	E-3 Digital Watersheds and Coasts
Date/Time	Tuesday, August 11, 2009 / 02:00–03:45

The Digital Watershed Model for the Yellow River Basin

Liu Jiahong, Wang Guangqian and Qin Tao

Urban Dam -Break Flood Inundation Modeling with LiDAR Terrain Data: Validation at Baldwin Hills, California

Humberto A. Gallegos, Brett F. Sanders and Jochen E. Schubert

High-Resolution, Unstructured Grid Modeling of Coastal Flood Inundation at Newport Harbor, CA

T. W. Gallien, J. E. Schubert and B. F. Sanders

Application of KISTERS Time-Series Management System and Neuronal Forecast Models for Flood Predictions

C. Gattke, R. Funke and S. Malinky

Potential Snow Covered Elevation (PSCE) in Three Watersheds, Eastern Tibet, China for the Purpose of Hydrologic Modeling

Jie Gao, Xudong Fu, Guangqian Wang, Hao Wang, Haiyun Shi and Yuanjian Wang

Session : TS-7

Session	TS-7
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Spatial and Temporal Evolution of Laboratory-Generated Drainage Networks

G. Oliveto, D. Palma and A. Di Domenico

Morphological Spatial Demand of Rivers During Extreme Flood Events

G. Krapesch and H. Habersack

Water Sediment Moving Layer in Unsteady Flows: Theoretical and Experimental Study

A. M. Berta and G. Bianco

Knickpoint Migration in Western Iowa

J. T. Thomas, A. N. Papanicolaou, C. Wilson, D. C. Dermisis and M. Elhakeem

Analysis of River Channel Morphology Change Using Image Analysis Method

Il Hong, Kwon Bo Ae, Joon Gu Kang and Hong Koo Yeo

Session	TS-7
Track	A-4 Numerical Modeling
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Two-Dimensional Flow Modeling of Hydraulic Structures in a 2D ADI Scheme

W. J. Syme, Rusty Jones and Larry Arneson

CFD Modeling of Drag and Lift of Inundated Bridge Decks

Zhaoding Xie, Bushra Afzal, Tanju Sofu, Kornel Kerenyi and Junke Guo

Creating Effective Fish Passage Through Whitewater Parks

D. Shepherd, P. Rogers, G. Lacy, S. Sigle and W. Stancill

Effect of the Angle of Alignment Deviation on the Velocity Field in Down Stream of the Bends

H. Bonakdari, A. Zinatizadeh, A. Tahershamsi, A. Shahrezaei and D. Levacher

Effect of Vertical Locations of Inlet and Outlet on Hydraulics of Stormwater Retention Ponds using Numerical Modeling

Sher Khan, Bruce W. Melville, Asaad Y. Shamseldin, Rajnish Sharma and Roger Nokes

Session	TS-7
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Comparative Study of Methodologies for Determining the Transverse Dispersion Coefficient in River Mixing

K. O. Baek and I. W. Seo

Topographic Effects on Selective Withdrawal of a Twolayer Fluid Through a Point Sink

Suzan Sharifan and Mirmosadegh Jamali

Accurate Measurements of Discharge Using Rhodamine WT as Tracer

A. J. Constain, J. Carvajal and A. Carvajal

Measurement of Momentum Transfer Caused by a Groyne in a Compound Channel

Y. Peltier, S. Proust, N. Rivière, A. Paquier and F. Thollet

Laboratory Study of Transverse Solute Mixing During Over-Bank Flows

I. Guymer and K. J. Spence

The Effect of Entrance Configuration in the Exchange Process along an Embayment

E. O. Nugroho and A. Tominaga

Observations and Modeling of Two-layer Exchange Flow Through Constrictions

Angel Gabriel Retana, John Alex McCorquodale and Ioannis Georgiou

Measuring Volume and Transport in Laboratory-Generated Gravity Currents

A. R. Horner-Devine, Y. Yuan and M. E. Avera

Session	TS-7
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Flow Structure and Hydraulic Capacity for Dropshafts: Application to Tunnel and Reservoir Plan Project (TARP), Chicago, Illinois

J. D. Abad, Y. A. Cataño-Lopera, E. Viparelli and M. H. García

A Baffling Solution to a Complex Problem Involving Sewage Drop Structures

Anthony Margevicius, Troy Lyons, Alison Schreiber, Rick Switalski, Steve Benton and Sam

Glovick

Hydraulic Features of the Dissipation Chamber for Vortex Drop Shafts

Giuseppe Del Giudice, Corrado Gisonni and Giacomo Rasulo

Hybrid Modeling of the Hydraulic Performance of a Stormwater Vortex Drop Intake with a Curved Approach Channel

O. W. H. Wai, C. W. Li, Q. H. Xu, J. M. Zhan, P. K. Chan and J. Yu

Hydraulic Study of Stacked Drop Manholes

G. Adriana Camino, David Z. Zhu and Nallamuthu Rajaratnam

	TS-7
Track	B-4 Urban Drainage and Flood Protection
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Free Overfall In Inverted Semicircular Channels

Seyed Vahid Nabavi, Syamad Davoudi Nezhad and Alireza Hejazi

Hydrodynamic Model Development for the Gateway Motorway North

T. L. McGrath, W. D. Weeks, J. P. Stewart, K. E. Bashar and K. N. C. Karunarathna

The Use of Common Sense in Urban Drainage Modelling

Adri Verwey

Developing Surface Water Management Models: Integrating Urban Drainage Features

Douglas Bertram, James Minto, Heather Haynes and Matthew Roberts

Use of Digital Elevation Models for the Determination of Stormwater Discharges for Highway and Railway Projects

E. I. Daniil and S. N. Michas

Design Methods for Urban Storm Sewer System Based on Systematic Engineering

Liu Xing-Po

An Innovative Approach for Modelling Large Urban Hydrologic/Hydraulic Systems

Joshua P. Cantone and Arthur R. Schmidt

Kansas City — Balancing Green Infrastructure with Traditional Approaches for CSO Control

Scott D. Struck, Richard Field, Tom Jacobs, J. D. Ginny Moore, Robert Pitt, Deborah O'Bannon, Erich Schmitz and Michael A. Ports

Session	TS-7
Track	C-1 Eco-Hydraulics
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Comparison of 2D Hydrodynamic Models in River Reaches of Ecological Importance: Hydro_As-2D and SRH-W

H. G. Tolossa, J. Tuhtan, M. Schneider and S. Wieprecht

Sensitivity of Habitat Suitability Index in Relation to Spatial Resolution of Hydraulic Simulation

F. Schöberl

Evaluation of Fish Physical Habitat Effect by Artificial Change of Streambed Topography

Kukryul Oh, Sangman Jeong, Jooheon Lee, Christabel Jane P. Rubio and Kyusung Yeon

Accuracy in Flow Regime Alteration Analysis

Giancarlo Principato and Giuseppe Viggiani

Estimation of Instream Flow Fish Habitat using Instream Flow Incremental Methodology(IFIM) for Major Tributaries in Changwon Stream Basin

Jung Min Kim, Young Do Kim, Siwan Ryu, Jae Hyeon Park and Won Je Lee

Session	TS-7
Track	D-1 Advances in Understanding, Modeling, and Forecasting Waves

Date/Time	Tuesday, August 11, 2009 / 04:15–06:00
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Uncertainties in Wave Modeling for Fetch-Limited Growth Conditions

M. Alomar, R. Bolaños-Sánchez, A. Sánchez-Arcilla, A. Sairouni and F. J. Ocampo-Torres

Forecast and Hindcast of Waves Which Caused Coastal Disasters along Toyama Coasts on February 2008

Hajime Mase, Tomohiro Yasuda, Tracey H. Tom, Daiki Tsujio and Nobuhito Mori

A Boussinesq-type Model Incorporating Breaking Waves

Michalis K. Chondros, Constantine D. Memos and Theophanis V. Karambas

Inverse Deduction of Mud Parameters from Free Surface Wave Energy in Muddy Coasts

N. Tahvildari and J. M. Kaihatu

Large Scale Experiments on Wave Propagation Over *Posidonia oceanica*

V. Stratigaki, E. Manca, P. Prinos, I. Losada, J. Lara, M. Sclavo, I. Caceres and A. Sanchez-Arcilla

Session	TS-7
Track	E-3 Digital Watersheds and Coasts
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

Database and GIS for Watershed Modelling in Korea

Kyungtak Kim, Yunseok Choi and Jungsool Park

Application of the Physiographic Inundation Warning Model in the Coastland

C.-N. Chen, M.-H. Wu, C.-H. Tsai and C.-T. Tsai

A Comprehensive Approach on Advantages and Disadvantages of Spatial Interpolation Methods for Precipitation Through Series of Studies in China

Cunwen Niu, Jinjun You, Jun Xia, Yangwen Jia and Zhou Zuhao

Parametric Uncertainty Estimation of a Hydrological Model Using Piece-Wise Linear Regression Surrogates

Durga Lal Shrestha, Nagendra Kayastha and Dimitri Solomatine

Session	TS-7
Track	F-1 Fundamentals, Expts, Modeling, Instrumentation
Date/Time	Tuesday, August 11, 2009 / 04:15–06:00

An Interactive E-Learning System Supporting Linked Knowledge in Civil Engineering Education

Wolfgang Huhnt, Felix Enge, Lukas Olbrich, Mirko Schankat and Reinhard Hinkelmann

The Contribution of Water Research Institutes for the Undergraduate Supervised Professional Practice in Argentina

Raúl A. Lopardo¹ and Jorge Daniel Bacchiega

The Historical Development of Fire Flows and its Impact Onwater Distribution Systems

Peter D. Rogers and Neil S. Grigg

Numerical Investigation on Natural Flood Retention at the Bavarian Danube

D. Skublics, M. Fischer and P. Rutschmann

Success by Collaboration: The Auckland Regional Council's Erosion and Sediment Control Training Programme

Clare Feeney and Roger Bannister

Wednesday, August 12, 2009

Session : TS-8

Session	TS-8
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Physical Model Study of Meandering in Fluvial Rivers

Hongwei Kuang, Binliang Lin and Roger A. Falconer

Sediment Transport around an Artificial Embayment in a Straight Fluvial River

Akihiro Tominaga, Jefung Jong and Takuya Sakaki

2D Modelling of Unsteady Morphodynamical Processes

M. Greco, M. Iervolino, A. Leopardi and M. Pontillo

Experimental Study of Flow and Sedimentation at 90° Open-Channel Diversion

Soheil Rezapour, Kambiz Farehi Moghadam and S. T. Omid Naeni

Numerical Modelling of Morphodynamic Processes in a Laboratory Flume Using Ecomsed

William B. Rauen, Binliang Lin, Fangkai Ma and Roger A. Falconer

A Comparison of Time-Induced Stability Differences Between a Framework-Supported and a Matrix-Supported Gravel: Sand Mixture

H. Haynes and A. Ockelford

Predicting Soil Erosion by Water using a Spatial Distributed Data GIS Model

G. C. Frega, M. Falace, G. Callegari, R. Froio and G. Buttafuoco

Numerical Modeling of the Impact of Riparian Soil Water Dynamics on Channel Width Adjustment

E. J. Langendoen and R. R. Lowrance

Turbulence Structure and Sediment Flux over Developing Dunes

Kazunori Noguchi, Iehisa Nezu and Tomohiro Nakajima

Influence of the Lateral Erosion on Bank Failure

Wang Yangui and Kuang Shangfu

New Approach for Estimation of Friction Factor and Sediment Discharge Gradient Without Using Traditional Correlation Data

Eduardo Martínez Pérez

Prediction of Drag on Sediment Particles Using Point Velocity Data

Ambuj Dwivedi

On the Observation of Hysteresis Phenomena Due to Cohesive Sediment Transport in River Channels

K. P. Dulal and Y. Shimizu

The Processes Surrounding Channel Evolution following Partial Dam Removal on the Coastal Plain of Virginia

Kristen M. Cannatelli and Joanna C. Curran

RiverFLO-2D: Parallelized Finite Element 2D Model for River Dynamics and Dam-Break Flooding

Reinaldo Garcia and Noemi Gonzalez-Ramirez

Channel-forming Discharge and Stable Channel Design on the Cheongmi Stream, South Korea

Woon Kwang Yeo, Un Ji, Seungwon Han and Changsung Kim

Simultaneous Erosion Rate and Bed Stress Measurements in Laboratory Flume

P. J. Rusello and E. A. Cowen

Channel Degradation in the Yangtze River due to Decreased Sediment Supply

Meilan Qi, Xiaofeng Liu, Marcelo H. Garcia and Peifu Jiang

Experimental and Numerical Investigation of Bed Load Flux in Unsteady Open Channel Flows

M. S. Güney, G. Tayfur, S. Elçi, G. Bombar and A. Bor

1D Numerical Simulation of Hydromorphological Changes at Nile Hydropower Project

M. Eizel-Din, M. D. Bui, K. Kramer, P. Rutschmann and A. S. Elzein

Cumulative Pier Scour at Michigan Bridge Crossings: Evaluation of the Scour Rate

Timothy Calappi, Carol J. Miller and Donald Carpenter

Session	TS-8
Track	A-4 Numerical Modeling
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Hurricane Storm Surge Simulation for a Coastal Riverine System Using a High Resolution Unstructured Mesh with Detailed Surface Characteristics

Stephen C. Medeiros, Naeko Takahashi, Qing Wang and Scott C. Hagen

Well-Balanced RKDG2-HLL Shallow Water Solver for Modeling a Flooding and Drying Event

G. Kesserwani and Q. Liang

Development of a Storm Surge Model with Application to the Northern Taiwan Coast

C. A. Hsu and W. P. Huang

3D Numerical Modeling of Flow and Pollutant Transport in a Flooding Area of 2008 US Midwest Flood

Xiaobo Chao, Yafei Jia and A. K. M. Azad Hossain

Validation of CCHE2D Model Using Digital Image Processing Techniques and Satellite Imagery

A. K. M. Azad Hossain, Yafei Jia and Xiabo Chao

The Evolution of Primary Kelvin-Helmholtz Instabilities

M. Rahmani, B. R. Seymour and G. A. Lawrence

Session	TS-8
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Using a StreamPro Acoustic Doppler Current Profiler in Moving-Bed Conditions: Problems and Solutions

David S. Mueller, Michael S. Rehmel and Chad R. Wagner

On the Use of Sound for Measuring Bottom Boundary Layer Dynamics in the Marine Environment

P. D. Thorne, D. Hurther and U. Lemmin

Design and Performance of a New Multi-Frequency Coherent Doppler Profiler

L. Zedel and A. E. Hay

Single-Shot Doppler Velocity Estimation Using Double Chirp Pulse Compression

F. Abda and P. Schmitt

Simultaneous Measurements with 3D PIV and Acoustic Doppler Velocity Profiler

K. Blanckaert and S. J. McLelland

Estimation of Submerged Vegetation Roughness in Rivers and Flood Plains

M. Fathi-Moghadam, N. G. Ebrahimi and S. M. Kashefipour

Session	TS-8
Track	C-2 Groundwater Hydraulics
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

A Practice in Groundwater Resource Management by Means of Telemeter System

Kuniaki Sato, Kazumasa Ito and Shigeru Kobayashi

Numerical Model for the Mexico City Aquifer

Carlos Cruickshank-Villanueva and Adriana Palma-Nava

Integratedwater Management in a Highly Urbanized Basin

Bruce A. Lytle

Variable Fuzzy Evaluation Modeland Method for Groundwater Vulnerability

Jianjun Lian, Shiguo Xu and Qing Ye

Integrated Control of the Four-lakeWatershed in Hubei Province of China

Jian Qiang Zhu, Thian Yew Gan and Jian Zhang Wang

Salt Wedge Dynamics of Porous Media Tank Experiment

H. Park, J. Ho, K. Kwon, S. Suh and W. Ahn

Session	TS-8
Track	C-4 Waterway Restoration
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Quantifying Channel Maintenance In-stream Flows for the Lower Yellow River: An Optimization-Based Approach

Xudong Fu, Liwei Jiang, Baosheng Wu, Guangqian Wang and Chunhong Hu

The Planning Process for Implementing Annual High Flow Releases on the Trinity River

R. J. Wittler and A. F. Krause

Assessing the Effects of Sediment Dynamics on Physical Habitat

G. A. M. Almeida and J. F. Rodríguez

Environmental Effects of Sediment Flushing from Artificial Reservoirs: Field Study on an Alpine Stream

P. Espa, E. Castelli, G. Crosa and G. Gentili

Coupling Aquatic Resource Models with Operations Models for Evaluating Ecosystem Based Flow Regimes Below Hydroelectric Projects: Case Study - Henry M. Jackson Hydroelectric Project, Sultan River, Washington

Dudley W. Reiser, Stuart M. Beck, Keith Binkley and Bruce Meaker

Session	TS-8
Track	D-2 Coastal Processes and Coastal Morphologies
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Investigations on Scour Development at Offshore Wind Energy Converters in the German Offshore Test Site *alpha ventus*

Arne Stahlmann, Arndt Hildebrandt and Torsten Schlurmann

**Photographic Monitoring of Erosion and Accretion Events on a Platform Beach,
Cottesloe, Western Australia**

Jeffrey S. Doucette

Sustainable Solutions for Coastal Zone Management of River Delta Coastlines

Nabil M. Ismail

Remote Bathymetry and Current Mapping Around Shore-Parallel Breakwaters

P. S. Bell

Verification of a Turbulence Model for Rough Oscillatory Boundary Layers

A. Sana

Session	TS-8
Track	E-5 Policy and Institutional Issues
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Development of an Algorithm for Evaluation of Reservoirs Vulnerability in Disasters

Mohammad Karamouz, Sara Nazif and Mehdi Dehghani

**Integrating Catchment with Coastal Management: A Survey of International and
Auckland (New Zealand) Best Practice**

Peter Gustafson, Clare Feeney, Matthew D. Davis and Claudia Hellberg

Participatory Water Management in an Irrigation Scheme in Bangladesh

A. H. M. Faisal Anwar and Sohel Rana

**A Logic Model Based Evaluation Framework to Assess Progress with Integrated
Catchment Management Planning in the Auckland Region, New Zealand**

Claudia Hellberg, Matthew D. Davis, Will Allen and Clare Feeney

**Can Shared Vision Planning Support a Permitting Process? Drivers and Challenges in
the Cache La Poudre River, Colorado, U.S. Case Study**

S. M. Langsdale and M. Lorie

Potential Dimensions of IWRM: Policy and Institutional Issues

Jonathan W. Bulkley and Christine J. Kirchoff

Session	TS-8
Track	KE JFK Student Paper Competition
Date/Time	Wednesday, August 12, 2009 / 08:00–09:45

Step-pool Formation and Stability Experiments

André E. Zimmermann

Scour Hole Evolution to Equilibrium at Different Flow Rates and Sediment Supply

Katherine Heays

Cyclonic Circulation Created by Water Jets in Reservoirs Allowing the Release of Fine Sediments Through Intakes

Jolanda. M. I. Jenzer Althaus

Influence of Outer-Bank Inclination and Roughness on Cross-Stream Cells in Open Channel Bends

Alexandre Duarte

On the Spatial Characterization of Microroughness in Gravel Streams

A. G. Tsakiris

Session : TS-9

Session	TS-9
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Sensitivity Analysis of the Effective Parameters with Respect to Cantilever Type Failure in Composite Riverbanks

A. Samadi, E. Amiri-Tokaldany and M. H. Davoudi

Block Ramp Failure: Morphological Variations and Effects on the Downstream Scour

S. Pagliara and M. Palermo

Experimental and Numerical Investigation of River Bank Erosion in Steep Mountainous Terrain

Tsuyoshi Arimitsu, Kazuya Ooe, Takashi Deguchi, Ichiro Fujita and Yoichi Moriyama

The Fate of Failed Bank Material: An Experimental Study

R. E. Thomas and A. Simon

Correlation of Discharge Variability and Bank Erosion Rate Estimated From Satellite Images of a Large Braided River

Faruk Bhuiyan and Sharif M. Tanvir

Session	TS-9
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Non Intrusive Measurement Technique for Dynamic Free-Surface Characteristics in Hydraulic Jumps

F. Murzyn and H. Chanson

Improving the U.S. Geological Survey Streamgaging Program through use of Hydroacoustic Instruments

Stephen F. Blanchard

Experiments on Flow Pattern and Suspended Sediment Concentration in Water Jet Induced Cyclonic Circulation in a Cuboidal Basin

Jolanda M. I. Jenzer Althaus, Giovanni De Cesare and Anton J. Schleiss

Experimental Evaluation of Q-Liner Measurement Performance

Andrew Craig, Marian Muste and Jason McVay

An Experimental and Numerical Investigation of Near-Transducer Errors in ADCP Measurements

Dongsu Kim, Talia Tokyay, Marian Muste, George Constantinescu and Juan. A. Gonzales-Castro

A Laboratory Study of Noise in Turbulence Measurements Using Acoustic Doppler Velocimetry

Babak Khorsandi, Laurent Mydlarski and Susan Gaskin

Construction and Operation of Real-time Automatic Discharge Measurement System in Tidal River

Youngsin Roh, Chi Young Kim, SungWon Jung and Jun Ho Cha

UVP Measurement of Flow Over a Standing Baffle in a Rectangular Open Channel

Hamidreza Jamshidnia and Yasushi Takeda

Session	TS-9
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Response of an Intelligent Block to Symmetrical Core Jet Impact

Matteo P. E. A. Federspiel, Erik F. R. Bollaert and Anton J. Schleiss

Effect of Inclination of Wall Jet on Local Scour

Mojtaba Mehraein, Masoud Ghodsian and S. A. A. Salehi Neyshaboury

Effect of Jet Air Content on 3D Plunge Pool Scour

Stefano Pagliara, Dipankar Roy and Michele Palermo

Scour Protection Downstream of a Grade-Control Structure Using Tetrahedron Frames

Jau-Yau Lu, Jian-Hao Hong and Shu-Chun Ho

Experimental Investigation of Scouring in Downstream of Combined Flow Over Weirs and Below Gates

Dehghani Amir. Ahmad, Bashiri Hamid, Meshkati Shahmirzadi, Mohamad Ebrahim and Ahadpour Asgar

Laboratory Measurements of Scour Downstream of Box Culverts

W. Chen, D. Admiraal, R. Hotchkiss and K. Donahoo

Session	TS-9
Track	C-2 Groundwater Hydraulics
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Improvement of Drawdown Calculation for Pumping Test with Considering the Wellbore Storage Effect

Hund-Der Yeh, Chih-Tse Wang and Mo-Hsiung Chuang

Salinity Intrusion, its Management and Control — Future Scenarios Case of the Waiwhetu Aquifer

Costel Mustatea, Naresh Singhal and Gregory De Costa

Modeling of Ecosystem Groundwater Level Based on Recovery Ancient Channel of Tarim River

Wenqiang Wu, Qiuwen Chen and Wenwen Li

Quantifying the Value of Groundwater Monitoring Along the Eastern Shore, Virginia

Rachel Baker and Teresa B. Culver

Groundwater Arsenic Sorption by the Natural Aquifer Material; South-Western Bangladesh

M. T. Rahman, A. Mano, K. Udo and Y. Ishibashi

Session	TS-9
Track	C-4 Waterway Restoration
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Quantifying Navigation Constraints on the Rio Paraguay Through Hydroacoustic Monitoring and Multidimensional Morphological Modeling

Brad Hall, Andrey Shvidchenko and Bart Wiersum

Morphological and Vegetational Response to Hydrological Changes in Rivers

G. Di Silvio, D. Bonaldo and M. Nones

Downstream Changes in Source Composition of Particulate Organicmatter in Damtailwaters in Relation to Channel Geomorphology and Benthos Communities

Giyoung Ock and Yasuhiro Takemon

Morphological Modelling of a Sand-Bed Reach in the Hungarian Danube

S. Baranya and J. Józsa

Transport of Adult Cerastoderma Edule Cockle at Laboratory Scale: Effect of Recruitment Rate and Current Speed

Jose Anta, Jerónimo Puertas, Eva Martín, Ramón Losada and Enrique Peña

Session	TS-9
Track	D-2 Coastal Processes and Coastal Morphologies
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Predictive Model for Wave-induced Currents and 3D Beach Evolutions based on FAVOR Method

M. Kuroiwa, M. Abualtayef and Y. Matsubara

Numerical Modelling of the Effects of River Discharge Regulation on the Morphology and Sediment Transport Dynamics in a Shallow Estuary

Luis Cea, Jerónimo Puertas, Ignacio Fraga, Ramón Trell and Luis Balairón

The Effect of Grid Resolution and Weather Forcing on Hydrodynamic Modelling of South East Asian Waters

Seng Keat Ooi, Pavlo Zemsky and Piyamarn Sisomphon, Herman Gerritsen and Daniel Twigt

Nearbed Flow/Sediment Processes Under Irregular Breaking Waves

F.-X. Chassagneux and D. Hurther

Defining Pebbles Movement on an Artificial Coarse Beach Using RFID Technology

D. Bertoni, G. Sarti, G. Benelli, A. Pozzebon and G. Raguseo

Session	TS-9
Track	F-2 Hydroinformatics
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Competence Based Learning for an On-line Course on Flood Modelling for Management

I. Popescu, A. Jonoski and C.Keuls

International Perspectives in Water Science & Management: Evaluation of a Short-Term International Engineering Course

Michael Schaefer, Jessica Smith, Carmen Langel, Dustin Tardiff and Marian Muste

A Web-Based Platform for Hydraulic Engineering Education Using New Media Technologies

Stefan Walder and Peter Rutschmann

A Road to Flood Resilient Cities through Flood Resilient Decision Making (FloReTo) and Capacity Building of Stakeholders

N. Manojlovic, D. Antanaskovic, U. Kemloh, P. Owotoki and E. Pasche

Impact of the Internet Revolution on Education in Hydroinformatics: Examples from a Joint European Master course

F. Molkenthin

Session	TS-9
Track	KE JFK Student Paper Competition
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Relative Importance of Unsteady Friction and Viscoelasticity in Pipe Fluid Transients

Huan-Feng Duan

Development of Pipe Failure Models for Water Distribution Systems Using Genetic Programming

Qiang Xu

Experimental Investigation of the Sediment Transport in Unsteady Flows

G. Bombar

Optimizing the Location of Sampling Points for Double-averaged Turbulent Quantities in flows Within Arrays of Rigid Emergent Stems

A. M. Ricardo

Application of Numerical Libraries to Pipe Network Systems

S. E. Mendi and C. Bayrak

Integrated Surface Water and Groundwater Modeling of Orange River Basin for Flood Mitigation and Ecosystem Restoration

E. Zia Hosseinipour

An Interactive Virtual Environment for Assessing the Ecohydraulics in the Lower Part of Yellow River Delta

Xuan Zhu

Session	TS-9
Track	S-4 Advanced Turbulence Modeling for Flow and Transport Processes in River Engineering
Date/Time	Wednesday, August 12, 2009 / 10:45–12:30

Mean Flow and Coherent Structures in a Shallow Mixing Layer Developing Between Parallel Streams

G. Kirkil and G. Constantinescu

Effect of a Vegetation Patch on Turbulent Channel Flow

Dimitris Souliotis Panagiotis Prinos

Simulation of Flow Structures in a Hydraulically Narrow Alluvial Channel Bend using a 3D RANS Model

Shalini Kashyap, Colin Rennie, Gavin Post and Ronald Townsend

Large Eddy Simulation of Turbulent Diffusion in Submerged Vegetated Open-Channel Flow

Taka-aki Okamoto and Iehisa Nezu

Study on Volume Correction Method for Computation of Free Surface Flow Using Density Function Method

Koji Asai

Turbulent Open-Channel Flow Over a Gravel Bed

T. Stoesser and J. Aberle

A Conceptual Model for Sheet-Flow Drawn From Rapid Granular Flow Theories

Rui M. L. Ferreira, Vanessa A. Nicolau, Sílvia R. Amaral, João G. A. B. Leal and António B. Almeida

Advanced CFD Modeling of Flows past Complex Hydraulic Structures at High Reynolds Numbers

Joongcheol Paik, Cristian Escauriaza and Fotis Sotiropoulos

Session : TS-10

Session	TS-10
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

The Integrated River Engineering Project on the Danube to the East of Vienna, River Bed Stabilisation by Coarsening of Bed Material — Section Model Tests

M. Hengl, B. Huber and N. Krouzecky

Dike Breaching Due to Overtopping

L. Schmocker and W. H. Hager

Forced Bars Induced by Variations of Channel Width

T. H. Yeh and F. C. Wu

Downstream Hydraulic Geometry of Consolidated Clay-bed Rivers

Miressa Ebisa Fola and Colin D. Rennie

An Earthen Embankment Breach Model

Weiming Wu, Yunghee Kang and Sam S.Y. Wang

Session	TS-10
Track	A-4 Numerical Modeling
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Analysys of Dam -Break Flowin a Narrow Steep Stream

Mario Krzyk and Matjaž Cetina

On Simulation of Smoothed Turbulent Free Surface Flows by Filtering

A. Nakayama and N. Hisasue

Fourier Analysis of the Source Term Dominated Saint-Venant Equations

M. M. Ali and P. M. Steffler

Dam-break Flow Numerical Modeling Considering Structural Impacts on Buildings

S. Erpicum, P. Archambeau, B. J. Dewals, J. Ernst and M. Pirotton

Two-Sided Cut-Cell Boundary Method for Simulating Linear Terrain Features and 1D Stream Flows on a 2D Rectangular Mesh

Mustafa S. Altinakar, Marcus Z. McGrath, Yavuz Ozeren and Edie Miglio

Session	TS-10
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Impacts of Debris on Bridge Pier Scour

P. F. Lagasse, P. E. Clopper and L. W. Zevenbergen

Acoustic Profilers: A Step to Urban Pollutant Flux Measurements

F. Larrarte and E. Le Barbu

Disturbances Caused by Probes that Penetrate Through the Water Surface of an Open

Channel Flow

Naomi Sanders, Ralph Budwig and Elowyn Yager

The Effect of Channel Shape, Bed Morphology, and Shipwrecks on Flow Velocities in the Upper St. Clair River

Jonathan A. Czuba, Kevin Oberg, Jim Best and Daniel R. Parsons

Acoustic Measurements in Amazon basin Pitfalls and Difficulties- Ten Years Experience

Paulo Everardo Gamaro

Predicting Vortex Stretching at Hydropower Intakes

F. Suerich-Gulick, S. J. Gaskin, M. Villeneuve and E. Parkinson

Flow Characteristics in Degraded Bed Profile of Clay-Gravel Mixtures

Rajesh K. Jain and Umesh C. Kothiyari

Session	TS-10
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Evaluation of Run-of-River Intake Designs

Nancy Sims, Brian Hughes and Jose Vasquez

Hydraulic Model Study of Hydropower Station Water Intake for Three Gorges Project

Han Jibin, Qu Liguang and Xu Shiyin

Real-time Monitoring of Suspended Sediment Concentration and Particle Size Distribution in the Headwater Way of a High-head Hydropower Plant

R. M. Boes

A Numerical Investigation to Select a Turbulence-closure Model for Simulating Turbulent Flows Near Trashracks (Bar Racks)

Haitham Ghamry and Chris Katopodis

Hydraulic Model Tests for Sediment Flushing at Power Intakes of a Nile Hydropower

Project in Sudan

A. Hartlieb, K. Kramer, P. Rutschmann and A. S. Elzein

Computational Fluid Dynamics Modeling of Flow Pattern Induced by Hydropower Intakes for Fish Entrainment Assessments

Faruk Bhuiyan, David Z. Zhu, Alf Leake and Paul Higgins

Session	TS-10
Track	C-2 Groundwater Hydraulics
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Groundwater Variation and Soil Stability in Relation to Vegetation Induced Water Uptake

Stephen William Rees, Nazri Bin Ali and Catherine A. M. E. Wilson

Effect of Overpressure on the Discharge of a Tile Drainage System: An Integrated Modeling Strategy

H. Henine and Y. Nédélec

Recent Groundwater Monitoring Results From a Riverbank Filtration Site in Korea

S. I. Lee, S. Y. Hamm and S. K. Lee

A Numerical Analysis on Utilization of Riparian Groundwater for Flow Regime Improvement of an Urban River

M. Harada and T. Ogasawara

Modeling on Runoff and Sediment Yield in Small Watersheds

Q. Q. Liu

Session	TS-10
Track	C-4 Waterway Restoration
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Positive Impacts on Fish Habitat from A Controlled Dam Removal Project

François Plante, Marie Clément and Daniel Caissie

Milltown Dam Removal and River/Aquifer Restoration Case Study

Donald G. Booth and Chad E. Bailey

Simulation of Different Scenarios to Reconnect a Historic Floodplain with the Channel of the Kootenai River, USA

Rohan Benjankar, Elowyn Yager, Klaus Jorde and Gregory Egger

Bed Elevation Changes after Small Dam Removal – Case Study on "Gokreung 2 Bo" Small Dam in Gokreung-cheon River, Korea

B. A. Kwon, D. S. Rhee and H. Woo

Channel and Biological Response of the Dam Removals on Kao-Shan Creek in Taiwan

Hsiao-Wen Wang and Chung-Yi Lin

Session	TS-10
Track	D-3 Estuary Hydraulics
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Turbulence Measurements in Tidal Bores: Influence of Bed Roughness

Hubert Chanson

Effects of Wind Stress on Tidal Currents in Semi-Enclosed Coastal Waters

M. O. Lee, B. K. Kim, J. S. Lee and J. K. Kim

High Frequency Measurements About The water Fluid Mud Boundary in the Estuarine Zone of The Ems River, Germany

Mark Trevethan, Andreas Wurpts and Marius Becker

Theory on Salt Water Movement in River Mouth

M. Sasaki, H. Tanaka and M. Umeda

Longitudinal Dispersion of Oil Spills Through Vegetation Due to Exchange Flow by Differential Heating

P. R. Zekavat and M. Jamali

Sea Level Rise as a Designed-for Engineering Hazard

Mary Beth Oshnack and Kent A. Harries

Session	TS-10
Track	E-4 Decision-Support Systems
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Operating Rules of Grijalva River Dams in Mexico

Domínguez Mora Ramón, Arganis Juárez Maritza L. and Carrizosa Elizondo Eliseo

The Porting of WARGI-DSS to GRID Environment for Planning and Management in Complex Water Systems

A.Sulis, V. Ardizzone, E. Giorgio and G. M. Sechi

Long-term Reservoir Operation Using One-month Ensemble Forecast of Precipitation for Introduction to a DSS

D. Nohara, A. Tsuboi and T. Hori

Computational Process Analysis for Multi-reservoir-based Flood Control and Management Software Systems

Shengyang Li and Arthur E. Mynett

Multiple-Objective Decision-Support Using a Real Option Approach – A Case Study of Singapore Water Supply System

Stephen Zhang and Vladan Babovic

Session	TS-10
Track	KE JFK Student Paper Competition
Date/Time	Wednesday, August 12, 2009 / 02:00–03:45

Integrated Modelling Of Riparian Vegetation Dynamics Subjected To Reservoir Operation

Fei Ye

Numerical Modeling of Turbidity Hyperpycnal Flows and Experimental Study

A. N. Ruidong

Incorporating Ecosystem Restorations Target into Daily Reservoir Water Release

Operation

Yi-Chen E. Yang

Scour Depth Estimation Downstream of Grade Control Structures Using an

Evolutionary -Based Technique

D.B. Laucelli

Session : TS-11

Session	TS-11
Track	A-3 Sediment Transport and Fluvial Processes
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

Deriving Analytical Damping Functions from an Explicit Algebraic Turbulent Stress

Model for Stratified Flows

D. Violeau and M. Ferrand

Estimation of Sediment Yield in Nine Basins in Mexico

Ramírez León, José Manuel and Aparicio Javier

Flushing Operations with Limited Sediment Availability

B. J. Dewals, N. Brasseur, S. Erpicum, P. Archambeau and M. Pirotton

Numerical and Experimental Investigation of the Effect of Bed Sediment on Pollutant

Transport

A. Mahdavi, M. H. Omid and S. M. Kashefipour

Modeling Sediment-Water interactions and Biogeochemical Reactive Contaminant

Transport of Mercury Species in Riverine System

Arash Massoudieh, Fabian A. Bombardelli and Timothy R. Ginn

Application of GSTARS3 to Xiaolangdi Reservoir Sedimentation Studies

Jungkyu Ahn and Chih Ted Yang

Session	TS-11
Track	A-4 Numerical Modeling
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

Calculating the Macrodispersion Coefficient in the Stochastic Transport Equation

I. Haltas

Numerical Simulation of Sediment Transport in River Meanders and Estimation of Bed Deformations

A. Savarian, N. Talebbeydokhti and A. H. Nikseresht

Flood Frequency Analysis Downstream of a Junction of Two Rivers

Jose A. Raynal-Villasenor and Jose A. Raynal-Gutierrez

Hydrodynamic Compressible and Incompressible Modeling of the Density Structure and Hydrodynamics of Hypersaline Systems

Scott A. Wells

Correlation CFD — Physicalmodel of the Sluices of River Diversion of the Caruachi Hydropower Plant

Gonzalo Montilla Castro and María Toscano

Large-Eddy Simulation of Coherent Structures in Turbulent Flow over Fixed Two-Dimensional Dunes

Kazunori Noguchi, Iehisa Nezu and Michio Sanjou

A Non-hydrostatic Pressure Model and its Implementation of the Dynamic Boundary Condition

Jin Woo Lee, Jong Wook Lee and Yong-Sik Cho

Evaluation of Wall Models for Large Eddy Simulation of Open Channel Flows Over Wavy Bed

Kasai Tomoaki and Nakayama Akihiko

Analysis of Flow and Concentration Fields in a Baffled Circular Storage Tank

Carlo Gualtieri

Large-Eddy Simulation of Starting Buoyant Jets

Ruo-Qian Wang, Adrian Wing-Keung Law, E. Eric Adams and Oliver B. Fringer

The Influence of Vertical Circular Cylinders on the Turbulent Mixing of Natural Density Currents

S. Schimmels and M. Markofsky

Determination of Establishment Length in Open Channels Using 3D Numerical Modeling

A. Zinatizadeh, H. Bonakdari, A. Panahian, A. Tahershamsi and D. Levacher

Vegetation and Shallow Water Hydraulics

M. Moradi Larmaei, Tew-Fik Mahdi and Susan Gaskin

Session	TS-11
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

V-ADCP: A New Acoustic Doppler Current Profiler for Measuring Water Velocity, Level, and Flow in Open Channels or Large Pipes

Hening Huang, Fajun Wang and Zhanping Xi

Evaluation of Bias in Moving-Boat Discharge Measurements using an Acoustic Doppler Current Profiler with a Global Positioning System

Chad R. Wagner and David S. Mueller

Effect of Fluctuation of a Moving Boat Equipped with ADCP on Velocity-Profiles and Water-Depth Measurements

Shoji Okada, Atsuhiko Yorozya and Takashi Kitsuda

Measuring River Flow Using Side-looking Acoustic Doppler Current Profilers: A Comparison to Vertically-oriented ADCP Results

S. A. Moore, J. Le Coz and G. Pierrefeu, C. Perret, D. Hurther and A. Paquier

Flood-Discharge Monitoring in a Compound Channel Using H-ADCP Measurements and River-Flow Computation

H. Iwamoto and Y. Nihei

Laboratory Evaluation of an OTT Acoustic Digital Current Meter and a SonTek Laboratory Acoustic Doppler Velocimeter

Tracy B. Vermeyen, Kevin A. Oberg and P. Ryan Jackson

Application of StreamPro ADCP at Station of Low Depth and Low Velocity

Seok Geun Park, Chiyong Kim, Jinwon Lee and Sungwon Jung

Sampling Requirements for Discharge Measurements with ADCPs

Chris R. Rehmann, David S. Mueller and Kevin A. Oberg

Discharge and Other Hydraulic Measurements for Characterizing the Hydraulics of Lower Congo River, July 2008

Kevin Oberg, John M. Shelton, Ned Gardiner and P. Ryan Jackson

Session	TS-11
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

The Impact of Geometrical Factors on Side Intakes

Jinchao Xu, Zhenglou Zhang and Fulin Cai

Experimental Study on The Fluid Characteristics of Hollow Pile Pump Intake

Fulin Cai, Yajun Zheng, Jianxu Zhou and Jinchao Xu

Study on "Diversion Angle Effect" of Lateral Intake Flow

Yang Fan, Chen Hui-Quan and Guo Jun

Hydraulic Optimization of Large Water Supply Pumping Station with Numerical Simulation Method

Wenming Liu, Yuan Zheng, Daqing Zhou, Xinfeng Ge and Jisong Yan

The Effect of Large Vertical Pump Bell and Pump Column Sizes on the Design Guidelines of the Pump Intake Structures

M. Naghash and Y. Zheng

Scale Effects at Form Losses Estimation in Hydraulic Components of Hydro Plants

Roman Klasinc and Ignacijo Biluš

Experimental Study on the Effect of Cylindrical Bridge Pier Position on the Scoring Depth in the Rivers Bend

Alireza Masjedi, Hosein Kazemi and Elaheh Peymani Foroushani

Simulation of Dam Breach Development: Case Study of Tangjiashan Quake Lake Triggered by Wenchuan Earthquake, China

Xudong Fu, Hongbo Ma, Fan Liu and Guangqian Wang

Simulation of Direct Action Surge Relief Valves for Safe Sizing and Verification

Darío Guaycochea-Guglielmi and Gabriel Soto-Cortés

Mixing in Drinking Water Storage Tanks: Field and Laboratory Experiments

Nikolai Stache, Tobias Bleninger, Bernd Hofmann, Gerhard Jirka, Matthias Maier and Karl Roth

Study on Tongguan Elevation and Sanmenxia Reservoir Operation Mode

Jiang Naiqian, Liang Guoting, Zhang Cuiping and Wang Ping

A Study of the Behavior of the Air-masses in the Inverted Siphon with Hydraulic Model Experiment

Kazuhiko Takabe, Hitoshi Ikenaga, Masaki Matsuo, Shizuo Yoshikawa and Osamu Matsushima

Session	TS-11
Track	C-2 Groundwater Hydraulics
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

Quality-Quantity Simulation Model for Stream-Aquifer Interaction

H. R. Safavi, A. Afshar and M. A. Mariño

Proposed Use of Hydraulic Engineering in the Boreal McClelland Lake Wetland Complex

Cecilia Y. Jeje, Ben Parsons, Tim R. Ezzy and Chris Langton

Identifying Groundwater Induced Thermal Regimes at Various Spatial Scales

Jennifer Drake and Andrea Bradford

Simulation of Groundwater Protection System Alternatives for the Thornton Composite Reservoir of the Metropolitan Water Reclamation District of Greater Chicago Tunnel and Reservoir System

Martin Hamper, Joseph Sobanski, Marcella Landis, Xin Song, Gaston Leone and Richard Bartelt

Groundwater Remediation from Tetrachloroethylene Contamination by Permeable Reactive Barriers

M. Di Natale, A. Di Nardo, I. Bortone, A. Erto, D. Musmarra, E. Savastano and G. Veneruso

Automatic Parameters Identification of Groundwater Model using Expert System

Chen-Che Pan, Jui-Pin Tsai, Liang-Cheng Chang and Yu-Wen Chen

The Impacts of Gravel Dredging on the Groundwater Levels Over a Natural Protection Area Near Budapest

R. E. Csoma

Artificial River Ponds Storing Flood Water as a Resource for Agriculture and Groundwater Recharge

M. D'Oria, M. G. Tanda and A. Zanini

Numerical Simulation Analysis for the Influence of the Middle Route of South-to-North Water Diversion Project on Groundwater Level

Haifeng Zuo, Guangqian Wang, Jiahua Wei and Yuefei Huang

Experimental Determination of Longitudinal Dispersivity Values in Heterogeneous Porous Medium

Aysegul O. Aksoy and Mehmet Sukru Guney

Case Study: Modelling the Surface-Groundwater Interaction in Esperance, Western Australia and a Discussion of Developments in Relevant Research

M. E. Stevenson and D. A. Reynolds

Session	TS-11
Track	C-4 Waterway Restoration
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

Management of Coastal Surface Waters Subject to Sea Water Intrusion

S. S. L. Hettiarachchi, S. P. Samarawickrama and Gregory Shahane De Costa

Hyporheic Exchange-Induced Long-Tailed Residence Time Distributions of Solute in Rivers

Zhi-Qiang Deng, Hoon-Shin Jung and Bhuban Ghimire

Detecting Patterns and Relationships of Human Pressures in European Rivers

R. Schinegger, A. Melcher, C. Trautwein and S. Schmutz

Nitrogen Removal with Water Exchange between River and Groundwater by Eco-Hydraulic Technique

Y. S. Pei, C. J. Lin and Z. H. Tian

Evaluating the Impact of Water Withdrawals on Water Resource Values

D. D. Carpenter, K. W. Watson, D. Maden and L. Yang

Session	TS-11
Track	D-3 Estuary Hydraulics
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

Water Quality Modelling in a Tropical Macro-Tidal Creek

E. M. Valentine and P. J. Totterdell

Modeling of Doha Power Plant Outfall in Kuwait Bay

Karim Rakha, Khaled Al-Banaa and Thamer Al-Rashidi

Numerical Modeling of Copper Fluxes Transport in Tidal Estuary

Wen-Cheng Liu

Hydraulic Dynamic Control and Combined Wastewater Treatment for Tidal Rivers at Estuary

Hongbing Luo, Gu Huang, Xiaoming Wu, Lin Luo and Xiaoling Liu

A Numerical Study of the Dispersion, Mixing, Stratification and Circulation within the Plume of the Changjiang River Estuary, China: Influences of Combined Tidal Constituents and Steady Winds

John Z. Shi and Li-Feng Lu

Session	TS-11
Track	E-4 Decision-Support Systems
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

The Research on Digital Platform of the Middle Route of South-to-North Water Diversion Project

Qi Wang, Wenxue Chen, Xiaochen Guo, Xiangpeng Mu and Wei Cui

Virtual Simulation System for Long Distance Water Transfer Project

Wei Cui and Shengzong Xie

A Decision Model for Drinking Water Supply and Irrigation Planning Purposes

João Vieira, Maria C. Cunha, Luís Nunes, José P. Monteiro, Luís Ribeiro, Tibor Stigter, João Nascimento and Helena Lucas

Fuzzy Set to Represent Environmental and Social Criteria in a Multicriterial Approach to Water Resources Planning

Antonio Carlos Zuffo

Application of Dynamically Dimensioned Search (DDS) Algorithm in Neural Network Optimization

Saman Razavi and Bryan A. Tolson

Session	TS-11
Track	KE JFK Student Paper Competition
Date/Time	Wednesday, August 12, 2009 / 04:15–06:00

Development of Environmental Restoration Approach for Flood Control Concrete Channels

Celia Fan

Numerical Investigation of Three-Dimensional Scalar Transport at a River

Confluence

Shinjiro Miyawaki

Field and Laboratory Investigations on the Effects of Riparian Vegetation on Stream Flow and Sediment Dynamics

S. Gorrick

John F. Kennedy Award for Best Student Paper: The "Bud" Phenomenon of Vertical Mixing in the Static Stratified Water

Chen Bo

Large Eddy Simulation of High Reynolds Number Gravity Currents Propagating Over Dunes

Talia E. Tokyay

Exploring Tradeoffs between Urban Growth and Stormwater Control System Performance

B. K. Enright

Fine Sediment Resuspension in Accelerating Rough-Bed Open-Channel Flow

Fereshteh Bagherimiyab

Numerical Simulation of Flow Structure in a Vertical Slot Fishway

Xu, Tibing

**Understanding the Hydrologic Factors Affecting the Growth of the Nuisance Diatom
Didymosphenia Geminata in Rivers: Preliminary Results from Boulder Creek, Co.**

James Cullis

Experiment on Particle's Surface Morphology after Biofilm Vegetating

Zhao Hui-Ming

Influence of Vegetation Density and Projected Area on Streambank Hydraulics

Nicole Czarnomski

**Analysis of Relationship between Fluvial Processes and Bank Failure in the JingJiang
Reach of Yangtze River**

Peng Yu-Ming, Tang Cong-Sheng, Yang Xiao-Gang and Yan Li-Yan

**The Influence of North Florida/Georgia Salt Marshes on Intracoastal/Estuarine and
Shelf Circulation**

Peter Bacopoulos

Thursday, August 13, 2009

Session : TS-12

Session	TS-12
Track	A-2 Multi-phase Flows
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

Air Concentration Characteristics of Drop- and Deflector-Generated Jets

Michael Pfister and Willi H. Hager

Effect of Inflow Condition on Air Entrainment Characteristics in Hydraulic Jump

Masayuki Takahashi and Iwao Ohtsu

Aeration and Velocity Profile over Block Ramp Elements

S. Pagliara, T. Roshni and I. Carnacina

Studies Evaluate Cavitation Potential of Baffle Blocks within a Stilling Basin on a

Novel Stepped Spillway Design

K. Warren Frizell and Nathan C. Cox

Towards Reliable Modeling of TDG in Power Dams

M. Politano, P. M. Carrica, A. Arenas Amado, J. Johansen, D. Hay and L. Weber

Session	TS-12
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

The Difference in the Evolution of the Bed Surface Topography of Gravel and Gravel-sand Mixtures

James R. Cooper and Lynne E. Frostick

Armour Layer Development During Sediment Starvation and Recirculation Flume Experiments

L. Mao, J. R. Cooper and L. E. Frostick

Photogrammetric System for Measurement and Analysis of Dune Movement

M. Henning, B. Hentschel and T. Hüsener

Application of Two Automated Grain Sizing Approaches and Comparison with Traditional Methods

G. Harb and J. Schneider

Influence of the Momentum Flux Ratio on Confluence Morphology

Marcelo Leite Ribeiro, Koen Blanckaert, Jean-Louis Boillat and Anton J. Schleiss

Monitoring Geometry and Timing of Riverbank Failures During Flood Events

M. Klösch, B. Blamauer and H. Habersack

Experimental Measurement of Bedload and Slope Fluctuations in a Channel Under Constant Feed and Water Conditions

V. Bacchi, A. Recking, P. Frey and M. Naaim

Detecting Grain Roughness Change and Sorting Patterns in a Gravel-bed River Using Terrestrial Laser Scanning

David J. Milan, George L. Heritage and Neil S. Entwistle

Physical Model Test and CFD-Simulation of an Asymmetrical Throttle in T-Shaped Junction of High-Head Power Plant

Boris Huber

Local Scour Scales in Movable-Bed Physical Models

Freddy Florez-Otero and Jaime Iván Ordóñez

Particle Flocculation and Distribution in Estuarine Environment

Margaret Chen

The Study of Moisture and Contaminant Migration through Soil Samples Using Tempe-Diffusion Laboratory Model

K. Badv and M. Mahmoudi

Session	TS-12
Track	S-1 Sediment Transport at Hydraulic Jumps
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

Turbulent Shear Stresses in Hydraulic Jumps and Decelerating Surges

Hubert Chanson

Flow Disturbance Patterns in which a Hydraulic Jump Appears Downstream of a Single hemisphere on a Stream Bed: Implications for Sediment Transport

R. G. Macdonald, M. J. Cooker, J. C. Bacon and J. Alexander

Energy Dissipation in Presence of Block Ramps with Enlarged Stilling Basins

S. Pagliara, I. Carnacina and M. Palermo

A Comparison Between Antidune and Step-Pool Geometries

A. Recking, P. Leduc and F. Liébault

Experimental, Analytical and Numerical Simulation of the Propagation of a Hydraulic Jump Over Mobile Bed

L. Goutière, M. Bellal, S. S. Soares-Frazão and Y. Zech

Session	TS-12
Track	B-4 Urban Drainage and Flood Protection
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

Detention Basin Design Exposed! (See All the Graphic Details)

David C. Froehlich

Innovative Approaches for Urban Watershed Wet-Weather Flow Management and Control: Results of the International State-of-the-Technology Workshops

A. Charles Rowney, Scott Struck and Richard Field

Predicting Indicator Bacteria Fate and Transport Using a Four Compartment Model

Linda D. Pechacek, A. Charles Rowney, Thomas P. O'Connor and Richard Field

Infiltration and Detention Systems for Stormwater Control: An Assessment of Performance

Nilo Nascimento, Martin Seidl, André Silva and Luciano Vieira

Characterization of Hydraulic Performance of Permeable Friction Courses (PFC)

R. J. Charbeneau, M. E. Barrett and J. B. Klenzendorf

Effects of the Permeable Friction Course (PFC) on the Quality of Highway Runoff

Michael Barrett and Randall Charbeneau

Stormwater Recovery For Commercial & Industrial Reuse

Steven M. Gamelsky

Reduction of the Flood Flow Hydrographs by Small Reservoir on the Sluzew Creek in Warsaw, Poland

K. Banasik, L. Hejduk, L. Gradowski and A. Sikorska

Session	TS-12
Track	C-1 Eco-Hydraulics
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

Dynamics of Large Wood: A Prototype-Scale Flume Experiment

C. V. Alonso, F. D. Shields and D. M. Temple

Validation of an LES Model to Predict Flow Past Freshwater Mussels

S. Miyawaki, G. Constantinescu, Q. Liao and T. Nakato

Freshwater Mussel Habitat in Pool 16, The Mississippi River near Fairport, Iowa: R.M. 463.5–464.1, Approximately

Tatsuaki Nakato

Structure of Turbulent Flow around a Pair of Rectangular Cylinders at Incidence

S. S. Paul, J. M. Tsikata, M. F. Tachie and C. Katopodis

2D Modeling of Shallow Wakes in Open Channel Flows

M. A. Faheem Sadeque and Hasan Zobeyer

Session	TS-12
Track	C-3 Lake and Reservoir Hydraulics
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

Assessment of the Assimilative Capacity of Collingwood Harbour Using Three-dimensional Hydrodynamic and Water Quality Modelling

J. M. Cunderlik, H. M. Brewer and G. Godin

3D Modelling of Long-Term Hydrodynamics and Water Quality in the Berre Lagoon

E. Razafindrakoto, L. S. Martin and J. M. Hervouet

BodenseeOnline — An Information System for Hydrodynamics and Water Quality for Lake Constance

Helmut Kobus and Ulrich Lang

Numerical Model of Three-Dimensional Hydrodynamic and Pollutant Transport in

Taihu Lake of China

Zulin Hua and Li Gu

Simulation of Reservoir Water Quality According to Change of Non-point Source in Nam River Basin, Korea

Young Won Jeong, Young Do Kim, Sung Jun Lee, Yong Kon Yi and Ha Sun Hwang

A Hydrodynamic Model of Lake Michigan for Coastal Water Quality Management

Leonardo D. Gutierrez, Qian Liao and Harvey A. Bootsma

Session	TS-12
Track	D-3 Estuary Hydraulics
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

Development of an Ecohydraulics Model to Evaluate the Impact of Water Withdrawals on Estuary Salinity and Thermal Regimes

D. D. Carpenter, L. Yang, D. Mades, K. W. Watson and S. Flannery

Impact of Storm Surge Barriers on Morphodynamic Processes in Tidal Lowland-Rivers

M. Donner, E. Pasche and E. Nehlsen

Relationship Between Formation of Pycnocline and Occurrence of Hypoxia in the Estuarine Area of the Ariake Sea

Masahiro Seguchi, Masumi Koriyama and Osamu Kato

Erosion Properties of Cohesive Sediment in an Estuarine Channel during Flood Period

K. Yokoyama, Y. Kaneko and K. Yamamoto

Houston-Galveston Ship Channels Sedimentation Model Validation

Jennifer Tate, Charlie Berger and Robert McAdory

Turbulent Structure in Bottom Layer of Tidal Estuary

Mahdi Razaz, Kiyosi Kawanisi and Mahmoud F. Maghrebi

Session	TS-12
Track	E-4 Decision-Support Systems
Date/Time	Thursday, August 13, 2009 / 08:00–09:45

E-Estuary: Developing a Decision-Support System for Coastal Management in the Conterminous United States

N. E. Detenbeck, M. C. Pelletier, M. Abdelrhman, S. Rego and M. ten Brink

Cities Into The Sea: Environmental and Technical Challenges

Philippe Gourbesville

Implementation of a 3D Lagrangian Model for Evaluating Submarine Outfalls in the Rio de la Plata Coastal Area

Mónica Fossati, Mariana Fernández and Ismael Piedra-Cueva

Development of a Sediment Management Support Tool for San Diego County, California, U.S.A.

Ying Poon, Philip King, Mark Carpenter and Heather Schlosser

Integrated Flood Management Plan for the Lower Cowichan Valley, British Columbia

Tamsin Lyle, Vanessa O'Connor, Dave McLean and Kate Miller

Watershed Analysis-Management Process for Decision Making in the Small Scale Watersheds

R. Jalalirad, S. Feiznia, H. Abbasian, L. Talebi, Sh. Farzinpak, P. Javadi and A. Milani

Appropriate User Interface for Decision Support Systems in Water Resource Management

Xuan Zhu 1,3 and Arthur E. Mynett

Session : TS-13

Session	TS-13
Track	A-2 Multi-phase Flows
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Flow Structures in a Dissolved Air Flotation Tank

L. Jönsson

An Approach to Determine the Velocities for Non-homogeneous Debris Flow

An-Ping Shu, Le Wang and Zhi-Dong Zhang

Air-Water Flow in Downward Inclined Large Pipes

M. Wickenhäuser and C. R. Kriewitz

Transient Behaviour of Air Bubbles at Aerated Bends of Long-Distance Pipelines

Detlef Aigner and Hans-B. Horlacher

On the Modeling of Gas Diffusion by Turbulence in Hydraulic Jumps

I. W. M. Pothof and F. H. L. R. Clemens

Gas Transport in Pressurized Sewerage Mains: Results of Industrial Scale Test Rig Experiments

Tonny Schuit, Ivo Pothof and François Clemens

Estimation of Slug Translational Velocity of Gas-Liquid Flow in Long Horizontal Pipe

Yasumasa Yamada, Shigekatsu Endo and Hisao Nagabayashi

Distributed Saturation and Flow Velocity Measurement in Alpine Hillslopes

Kapeller Gerhard, Goltz Matthias and Aufleger Markus

Experimental Analysis of the Impact Process of Saturated Mixtures on Dams

Ghilardi Paolo and Zanuttigh Barbara

Settling Behavior of Muddy Lake Caused by Cohesive Clay in Shi-Man Reservoir in Taiwan

Chien-Jung Liu, Shaohua Marko Hsu and Wei-Sheng Yu

Measurements of Flow Turbulence Near Bubbly Jets

Iran E. Lima Neto, David Z. Zhu and Nallamuthu Rajaratnam

Numerical and Experimental Analysis of a Confined Turbulent Multiphase Jet

Massimo Raboni, Emanuela Torti and Stefano Sibilla

Effect of Conduit Slope Change in the Hydraulic Properties of Two Phase Slug Flow in a Rectangular Conduit

S. M. Borghei, A. H. Zabolipour and A. Bohluli

Session	TS-13
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Investigation of Mud Flocculation within Nearly-Isotropic Grid-Generated Turbulence

A. J. S. Cuthbertson and P. Dong

Evaluation of Flow Structure and Bed Load Velocity in the Vicinity of a Submerged Wing Dike in a Large Sand Bed River

E. C. Jamieson, C. D. Rennie and R. B. Jacobson

Laboratory and Numerical Model Study on Sediment Transfer Processes in an Expanding River Reach

Volker Weitbrecht and Nils Rüther

Sediment Transport Similitude for Scaled Physical Hydraulic Modeling

Thomas W. Gill and Clifford A. Pugh

Experimental Study on Scour Processes Downstream Labyrinth Weirs

M. Romero and H. Brañez

Experimental Investigation of 3D Flow Field around Square Pier

Reda Diab, Oscar Link and Ulrich Zanke

The Impact of Sediment Transport on the Turbulent Structure of the Flow Around a Boulder on a Gravel-Bed River

M. J. Franca, J. L. C. Carvalho, A. M. Ricardo and R. M. L. Ferreira

Probability Distribution Mapping of Velocity Changes in Turbulent Time-Series: A Tool for the Empiric Analysis of the Interaction Between Suspended Solids and Turbulent Fluid Flow

Joris T. Eggenhuisen and William D. McCaffrey

Session	TS-13
Track	S-1 Sediment Transport at Hydraulic Jumps
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Numerical Prediction of Turbulent Bubbly Two-Phase Flow in a Circular Pipe Bends

Gao Zhongxin, Xu Baorong and Ge Xinfeng

Breaching as a Mechanism for Generating Sustained Turbidity Currents

Esther Eke, Gary Parker and Ruiyu Wang

Hydraulic Jumps as Controls on the Evolution of Distributary Channel Networks on Experimental Submarine Fans

D. C. J. D. Hoyaly and B. A. Sheets

Experimental Evidence for Cyclic Steps Created by Turbidity Currents

B. Spinewine, O. E. Sequeiros, R. T. Bæubouef, T. Sun, M. H. Garcia and G. Parker

The Experimental Investigation of the Effect of the Inlet Froude Number on the Characteristics of a Turbidity Current

Z. Nourmohammadi, B. Firoozabadi, R. Rasoulian and H. Afshin

Effects of Concentration Fluctuations in Sediment Transport Process at Sediment-Laden gravity Currents

H. Afshin and B. Firoozabadi

The Depositional Signature of Moving Hydraulic Jumps in Supercritical Turbidity Currents: Experimental Suggestions for the Origin of Vertical Transitions in Turbidite Sandstone Beds

Joris T. Eggenhuisen and William D. McCaffrey

Aggradational Cyclic Steps: Sedimentary Structures Found in Flume Experiments

M. Yokokawa, K. Okuno, A. Nakamura, T. Muto, Y. Miyata, H. Naruse and G. Parker

Internal Hydraulic Jumps and Depositional Architectures in Turbidity Currents near Slope Breaks

Svetlana Kostic

Submergence Effects on Jet Behavior and Scour for Plane Wall Jets in Cohesionless Material

K. A. Mazurek, B. Gautam and R. Ahsan

Session	TS-13
Track	B-1 Flow Conveyance Systems
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Linear Model of Channel Flow for Stability Analysis and its Application

Jianxu Zhou and Yugui Huang

Steady State and Transient Hydraulic Analyses of a Circulating Cooling Water System: An Oil Refinery Case Study

Yong Tang, Pinar Cakir Kavcar and David C. Froehlich

Achieving Sustainability by Designing for Efficiency a Case History of the Nacimientowater Project

John R. Hollenbeck, Thomas C. Trott, Paul R. Kneitz and Carolyn K. Berg

Calibration of Demand and Head Driven Simulation Models Using Genetic Algorithm

M. Tabesh and M. Jamasb

Study on Sudden Events and Emergency Water Transfer Dispatch of Transbasin Diversion Open Channel Project

Duan Wengang, Huang Guobing, Wang Caihuan and Xing Linghang

Water Quality Reliability Analysis of Water Distribution Networks

Rajesh Gupta, Sushma Dhapade and Pramod R. Bhave

Effects of Vegetation Density on Coherent Structure in Flexible Vegetated Open-Channel Flow

Iehisa Nezu and Taka-aki Okamoto

The Effects of Initial Breach Geometry on Dam Breach Morphology

B. Orendorff, M. Al-Riffai, C. D. Rennie, I. Nistor and P. St-Germain

Effects of Interaction Between Longitudinal Vegetation Zones on Flow Resistance in an Open-Channel

Terunori Ohmoto and Takayuki Tanaka

Field Observations on Behavior of Freshwater From the Chikugo River in Ariake Bay, Japan

T. Saita, S. Yano, A. Tai and T. Komatsu

A Computational Study of Secondary Currents and Wall Shear Stress in Prismatic Channels

H. P. Morvan and D. M. Hargreaves

Session	TS-13
Track	B-4 Urban Drainage and Flood Protection
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Impact of Urbanization on Stream Stability

Charles Darwin Morris and Shweta Chervu

Tropical Storm Fay

Michael A. Ports and Matthew W. Meyer

Simulation of Combined Sewer Overflows Spreading in a Slowly Flowing Urban River

A. Jourieh, M. Heinl, R. Hinkelmann and M. Barjenbruch

Investigating the Environmental Implications of Sustainable Drainage Systems

F. A. Memon and D. Vodan

Hydrologic Sensitivity Analysis – Contribution to the Assessment of Effectiveness of SUDS in Small Urban Catchments

E. Pasche, N. Manojlovic, S. Hellmers, C. Brüning and N. Behzadnia

Erosion and Sediment Loading Algorithms for Urban Areas: State of the Art

Bruce N. Wilson and Billy J. Barfield

New-build Stormwater Drainage Systems in France: Current Policies and Practices, Sustainable Evolutions

N. Le Nouveau, A. Gerolin and H. Perrier

Session	TS-13
Track	C-1 Eco-Hydraulics
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Towards a Basis for Designing Backwater and Side Channel Restorations

F. D. Shields, Scott S. Knight, John M. Stoffleth and Daniel G. Wren

The Use of Clasts (Boulders) on Regulating the Deposition of Fine Sediments within Gravel Bed Rivers

Athanasios (Thanos) Papanicolaou and Dimitrios Dermisis

Evaluating Stream Restoration Options for Physical Habitat Enhancement in an Urban Stream

N. S. Weber, D. C. Arseneau, J. Parish, B. Kilgour and R. Snodgrass

Government Creek Relocation and Habitat Mitigation – Construction of a Naturally Functioning Channel on a Salmon Stream in Coastal Alaska

D. Hans Arnett, P. E. Lance Mearig, and Shane Cherry

Geomorphic Characterization of Alluvial Channels in the Athabasca Oil Sands Region

Dana McDonald, Femi Ade, Les Sawatsky and Christos Katopodis

Session	TS-13
Track	C-3 Lake and Reservoir Hydraulics
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Evolution of Internal Waves in a Rotating, Stratified Lake Forced by Wind. Field Observations and Numerical Simulations in Lake Villarrica, Chile

C. Rozas, A. de la Fuente, Y. Niño and H. Ulloa

Measurement and Analysis of the Fall veturn in a Dimictic Lake

Cary Troy, John Newton and Sultan Ahmed

Meromixis in Pit-lakes with Ice Cover

Roger Pieters and Greg Lawrence

Under-Ice Convection in a Temperate Lake

A. L. Forrest, B. E. Laval and R. Pieters

Wind-driven Exchange in a Small Multi-basin Lake

Y. E. Imam and B. Laval

Session	TS-13
Track	D-4 Wave Loads and the Performance of Coastal and Offshore Structures
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Wave Loads and Performance of Submerged Breakwaters

F. Taveira-Pinto and A. C. Neves

Experimental Study of Near Seabed Flowfield and Wave Propagation Over Submerged Breakwater on the Slope

Chen Jie, Jiang Changbo, You Tao and Liu Huying

Basic Study for Behavior Character of Slope Rubble Mound Breakwater Owing to Repeated IncidentWaves by Field Observation

Park Sang Kil, Ahn Ik Seong and Han Chong Soo

Wave Overtopping of Berm Breakwaters

Otavio J. Sayao and Pedro Lomonaco

Design Wave Forces for Bridges Exposed to Hurricanes, Example of Chef Mentour Bridge, LA

M. Tirindelli, V. Shepsis, G. Cuomo and J. Fu

Session	TS-13
Track	F-3 History: Engineering Applications & People
Date/Time	Thursday, August 13, 2009 / 10:45–12:30

Historical Advance of Chute Aerators

Willi H. Hager and Michael Pfister

Graduate Education in Hydraulics at the National Autonomous University of Mexico

Gabriel Echávez

Piping of Irrigation Canals Through Urban setting - Lessons Learned

Jonathan Burgi

History of Erosion From Pre-European Settlement to Present and the Historic Effects of Anthropogenic Structures

James P. Selegean

Water Supply Works in Ancient Mexico City, Origin of a Majestic Civilization

Carlos A. González Rodríguez

Harold Kester, a Builder of Hydropower in the American West

Robert Ettema

Jean-Baptiste BÉLANGER, Hydraulic Engineer, Researcher and Academic

Hubert Chanson

HydroEurope and HydroAsia Experiences: Strategy for Global Hydroinformatic

Community

Philippe Gourbesville

Session : TS-14

Session	TS-14
Track	A-4 Numerical Modeling
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

Numerical Simulation of Scour Depth Evolution Around Bridge Piers Under Unsteady Flow Condition

Amir Ahmad Dehghani, Taymaz Esmaili, Saeed Kharaghani and Mohammad Reza Pirestani

Flood Wave Propagation in a Steep Mountain River: Comparison of Four Simulation Tools

G. Petaccia, M. Velickovic, S. Soares-Frazão, N. Asselman, F. Savi and L. Natale, Y. Zech

Comparison of Numerical and Physical Models for Spillways Transient Flow

G. Loncar, V. Androcec and G. Gjetvaj

3D Modeling of a Thermal and Brine Discharge Through a Submarine Outfall

Javier Garcia Alba, Cesar Alvarez Diaz, Andres Garcia Gomez, Jose A. Revilla Cortezon and Jose A. Juanes de la Peña

Three Dimensional Numerical Modeling of Free Surface Flow around an Obstacle with the Level Set Method

Hans Bihs

Session	TS-14
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

CT-Scanning: A Newway to Measure Sediment Transport Inside A Flume

Stéphane Montreuil and Bernard Long

Applying Image Analysis to Measure the Kinematics of the Solid Phase in Different Phenomena

Alessio Radice, Francesco Ballio and Stefano Malavasi

A Study of Bottom Boundary Layer Dynamics in Unsteady Sediment-Laden Open-Channel Flow Using Acoustic Profiling

Fereshteh Bagherimiyab, Ulrich Lemmin, David Hurther and Peter D. Thorne

On-line, Non-Invasive Ultrasonic Measurement Technique for Monitoring Suspended Sediment Concentration in Reservoirs

C. C. Sung, J. S. Lai, Y. J. Huang, K. C. Chang, Wen-Yi Chang and Y. C. Tan

Laboratory Tests of a New Multi-frequency Coherent Doppler Profiler in Oscillatory Flow Boundary Layers

A.E. Hay and L. Zedel

Optimizing the Suspended Sediment Monitoring Strategy by Using ADCPs at Austrian Rivers

Marlene Haimann, Willibald Kerschbaumsteiner and Helmut Habersack

Continuous Surrogate Bedload Measurement on the Elwha River Following Dam Removal

Timothy J. Randle, Robert C. Hilldale, Jeffrey D. G. Marr and Sara R. Johnson

Laboratory Research and Development of Bedload Impact-Plate Sensors

J. D. G. Marr, S. R. Johnson, C. R. Ellis, T. J. Randle and R. C. Hilldale

Session	TS-14
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

Tracking Sandbags Motion during Levee Breach Closure using DPTV Technique

M. Elkholy and M. Hanif Chaudhry

Comparison of Numerical Schemes in Finite Volume Model for Dam Break Flow

Simulation

Shiyan Zhang and Jennifer G. Duan

Front Wave Propagation in Case of Dam Break Comparison of Water Filled and Silted-up Reservoir

Juliano Ribeiro, Jean-Louis Boillat, Rafael Duarte and Georges Darbre

Simulation of Floods Due to Rockfill Dam Breaching

G. De Lorenzo and F. Macchione

Analysis of Dam-Break Flow Characteristics in Inundation Area with Structures

Hyung-Jun Kim, Jung-Min Kim, Kwang Seok Yoon and Yong-Sik Cho

Session	TS-14
Track	S-5 Fast Transients
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

Enhanced Computational Approaches for Impedance Matrix Method

S. H. Kim, R. W. Choi and H. N. Sun

Probabilistic Analysis of Transients in Water Supply System Design

H. F. Duan, Y. K. Tung and M. S. Ghidaoui

The Pressure Surge Damping Decrement and the Pressure Traces Convergence Rate as the Parameters Applied to Evaluate the Friction Models Used in Water-Hammer Prediction

Adam Adamkowski and Mariusz Lewandowski

Wall Shear Stresses in Decelerating Pipe Flows

C. Ariyaratne, S. He and A. E. Vardy

Numerically Efficient Transient-State Model for a Pipeline Based on the Fourier-Crump Inverse Laplace Transform

Aaron C. Zecchin, Martin F. Lambert, Angus R. Simpson and Nicole S. Arbon

Influence of Geometry of Fish Shelters in River Banks on their Attractiveness for

Fishes During Hydropeaking

Jean-Marc Ribí, Kathrina Steffen, Jean-Louis Boillat, Armin Peter and Anton J. Schleiss

Hydromodification Analysis of Small, Ungaged Watersheds: A Case Study of Alder Creek, California

R. F. Leclerc, B. R. Hall, I. Haltas and B. W. Cruey

More Findings on Effective Discharge for Gravel Bed Rivers

Carmen E. Bernedo

Sediment Remobilisation as Influencing Value in Fluvial Eco-system -modelling

Sebastian Koslitz and Joachim Lengricht

Indices for Evaluating the Breaking and Wash-Out Condition of Trees on Gravel Bar at Flood Events

N. Tanaka and J. Yagisawa

Session	TS-14
Track	C-3 Lake and Reservoir Hydraulics
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

Affect Analysis of Dam Break Risk for Tangjiashan Quake Lake in Sichuan

Shangfu Kuang, Xiaogang Wang, Jinchi Huang and Yingqi Wei

Integrated Hydrologic-Hydraulic Modeling of Marble Lake Sub-watershed in Mississippi River

A. Asnaashari, S. Kunjikutty, B. Gharabaghi, E. A. McBean and P. Lehman

Establishment of Selective Withdrawal in a Two-Layer Reservoir with a Bottom Sill

Rozita Kian and Mirmosadegh Jamali

Analysis of High-Frequency Correction in Shallow Water Wave Reconstruction and Parameter Estimation

K. Homoródi, T. Krámer and J. Józsa

Study on Extraction of Hydrological and Ecological Environmental Factors in the

Tonle Sap Great Lake

M. Okabe, K. Sunada and S. Oishi

Study on the Peak Concentration of Phytoplankton in Stagnation Water Area

Takeshi Takemura, Jiro Maruyama and Masamitsu Arita

Experimental Study of Flow Through Macrophyte Canopies

R. O. Tinoco and E. A. Cowen

The Vertical 2D Second-Moment Reynolds Stress Model for Stratified Turbulent Shear Flow

Chu Kejian and Hua Zulin

Evaluation of the Thermal Performance and Stability of a Salinity-Gradient Solar Pond Using a Fully-Coupled Double-Diffusive Convective Model

Francisco Suárez, Scott W. Tyler and Amy E. Childress

Optimization of Mangla Reservoir Capacity by Raising Dam Height

H. N. Hashmi, F. Hussain, U. Ghani and S. M. Mughal

Response of a Lake to Spring Wind Storms

Yasmin Nassar, Roger Pieters and Gregory Lawrence

Session	TS-14
Track	C-4 Waterway Restoration
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

An Integrated Water Quality and Individual Based Model to Study the Impacts of Reservoir Operations on Downstream Fish Dynamics

Qiuwen Chen, Zhongni Cheng, Rui Han, Desuo Cai and Hongmei Wang

Application of Fuzzy Logic to Model Fish Habitat Changes in the Downstream of Lijiang River Due to Reservoir Operations

Ruonan Li, Qiuwen Chen, Shiyong Wu and Hongmei Wang

Libby Dam Hydro-electric Project Mitigation: Efforts for Downstream Ecosystem

Restoration

C. Holderman, G. Hoyle, Ryan Hardy, Paul Anders, Peter Ward and Hassen Yassien

Modeling the Spokane River-Lake Roosevelt System

Chris J. Berger, Robert L. Annear, Michael L. McKillip, Vanessa Wells and Scott A. Wells

Ecological Assessment of a Regulated River with a 2D Depth Averaged Ecohydraulic Model. Effects of River Regulation

María Bermúdez, Luis Cea and Jerónimo Puertas

Session	TS-14
Track	D-5 Protection of Coastal Cities
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

Superficial Liquefaction of Seabed Subjected to Cyclic Water Wave Loadings

Dong-Zi Pan, Cun-Hong Pan and Li-Zhong Wang

Hydrographic Changes of the Hiji River Mouth from 2003–2008 as Measured by an ADP

Masato Nakata, Makoto Ifuku and Takashi Teruya

The Nelson River Estuary: Physical Processes in a Mesotidal Subarctic Estuary Described Using Targeted Surveys and Numerical Modeling

Kevin Sydor, Marie-Hélène Briand, Stéphane Lorrain, Suzanne Leclair, Tariq Aziz and Karen Ng

Studies of Freak or Rogue Waves by the Nonlinear Schrödinger Model

H. S. Chiu, K. W. Chow and C. H. Tsang

Development and Validation of a Coastal Process Model with Shock-capturing Technique for Simulating Coastal Barrier Breaching Flows

Yan Ding, Soumendra Nath Kuiry and Sam S. Y. Wang

Daily Forecasting of Coastal Beach Water Quality

W. Thoe, H. C. Wong, K. W. Choi and J. H. W. Lee

Session	TS-14
Track	E-4 Decision-Support Systems
Date/Time	Thursday, August 13, 2009 / 02:00–03:45

A Decision Tool for Ranking Dams at Risk of Failure

Monica S. R. Zuffo, Ana I. B. Genovez and Antonio C. Zuffo

Coupled System Dynamic and Water Quality Modeling of Integrated Measures for Water Environment Improvement in Urbanized Catchment

Hua-Peng Qin, Qiong Su, Soon-Thiam Khu and Zhi-Jie Zhao

Application of Variable Fuzzy Decision-Making in Comprehensive Benefit Evaluation of Water Resources

Subing Lü, Shiguo Xu and Qing Ye

Integrating Socio-Economic Aspects for Decision Support: Underlying Theories and Principles

Richa Babbar and Himanshu Joshi

A Cellular Automata Model for Soil and Water Loss Assessment

Weifeng Li and Fanglong Ge

Session : TS-15

Session	TS-15
Track	A-4 Numerical Modeling
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

A Novel Method for Gradually Varied Subcritical Flow Simulation in General Channel Networks

D. J. Zhu, Y. C. Chen and Z. Y. Wang

Minimal Intervention Strategy to Turbulence Simulations Using the Shallow-Water Equations

C. E. Pinilla, S. Bouhairie, L. W. Tan and V. H. Chu

Initial Motion of Exposed Grains – High resolution LES of Experiments by Fenton and Abbott

M. Grünzner and P. Rutschmann

Estimation of Muskingum-Cunge Parameters for Natural Streams

Jin Soo Kim and Kyung Soo Jun

A Comparison of Rans-based Computations and Large Eddy Simulation of Turbulent Cavitating Flow

Ravi Kumar Assudani, Richard Huber, Peter Rutschmann and Anupam Dewan

Session	TS-15
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Experimental Study on Characteristics of Bed Configuration Caused by T-Type and L-Type Groynes

A. Kadota, E. Kojima, H. Muraoka and K. Suzuki

Effect of Upstream Sediment Load on Headcut Morphodynamics

Robert R. Wells, Sean J. Bennett and Carlos V. Alonso

Practical Improvements for the Hole Erosion Test

Tony L. Wahl, Pierre-Louis Regazzoni and Zeynep Erdogan

Subsidence Stability Analysis for Riprap Protection without Filters

Un Ji, Woon Kwang Yeo, Wonmin Lee and Gwonhan Kim

Observation of Sand Jets in Viscoplastic Fluids

Jianan Cai, David Z. Zhu and N. Rajaratnam

Visualization of Incipient Motion of Saltating Particles from a Well-packed Bed

Haoyin Shan, Kornel Kerenyi and Junke Guo

Session	TS-15
Track	B-2 Water Control and Hydraulic Structures
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Cladding the Padma at Sara: Rational Design of Rock Riprap Falling Aprons

David C. Froehlich

Evaluation on Tractive Criteria of Filled Gravel in Frame-shaped Connected Stone

Shiro Maeno, Akira Yamamura and Kimiko Kaseguma

Results of a Research Project on Flood Protection of Bridges

P. Bouska and P. Gabriel

Flow Characteristics Around Various Bluff Body Geometries in Shallow Water Flow

M. F. Tachie, S. S. Paul and C. Katopodis

Effect of Distance and the Number of Circular Piers on Flow Structure and Sedimentation in River Direction

Kambiz Farehi Moghadam, Soheil Rezapour and S. T. Omid Naeni

Session	TS-15
Track	B-5 Wastewater Management
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Integrated Modeling and Remote Sensing Systems for Mixing Zone Water Quality Management

Robert L. Doneker, Todd Sanders, Adi Ramachandran, Kent Thompson and Frank Opila

Utilization of Water Treatment Residuals to Reduce Non-Point Source Phosphorus Runoff from Land Applied Biosolids

R. D. Williams and P. A. Moore

Desalination Brine Discharge Modelling as a Support in Planning Decisions

D. Malcangio and A. F. Petrillo

Numerical Simulation to Study The Waste Water Disposal Project in the Coastal Zone

of Buenos Aires

A. N. Menéndez, N. Badano, M. Re, P. García, E. Lecertúa, F. Lopolito and A. Sarubbi

Removal of Copper and Zinc Existing in Water and Wastewater in Presence of Phosphate by Rapid Sand Filter

Navab Daneshi, Hossein Banejad, Reza Pirtaj Hamedani, Hooshang Faraji and Vahid Rahimpour golroodbari

Economical Optimization on Natural Recycling Treatment System of Reclaimed Water

Feng-Wen Chen, Shen-Ting Huang and Hsiu-Te Lin

LES and RANS Modeling of Flow in an Ozone Contactor: Mean and Instantaneous Turbulent Flow Characteristics

Dongjin Kim, Jae-Hong Kim and Thorsten Stoesser

Session	TS-15
Track	S-5 Fast Transients
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Special Considerations in Pressure Surge Analysis and Control for Wastewater Systems

Robert C. Elliot and David H. Axworthy

Physical Investigation of Air Pocket Release in Below Grade Storage Tunnels

James W. Lewis and Steven J. Wright

Field Measurements and Numerical Modeling of a Water Pipeline Filling Event

Jose G. Vasconcelos, Jose R. S. Moraes and Diogo V. B. Gebrim

Transient Field Monitoring as a Key Driver for Decision Making and Design

B. W. Karney and D. Radulj

Experimental Investigation of Transients Caused by Rapid Valve Opening

B. Brunone, B. W. Karney, M. Ferrante and S. Meniconi

On Long-wave Dependent Flow Transitions in Partially Filled Large-scale Pipeline

Janek Laanearu, Ivar Annus and Tiit Koppel

Session	TS-15
Track	C-1 Eco-Hydraulics
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Concrete V-Baffle Drop Structure

K. J. Christison, L. Lee and B. M. Chilibeck

Environmental Evaluation on Macro-invertebrates in Waterside through Impressions

Atsunori Suzuki, Masanori Kawano, Yoshimi Hagihara and Toshiharu Kojiri

A Model Study of the Hydraulic Characteristics of a Concept Fishway for the Fairford Dam

M. Hunt and S. Clark

Influence of Foliage on Drag Force of Flexible Vegetation

T. Schoneboom and J. Aberle

Fundamental Experiments to Develop Eco-friendly Techniques for Conserving Frog Habitat in Paddy Areas: Escape Countermeasures for Frogs Falling into Agricultural Concrete Canals

Keiji Watabe, Atsushi Mori, Noriyuki Koizumi and Takeshi Takemura

Field Observation of Total Dissolved Gas Supersaturation of High Dams?

Li Ran, Li Jia, Li Ke-Feng and Fengjingjie Qulu

Dunvegan Hydroelectric Project: Physical Modelling to Develop Upstream Fish Migration Strategies During Dam Construction

G. Post, R. Slopek, D. Shepherd, C. Katopodis and K. Matheson

Relation Between Change of Phytoplankton and Do and Discharge in the Up-Down Stream Area of Nagaragawa Estuary Barrage

Makoto Takeda, Atsushi Tatematsu and Naoki Matsuo

Measures Fof Descending Masu Salmon Around Dam Structures

Shigeo Morita, Makoto Kuwahara, Shoji Yamashita and Hiroshi Mayama

Two Dimensional Hydraulic Modeling In A Complex Natural-Setting of the Unchannelized Missouri River

W. Stancill and S. Kenner

Types Classification and Characteristics of Instream Habitats in Korea

Hong-Kyu Ahn, Si-Nae Kim, Hyoseop Woo and Seung-Hoon Chun

Proposal of Total Migration Route Systems Bypassing a Dam -Lake Installed in Sanru Dam

Hideyuki Miyafuji and Youichi Yasuda

Estuarine Ecological Water Demand Calculation and Application for Estuaries in Liaodong Bay of China

Li Gu and Zulin Hua

Riparian Vegetation Bending and Washout in the Southwestern U.S.

John O. Goreham, S. Kyle McKay, Mark C. Stone, Kumud Acharya and J. Craig Fischenich

Assessment of Dam Effects Over Woody Riparian Vegetation Dynamics

M. D. Bejarano, M. González del Tánago, M. Marchamalo and D. García de Jalón

A Physical Model of Modifications to Concrete Flood Control Channels for Fish Passage

Matt Gellis and P. E. Zapel and Marcin Whitman

Investigation on Roughness Characteristics of Gravel-bed Rivers

Yongjeon Kim, Jisung Kim, Chanjoo Lee and Won Kim

Self-regulation Effects in Open-Channel Flows: Application to Vegetated Channels

Nina Nikora and Vladimir Nikora

Minimum Flow Estimation Tools Validated Through Hydrological and Ecological

Monitoring in Alpine Rivers

A. Gargini, A. Bernini, G. Castaldelli, E. A. Fano, M. Franchini and A. Pontin

Hydraulic Modeling and Upstream Fish Passage Effectiveness Evaluation at Rock Vortex Weirs Based on Field Observations

Denis Ruttenberg, Klaus Jorde, Peter Goodwin, Stephen Clayton and Pat Connolly

Comparison of Roughness Coefficients Related to Korean Riparian Vegetation

D. S. Rhee, D. H. Lee and C. W. Kim

Numerical Investigation of Tidal and River Flow Interaction in the Willamette and Columbia River Tri-Channel System

Henry H. Hu, JohnThomas Sanford and Raymond Walton

Session	TS-15
Track	C-4 Waterway Restoration
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Hydrological Effects for Three Gorges Dam on four Major Chinese Carps Spawning in the Upper and Middle Reaches of the Yangtze River

Li Chong, Peng Qidong, Liao Wengen, Chen Daqing, Duan Xingbin and Wang Kai

Development of a Highly -Resolved Three-Dimensional Nutrient Transport Model

Michael A. Schubert, Nathan C. Young, Douglas J. Schnoebelen and Larry J. Weber

Comparison of Measured Hydro-morphological Parameters with Biotic Properties at the River Buenz in Switzerland

W. Gostner, Ch. Baumgartner, T. Stäheli, M. Alp, A. J. Schleiss and Ch. T. Robinson

Genetic Structure Analysis of Populations of Freshwater Fish around Paddy Fields in Japan Using Microsatellite DNA: Case Study of Japanese Endangered Species, the Japanese Eight-barbel Loach, *Lefua echigonia*

Noriyuki Koizumi, Keiji Watabe, Masakazu Mizutani, Takeshi Takemura and Atsushi Mori

Physical and Hydraulic Characterisation of Leaf Pack Formation

Laura Rh. B. Trodden, Catherine A. M. E. Wilson and Steve J. Ormerod

Session	TS-15
Track	D-5 Protection of Coastal Cities
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Modelling of Tsunami-Induced Hydrodynamic Forces on Buildings

Ioan Nistor, Dan Palermo, Taofiq Al-Faesly and Andrew Cornett

Experimental Researches of the Hydrodynamic Loads Acting upon the St.-Petersburg Floating Sector-Gate C-1

I. Klimovich Vitaly

Probable Maximum Storm Surge Estimate for Miami, Florida Using SLOSH Model Simulations

C. K. Turan, M. A. Samad and Y. Zheng

Increasing Dyke Overtopping Security as a Countermeasure to Accelerating Sea-level Rise

Hanz D. Niemeyer, Ralf Kaiser and Cordula Berkenbrink

Protection of Coastal Cities — Preview of the EU Policy as applied to the Mediterranean Coast of Cyprus

N. Kathijotes

Session	TS-15
Track	E-4 Decision-Support Systems
Date/Time	Thursday, August 13, 2009 / 04:05–05:50

Development of Optimal Decision Model for Washland Location based on Flood Control Effect

T. J. Ahn and C.W. Baek

Rainfall Height Stochastic Modeling as a Support Tool for Floods and Flowslides Early Warning

G. Capparelli, M. Giorgio, R. Greco and P. Versace

Social Flood Impacts in Urban Areas: Integration of Detailed Flow Modelling and Social Analysis

J. Ernst, I. Coninx, B. J. Dewals, S. Detrembleur, S. Erpicum, K. Bachus and M. Piroton

San Diego County FLOODWATCH: An Application in Real-Time Flood Forecasting for Decision Support

R. W. Kilgren, J. S. Kobor, J. A. Zyserman, R. B. Allan, S. Agahi, M. Butts and J. K. Larsen

Flood Risk Decision Making Using HEC-FDA

Robert D. Carl

Friday, August 14, 2009

Session : TS-16

Session	TS-16
Track	A-4 Numerical Modeling
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Dynamic and Level Pool Reservoir Drawdown-A Practical Comparison for Dam Breach Modeling

Christopher R. Goodell and Brian Wahlin

Effects of Plunge Pool Dimensions on Dynamic Pressures Due to Jet Impacts by Numerical Simulation

F. Nazari, N. Talebbeydokhti and S. M. Borghei

Simulation of Free Surface Flow in the Container in Ejecting and Injecting Processes Using Lattice Boltzmann Method

Jia-Hong Guo, Yi Zhou and Hong-Xun Chen

A Two-Dimensional Axisymmetric Method of Runner Blade Shape Design (Inverse Problem) for Hydraulic Turbomachines

Zbigniew Krzemianowski and Maciej Kaniecki

Efficient Methods to Link 1- and 2-Dimensional Fluvial Flow Models Based on Finite Elements

N. Schrage and E. Pasche

Session	TS-16
Track	A-5 Laboratory Experiments, Field Studies, Instrumentation, and Hydraulic Modeling
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Internal Erosion and Hydraulic Head: An Experimental Study

M. Maknoon, Tew-Fik Mahdi and Mohamed Chekired

Influence of Compaction and Toe-Drains on the Formation of Breach Channels of Overtopped Earth Embankments: An Experimental Study

M. Al-Riffai, B. Orendorff, I. Nistor, C. D. Rennie and P. St-Germain

Non-Intrusive Measurements of Water Surface and Velocity Profiles in a Dambreak Flow

R. Aleixo, B. Spinewine, S. Soares-Frazão and Y. Zech

PTV and Numerical Flow Modelling in Reconstructing Velocity Fields of Laboratory Dam Break Flows

B. Sokoray-Varga, T. Krámer and J. Józsa

Breach Formation: Identifying Key Physical Processes to Support Improved Breach Numerical Modelling

M. W. Morris, M. A. A. M. Hassan, G. Ghataora and P. G. Samuels

Effect of Bad Spots in the Grass Cover on the Stability of Dikes During Overtopping

Katinka Koll and Thomas Schoneboom

Session	TS-16
Track	B-2 Water Control and Hydraulic Structures

Date/Time	Friday, August 14, 2009 / 08:00–10:00
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Study of Unsteady Flow in a Vertical Slot Fish Pass

R. W. Wang, D. Calluau, G. Pineau, M. Larinier, A. Texier and L. David

Numerical Simulations of the Flow Through a Reverse Tainter Gate in a Conduit

C. C. Battiston F. A. Bombardelli E. B. C. Schettini and M. M. Marques

Applications of the SPH Model to the Design of Fishways

Roberto Marivela, David López, Ángel Lara and Luis Pena

Experimental Investigation About the Flow Through Filling and Emptying Valves of Ship Locks

C. C. Battiston, E. B. C. Schettini, A. V. B. Canellas and M. M. Marques

Roughness Modeling in a Physical Model of a Corrugated Culvert

M. M. Clark, D. M. Admiraal and J. A. González-Castro

Lock 22 - Lock 25 Filling and Emptying Systems Study

Mario J. Sanchez

Session	TS-16
Track	B-5 Wastewater Management
Date/Time	Friday, August 14, 2009 / 08:00–10:00

The Energy and Water Efficiency Benefits of Distributed Recycled Water Production Facilities

Graham Symmonds

Numerical Modelling of Stormwater and Wastewater Conveyance System of Lausanne City (Switzerland)

Rémi Martinerie, Jean Louis Boillat, Javier García Hernández and Frédéric Jordan

Hydraulic Modelling of the North Shore Sewerage Area Collection System for WetWeather Flow Management

Yvonne Wai, Shafiqul Islam and Brent Burton

Research and Application on the Prediction of Reclaimed Water Demand in Urban Area

Wang Ni, Xie Jiancang and Thian Yew Gan

The System Conveyance and Operations Program (SCOP) Boulder Islands Outfall Project: Physical and Numerical Modeling as Design Tools

Thomas Rowlett, Steven Barfuss, James Devlin, Michael Johnson and Justin Bartels

Numerical Simulation of Rectangular Dropshafts Using a Volume-of-Fluid (VoF) Technique

Vitor Sousa, Fabián A. Bombardelli and Hubert Chanson

Phosphorus Adsorption in the Loughor Estuary

Al-Enezi, E. Bockelmann-Evans, B. Falconer, R.

Monitoring of a Series of Swales within a Stormwater Treatment Train

Elizabeth A. Fassman and Minyang Liao

Session	TS-16
Track	S-6 Applied Hydrology
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Copula Approach to the Statistical Dependence of the Rainfall Event Variables

M. Balistrocchi, G. Grossi and B. Bacchi

Analytical Probabilistic Approach to Watershed Planning and Stormwater Management Studies

Yiping Guo and Barry J. Adams

The Role of Reservoir Dams in Flood Control at Large Watersheds

S. Reza Alvankar, Ramin Jalalirad and Farzaneh Nazari

Relations Between the Mean, Maximum and Minimum Observed Discharges in Small Catchments

João Batista Dias de Paiva and Eloiza Maria Cauduro Dias de Paiva

Selection of Hydrological Methods for the Design of Small Hydraulic Structures in Isolated Communities

Rafael S.Seoane and Claudio A. Fattor

Approaches for Dam Overtopping Probability Evaluation

Abate. K. Negede and Hans-B. Horlacher

Session	TS-16
Track	C-4 Waterway Restoration
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Evaluation of Fall Velocity Equations

E. Amiri-Tokaldany, S. M. Sadat-Helbar and A. Shafaie

Bankfull Channel, Floodplain and Surface Armor— A Hydraulic Engineer's Dissection

Liang Lee, Liang Xu and Emily Zedler

Multi-Criteria Assessment of Pallid Sturgeon Habitat Restoration for the Missouri River

Jennifer Gitt, John Stansbury and Istvan Bogardi

Numerical Simulation of Bed Evolution Process due to Weir Reconstruction

H. Zhang, H. Nakagawa, Y. Muto and K. Kanda

River Bank Protection Structure Developed for Mountains Watersheds

Zivko Gencel and Jorge Reyes

An Ecological-Hydrodynamic Approach for the Sustainable Management of a Brackish Wetland

Luis Teixeira, Daniel Conde, Christian Chreties, Lorena Rodríguez-Gallego, Rodrigo Alonso, Guillermo López and Rodrigo Mosquera

Methods of Representing and Diagnosing River Health Based on System Theory

Xia Jihong, Yan Zhongmin, Lin Junqiang and Yao Li

Eco-Hydraulically Environmental Safe Region Behind Fish Habitat Structure in River Bed

M. Manshouri and M. Karami Moghadam

Physical Analysis of Hydraulic Flow for Rehabilitation Plan in Rio do Peixe, Brazil

A. P. T. Oliveira, B. P. M. Souza, J. A. Barbosa, S. F. Cunha and H. A. Santos

Application of Depth-Averaged Velocity Profile for Estimation of the Longitudinal Dispersion in Rivers

M. F. Maghrebi and M. Givchchi

Effectiveness of Erosion-Reduction Techniques Used in Watershed Restoration Activities

Julianne J. Miller, Gayle L. Dana and Todd G. Caldwell

Rehabilitation and Enhancement of Urban Waters' Functions by Correlated Engineering Measures

Z. H. Tian and Y. S. Pei

Delayed Response and Quantified River Health Indexes

You Tao, Wu Baosheng, Cheng Hongping and Wang Zuzhi

Recognition and Variation Analysis of Main Service Functions of Baiyangdian Wetland

Tao Ma and Shiguo Xu

Micro-Bubble Aeration of Polluted Leachate from a Landfill

Kohji Michioku

Case Study: Analysis of Flow Characteristic and Deposition on an Abandoned Channel

Joon Gu Kang, Hong Ku Yeo, Keum Chan Lee and Sung jung Kim

Evaluation of Soundness in Honmyo River Aiming at Waterway Restoration

Masato Noguchi, Wataru Nishida, Seiji Suzuki, Yuichi Suemitsu, Takafumi Ota and Hideyuki

Ta

The Estimation of Curve Number from River Level for Real-Time Flood Forecasting and Warning System

Taegyun Kim, Kanghoon Yoon, Jongnam Choi and Myoungsun Han

Natural Process Design in Restoring an Entrenched Mountain Meadow Stream

Paul DeVries, Kevin Fetherston, Sue Madsen and Angelo Vitale

Mixing Characteristics Downstream of a Multiport Diffuser in the Athabasca River, Canada

Wenming Zhang, David Z. Zhu and Faruk Bhuiyan

Aquatic Insects Community Structures in the Upper and Lower Reaches of a Flood Control Dam

M. Tamai and G. Tsujimoto

Controlling Bed Scour in a Torrent 20 Years After a Mudflow

R. Raquel Duque and O. Jaime Iván Ordóñez

Session	TS-16
Track	D-4 Wave Loads and the Performance of Coastal and Offshore Structures
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Physical Model Test for the Development of New Typologies of Low Reflection Caisson for Harbour Structures: Breakwaters and Wharves

R. Gutierrez-Serret and J. Lozano

Design and Construction of the Large Size Concrete Floating Wave Attenuator at Bremerton

Woosuk Ahn, Robert F. Henry, Vladimir Shepsis and C. J. Garrison

Optimization of Port of Split by Numerical and Physical Modeling

G. Loncar, V. Androcec and M. Babic

Fundamental Investigation of Water Flow in Harbors Through a Flushing Culvert

Dimitris Stagonas, Gerald Müller, Davide Magagna and David Warbrick

Field Data Derived from Offshore Wind Energy Converters— Assessment and Correlation of Dynamic Wave Loads

Arndt Hildebrandt, Arne Stahlmann and Torsten Schlurmann

Session	TS-16
Track	S-9 Beach Drainage
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Beach Dewatering Systems: Modelling Coastal Ground-Water Flow

Leonardo Damiani, Antonio Petrillo and Alessandra Saponieri

Performance of a Beach Drainage System at Lido Adriano (Ravenna — Italy)

P. Ciavola, E. Fontana and D. Vicinanza

An Italian Experience on BDS: Test Sites in Ostia and in Procida

Paolo Veltri, Bianca Verbeni and Eugenio Pugliese Carratelli

Numerical Study of the Beach Profile Evolution Due to A 'Coastal Drain System'

Th. V. Karambas

Session	TS-16
Track	E-4 Decision-Support Systems
Date/Time	Friday, August 14, 2009 / 08:00–10:00

Study on the Effects of Artificial Reef, Installed in Numazu Section of Fuji Coast, Japan

Kazunori Wada

Repository for Numeric Engine Validation

J. M. Hollingsworth and A. K. Zundel

Comparison of Multi-Objective Genetic Algorithm with Ant Colony Optimization: A

Case Study for Canberra Water Supply System

Lijie Cui, S. Mohammad Mortazavi and N. George Kuczera

Water Issues Facing a Remote Indigenous Community in Northern Territory in Australia

Surendra Shrestha, Steven Riley and Naomi Herben

Policy Simulation of Industrial Structure Adjustment for Water Environment Improvement in Urbanized Shenzhen River Catchment, China

Hua-Peng Qin, Qiong Su, Soon-Thiam Khu, Zhi-Jie Zhao, Wen-Wen Wang and Ying-Ying Zhang

Study and Application on Real Time Dispatch and Management of City Water Resources

Chai Fu-Xin and Xie Xin-Min

Optimal Flood Management in River Restoration Work via a Concept of Basin Network

Cheong-Hoon Park, Min Seok Kim, Jin Gul Joo and Joong Hoon Kim

Research on the Modern Logistics Inland-River Ports Construction in Hunan Province, China

Wang Zuzhi, Zhao Liping, You Tao and Li Yang

An Interval-Parameter Multiobjective Programming Model for Water Resources Management with an Interactive Algorithm

Y. Han, Y. F. Huang and G. Q. Wang

Capturing Multiple Solutions of a Fuzzy Multiobjective Model for Water Quality Management of a River System

Shaik Rehana and P. P. Mujumdar

Data Management and Information Dissemination in Paranaguá Bay, Brazil

Rainer Lehfeldt and Maurledcio Garcia De Camargo

Natural and Anthropogenic Disasters and Emergency Situations: Preparedness, Prevention, Mitigation and Risk Management in Armenia

A. Simonyan

Session	TS-16
Track	D Posters
Date/Time	Friday, August 14, 2009 / 08:00–10:00

A Comparative Experimental Study on Estimating Surf Zone Turbulence

Mehdi Adjami, Mehdi Shafieefar and Ahmad Shanehsaz Zadeh

Investigation of Surface Waves Interacting with a Fixed Cylinder and Generated by a Heaving Cylinder Using Smoothed Particle Hydrodynamics (SPH)

Pourya Omidvar, Peter K. Stansby and Benedict D. Rogers

The Variation of Hydrodynamic Characteristics over the Last Three Decades in the Lower Reach of Minjiang River

Chen Xing-Wei and Liu Mei-Bing

Investigation of the Effects of Coral Reefs on Coastal Wave Propagation by Model Simulations

Hongwei Liu and Mohamed S. Ghidaoui

Numerical Results of the Pollutant Spreading Offshore Taranto (Italy)

M. Ben Meftah, F. De Serio, M. Mossa, A. F. Petrillo and A. Pollio

A Refinement of the Incipient Aggregative Fluidization Criteria in Pure Kaolin Clay

A. G. Tsakiris, A.N. (Thanos) Papanicolaou and B. M. Billing