Contents

Session 1: Opening and Plenary Session

Numerical Model for the Detection of Chemical Spills in Rivers
*Prof. Nikolaos D. Katopodes*

Ability and Development Trend of Numerical Model for River Engineering
*Prof. Yitian Li and Dr. Wei Zhang*

Session 2: Computational Modeling of Flood Flow

Integrated Modeling for Inundation Flows in Urban Areas
*Yoshihisa Kawaha and Tatsuhiko Uchida*

Modelling Urban Flood Inundation in a Parallel Computing Environment
*Nigel Wright*

2-D Flood Modeling of Multiple Simultaneous Dam Failures
*Jeffrey D. Jorgeson, Woodman W. Berry and Xinya Ying*

The Influence of the Wen River Flood on the Effectiveness of Water and Sediment Regulation in the Shandong Yellow River
*Enhui Jiang, Lifei Liu, Lianjun Zhao, and Junhua L*

Session 3: Model Applications in Hydraulic Engineering

Recent Advancements in River Flow Modeling
*Hyoseop Woo, Sung-Uk Choi, and Won kim*
Study for the Design of a Warm Water Fish Passage  
*Adrian Strain, Marcela Politano, Troy Lyons, and Larry Weber*

Free Surface Simulations for a Removable Spillway Weir  
*Xiaoli Fu, Marcela Politano, and Larry Weber*

Numerical Simulation of Floating Sluice Resistance Characteristics during Pulling Process  
*Zong-fu Fu and Zhong-min Yan*

**Session 4: Coastal Process Modeling I**

Strategies for Enhancing the Predictive Ability of Coastal Area Sediment Transport Models  
*Roberto Mayerle and C. Esbobar*

Recent Developments in Modeling Coastal and Estuarine Morphological Processes and Applications to Coastal Flood Management and Erosion Protection  
*Yan Ding, and Sam S.Y. Wang*

Multiple Time Scales and Coupled Mathematical Modeling of Turbidity Currents  
*Zhixian Cao and Peng Hu*

Current and Sediment Numerical Model Applied in the Project of Campha Thermal Power Plant  
*Yuchuan Bai and Qi Tian*

**Session 5: Coastal Process Modeling II**

Numerical Simulation of Aquatic Eco-environment for Coastal Water of Bohai Bay  
*Jianhua Tao*
The Discussion About The Primary Problems In Numerical Model On The Reciprocity of Wave, Tidal and Sediment transport

**Jianshan Zhang, Weisheng Zhang, and Jun Kong**

Application of 2-D Tidal Currents and Sediment Mathematical Model in Sheyang Estuary Regulation Engineering

**Yunfeng Xia, Yuncheng Wen, Qinan Ma, and Rei Song**

Numerical Simulation of 2D Model of Cooling Water Draining into the Bay with Waves and Tidal Currents

**Fang Yang, Lin Wang, You-wei Li, and Yong He**

**Session 6: Watershed and Reservoir Modeling**

Model Development for Evaluating USDA Conservation Practices

**Mathias J.M. Romkens**

Calculation Models for Erosion and Deposition of Main Stem Tarim River and Its Analysis

**Yangui Wang and Chunhong Hu**

Numerical-simulation Based Multi-objective Optimization of Agricultural Land-use with Uncertainty

**Mustafa S. Altinakar and Honghai Qi**

GSTARS3-HTC Model Development and Evaluation as Part of the Lewis and Clark Lake Sediment Management Study

**Paul M. Boyd, John W. Garrison and Chih Ted Yang**

**Session 7: Water Quality and Pollutant Transport Modeling**

CCHE2D Water Quality and Chemical Model Capabilities and Applications

**Tingting Zhu, Yafei Jia, and Sam S.Y. Wang**

3D Numerical Simulation of Temperature and Concentration Field

**Zhanfeng Cui and Xibing Zhang**
One-Dimensional Moment Model for Flow Movement and Suspended Sediment Transport
Qingchao Guo

2-D Mathematic Model of Flow, Sediment, Temperature and Concentration Field and Its Application
Jie Zhang and Xibing Zhang

Session 8: Stream Morphological Modeling

Modeling of Erosion and Deposition at Meandering Channels
Yong G. Lai and Blair Greimann

Modelling Flow and Vegetation Effects in a Curved Channel Calculation
Yafei Jia, Sam S.Y. Wang, Carlos A. Alonso, Andrew Simon, and Robert Wells

Simulation of Morphological Evolution near Sediment Mining Pits Using a 1-D Mixed-Regime Flow and Sediment Transport Model
Weiming Wu and Sam S.Y. Wang

1-D Sediment Mathematical Model for Irrigation Canals of the Lower Yellow River
Hong-ling Shi, Qingqi Tian and Ruqin Jiang

Session 9: Sediment Transport Modeling

Study on the Instability Characteristics of Open Channel Hyper-Concentration Flow
Haijue Xu and Yuchuan Bai

Modeling of Gravel Mining in the Rio Salado, Arizona
Dong Chen, Kumud Acharya, and Mark Stone