



The 6th China-Japan-South Korea Water Science Forum

Digital Twin and Flood Simulation

2023

Hosts: Jilin University , China

Key Laboratory of River Basin Digital Twinning of Ministry of Water Resources , China

Co-organizers: Chungnam National University , South Korea

Kyungpook National University , South Korea

Kyoto University , Japan

ZOOM: 856 6323 7606 Password: 230816

Tencent Voov: 555-673-039

Jilin University, Changchun, China

December 3, 2023

Academic Committee

Chairman	Wang, Hao	Academician / Senior Engineer	China Institute of Water Resources and Hydropower Research
Vice Chairs	Xu, Tianfu	Professor	Jilin University
	Guan, Tiesheng	Senior Engineer	Nanjing Hydraulic Research Institute
	Liu, Jiahong	Senior Engineer	China Institute of Water Resources and Hydropower Research
Members	Hou, Jingming	Professor	Xi'an University of Technology
	Kwansue Jung	Professor	Chungnam NationalUniversity,South Korea
	Lai, Chengguang	Professor	Guangxi University
	Liu, Haixing	Professor	Dalian University Of Technology
	Luan, Qinghua	Professor	Hohai University
	Ma, Chao	Professor	Tianjin University
	Qiu, Guoyu	Professor	Peking University ShenZhen Graduate School
	Tian, Fuqiang	Professor	Tsinghua University
	Wang, Zhaoli	Professor	South China University Of Technology
	Xia, Junqiang	Professor	Wuhan University
	Zhang, Haoran	Assistant Professor	Peking University ShenZhen Graduate School

Organizing Committee

Li, Hongyan	Professor	Jilin University
Feng, Youcan	Associate Professor	Jilin University
Kawaike, Kenji	Professor	Kyoto University
Kim, Sunmin	Associate Professor	Kyoto University
Li, Fengping	Associate Professor	Jilin University
Lee, Giha	Professor	Kyungpook National University
Lee, Seungyub	Assistant Professor	Hannam University
Mei, Chao	Engineer	China Institute of Water Resources and Hydropower Research

Schedule

AM, Sunday, December 3, 2023

Location: Jilin University, Changchun, China
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Moderator
Feng, Youcan Associate Professor
Jilin University

08:00-08:03



Xu, Tianfu Professor
Jilin University

Faculty Remarks

08:03-08:05



Wang, Hao Academician/Senior Engineer
China Institute of Water Resources and Hydropower Research

Welcoming Remarks

08:05-08:35



Zhang, Haoran Assistant Professor
Peking University Shenzhen Graduate School

Digital Twin of Pedestrian Movement in Urban Waterlogging Scenarios

08:35-09:05



Lee, Joo Heon Professor
Civil Engineering Department, Joongbu University

Digital Twin Water Management of Korea

Moderator
Zhang, Haoran Assistant Professor
Peking University Shenzhen Graduate School

09:05-09:30



Kim, Sunmin Associate Professor
Kyoto University
Machine Learning of GCM Atmospheric Variables for Spatial Downscaling of Precipitation Data

09:30-09:55



Lee, Giha Professor
Dept. of Disaster and Prevention Eng, Kyungpook National University
Rainfall-Runoff Modeling using Bias-corrected Satellite Precipitation Products by Convolutional Neural Network

09:55-10:20



Lv, Haoyang Ph.D. Candidate
Tsinghua University
Advisor: Prof. Tian, Fuqiang
Satellite-based Water Surface Slope For Mountain River

Moderator
Lee, Giha Professor
Dept. of Disaster and Prevention Eng,
Kyungpook National University

10:20-10:45



Ryota TSUBAKI Associate Professor
Department of Civil and Environmental Engineering, Nagoya University
Impacts Of River And Canal Flood On Railway

10:45-11:10



Dong Kook Woo Assistant Professor
Keimyung University
Detecting subsurface drainage pipes using areal images and an ensemble learning approach

11:10-11:25



Geumchae Shin M.S. Student
Hannam University
Advisor: Prof. Lee, Seungyub
Application of Failure Fingerprints for Water Distribution System Leakage Localization Based on Types of Leaks

11:25-11:50



Zeng, Yukai M.S. Student
School of Infrastructure Engineering,
Dalian University of Technology
Advisor: Prof. Liu, Haixing
Research on Leak Event Detection in Water Distribution Systems Based on Deep Learning

11:50-13:00



Lunch

Schedule

PM, Sunday, December 3, 2023

Location: Jilin University, Changchun, China
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Moderator
Kim, Sunmin Associate Professor
Kyoto University

13:00-13:25

Kenji Kawaike Professor
Kyoto University
Future risk assessment for inundation disasters using predicted rainfall data: case study of Osaka City, Japan

13:25-13:50

Liao, Yaoxing Ph.D. Candidate
South China University of Technology
Advisor: Prof. Wang, Zhaoli
Fast simulation of urban pluvial floods using a deep convolutional neural network model

13:50-14:15

Li, Wenjing Ph.D. Candidate
School of Urban Planning and Design, Peking University
Advisor: Prof. Zhang, Haoran
Estimating Dynamic Flood-affected Population through Big Mobility Data

14:15-14:40

Muhammad Bilal Idrees Postdoctoral Research Fellow
Faculty of Infrastructure Engineering,
Dalian University of Technology
Advisor: Prof. Liu, Haixing
Water resources assessment considering inter-basin water transfer projects in China

Moderator
Feng, Youcan Associate Professor
Jilin University

14:40-15:05

Soon Ho Kwon Postdoc
Hannam University
Advisor: Prof. Lee, Seungyub
Optimal design for urban drainage systems: based on multiscenario

15:05-15:30

Guan, Baojun Ph.D. Candidate
Xi'an University of Technology
Advisor: Prof. Hou, Jingming
Numerical Simulation Study on Dam Break Flood Process of Pumped Storage Power Station Coupled with Dam Break Evolution

15:30-15:55

Shen, Tianhao & Chen, Zhi M.S. Student
School of Environment and Energy, Peking University
Advisor: Prof. Qiu, Guoyu
Long-term Characteristics of Urban Water and CO₂ Fluxes in Shenzhen

15:55-16:00

Kwansue Jung Professor
Chungnam National University
Closing Remarks