

2nd Announcement of HIC2024

SYMPOSIUM & EXHIBITION

HIC 2024

15th International Conference on Hydroinformatics

From Nature to Digital Water:
Challenges and Opportunities

May 27-30, 2024 Beijing, China



Hosted by:



Organized by:



www.HIC2024.org

WELCOME MESSAGE



The esteemed 15th International Conference on Hydroinformatics will be convened in Beijing, China, from May 27th to 30th, 2024. On behalf of the local organizing committee and the Ministry of Water Resources of the People's Republic of China, I warmly welcome you to this grand event!

The transformative power of information technology has reshaped industries on a global scale, profoundly impacting the sustainable development, utilization, management, and protection of our vital water resources. Water governance presents a complex and multifaceted systematic undertaking. The adoption of digital, networked, and intelligent thinking, strategies, resources, and methods promises to significantly elevate the scientificity, precision, and efficiency of water management decision-making. With this in mind, the conference theme, From Natural to Digital Water: Challenges and Opportunities, underscores the vital role of modern information technology. The conference will delve into its application in the digital twinning of water system. This system, equipped with forecasting, early warning, rehearsal, and preplanning functionalities, will empower water resource management and foster the development of new productive forces of the water sector. Through a series of academic discussions and exchanges, the conference aims to foster a vibrant exchange of ideas. Scholars and practitioners from across the globe will share cutting-edge technologies and successful practices in the field of hydroinformatics. This collaborative effort will pave the way for the best solutions and strategies to ensure global water security and achieve the water-related goals of the United Nations 2030 Agenda for Sustainable Development.

Drawing upon its own water governance needs, China actively promotes the development of digital twin technologies. These advancements encompass digital twinning of river basins, water networks, and water projects. This pursuit aims to achieve digital mapping, intelligent simulation, and forward-looking rehearsal of the entire water governance and management process. Ultimately, it fosters a deeper integration of traditional water science and technology with the transformative power of modern information technology.

We eagerly anticipate the opportunity to share the latest scientific research advancements in the digital twinning of water resources and other captivating hydroinformatics topics with you in Beijing. This gathering promises to inspire academic innovation and cultivate in-depth dialogue and cooperation across disciplines and national borders. Through our collective efforts, I am confident that the conference will build a strong foundation of shared understanding, promote mutually beneficial cooperation, and propel the discipline of hydroinformatics towards a future of continued development and technological progress.

We extend our heartfelt wishes for a resounding success to the 15th International Conference on Hydroinformatics!

Daoxi Wang

Chair of the Local Organizing Committee
Vice Minister of Water Resources of the People's Republic of China

THEMES

Central Theme

From Nature to Digital Water: Challenges and Opportunities

Topics

1. Space-Air-Ground Integrated Monitoring
2. Hydrological and Hydraulic Modeling and Solutions
3. Big Data Acquisition and Data Management
4. Multi-Scenario Applications of Digital Twins
5. Climate Change and Adaptation
6. Digital Empowerment in Water Management and Education

SPECIAL SESSIONS

- From models to decision support systems
- Digital twins for watersheds: Challenges and advanced hydroinformatic solutions
- Water knowledge platforms and applications
- Flash flood program: Advanced hydroinformatic approaches for flash flood defense and prevention
- Urban flooding/waterlogging
- Extreme drought and its impacts in a changing environment
- New remote sensing methods and new products for hydroinformatics solutions
- Modelling and machine learning for understanding flash floods and mitigating their impact on society
- Climate change impacts on urban flooding: Challenges and innovative solutions
- Marine and coastal hydroinformatics
- Data-driven risk management of water-related disasters
- High-performance computing in hydrodynamics, hydrology and hydroinformatics
- River and lake protection and intelligent management
- Smart water management and technology in the era of climate change

COMMITTEES

Organizing Committee

Chair:

Daoxi Wang

Vice Chair:

Wenguang Yao

Hai Jin

Feng Qian

Jing Peng

Members:

Xiaolin Li

Qian Yang

Dezhi Xu

Ping Wang

Hong Duan

Zhao Hao

Jiqun Dai

Xiuli Ding

Xin Yu

Jianli Zhang

Chao Ma

Hong Xiao

Xuemei Liu

Joseph Hun-Wei Lee

Philippe Gourbesville

Gabriele Freni

Sanda-Carmen Georgescu

Secretary General:

Liuqian Ding

International Scientific Committee

Chair:

Hao Wang

Vice Chair:

Philippe Gourbesville

Jianyun Zhang

Members:

Andrei-Mugur Georgescu

Anton Anton

Branko Kerkez

Bruno Brunone

Dan Niculae Robescu

Daniele Biagio Laucelli

Duan Chen

Dusan Prodanovic

Emmanouil Varouchakis

Epsica Chiru

Fang Yang

Florentina Moatar

Frank Molkenthin

Gabriel Racoviteanu

Gyewoon Choi

Hui Liang

Ilinca Nastase

Ioana Fagarasan

Jean-Luc Achard

Jijian Lian

Joseph Hun-Wei Lee

Juan Lyu

Jun Feng

Ken Thomas

Konstantinos Papatheodorou

Leiming Shi

Luigi Berardi

Lydia Vamvakeridou-Lyroudia

Maurizio Righetti

Nicolaos Theodossiou

Nicolas Riviere

Olivier Piller

Qin Liu

Qiuhua Liang

Quanxi Xu

Romeo Susan-Resiga

Sandor Ianos Bernad

Sandra Soares-Frazao

Sebastian Muntean

Shiqiang Wu

Wenqi Peng

Xiangdong Qiu

Xiao Ma

Xindai An

Xudong Fu

Yang Cai

Ying Gao

Yunzhong Jiang

Zoran Kapelan

HOSTS, ORGANIZERS AND CO-ORGANIZERS



Hosts:

- Ministry of Water Resources of the People's Republic of China (MWR)
- International Association for Hydro-Environment Engineering and Research (IAHR)
- International Water Association (IWA)

Organizers:

- China Institute of Water Resources and Hydropower Research (IWHR)
- State Key Laboratory of Simulation and Regulation of Water Cycle in River Basin
- Key Laboratory of Digital Twin for River Basins of the Ministry of Water Resources
- Yinshanbeilu Grassland Eco-Hydrology National Observation and Research Station

Co-Organizers

- China Three Gorges Corporation (CTG)
- China South-to-North Water Diversion Corporation Limited
- Danish Hydraulic Institute (DHI)
- International Economic & Technical Cooperation and Exchange Center, Ministry of Water Resources of the People's Republic of China (INTCE)
- Nanjing Hydraulic Research Institute (NHRI)
- Xiaolangdi Multipurpose Dam Project Management Center
- Changjiang River Scientific Research Institute (CRSRI)
- Yellow River Institute of Hydraulic Research (YRIHR)
- Pearl River Water Resources Research Institute (PRWRI)
- International Research and Training Center on Erosion and Sedimentation (IRTCS)
- Beijing Water Authority
- Macau University of Science and Technology (MUST)
- Tsinghua University
- Tianjin University
- Sichuan University
- Hohai University
- Xi'an University of Technology (XUT)
- North China University of Water Resources and Electric Power (NCWU)
- PowerChina Huadong Engineering Corporation Limited
- PowerChina Chengdu Engineering Corporation Limited
- China Gezhouba Group Municipal Engineering Co., Ltd.
- Shanghai Investigation, Design & Research Institute Co., Ltd.
- Dayu Huitu Technology Group
- CETC Digital Technology Co. Ltd.
- Shandong Survey and Design Institute of Water Conservancy Co., Ltd.
- Henan Water & Power Engineering Consulting Co., Ltd.
- China Siwei Surveying and Mapping Technology Co., Ltd.
- Beijing Guoxinhuayuan Technology Co., Ltd.
- PIESAT Information Technology Co., Ltd.
- Beijing GiStack Information Technology Co., Ltd.
- China South-to-North Water Diversion Group Water Networks Intelligent Technology Co., Ltd.

OVERALL PROGRAM

Time	May 27 (Mon)	May 28 (Tue)	May 29 (Wed)	May 30 (Thu)	May 31 (Fri)
09:00-10:30	Opening	Parallel Sessions	Parallel Sessions	Technical and Cultural Tours	Technical and Cultural Tours
10:30-11:00	Tea Break				
11:00-12:10	Plenary I	Plenary II	Plenary III		
12:10-13:30	Lunch				
13:30-15:00	Parallel Sessions	Parallel Sessions	Parallel Sessions		
15:00-15:30	Tea Break				
15:30-17:00	Parallel Sessions	Parallel Sessions	Closing		
17:00-18:00	Poster Session	Technical Committee Meeting			
All Day	Exhibition				

REGISTRATION FEES

Fee Type	Until Mar. 31, 2024 (USD)		From Apr. 1, 2024 (USD)	
Income Level	HIGH	LOW	HIGH	LOW
Non IAHR/IWA member	300	150	400	250
IAHR/IWA member	200	100	300	150
Student and young professional (under 35)	75	35	100	45
Accompanying person	75	35	100	45

KEYNOTE SPEAKERS

 **May 27, 2024**



Daoxi Wang

Vice Minister, Ministry of
Water Resources, China



Lim Kim Shin

Chief Information Officer, Public
Utilities Bureau, Singapore

 **May 28, 2024**



Jing Peng

President, China Institute
of Water Resources and
Hydropower Research,
China



Gyewoon Choi

President, Eco-i
(Environment Cooperation
of Incheon), Korea

 **May 29, 2024**



**Pilar Garcia
Navarro**

Professor, Zaragoza
University, Spain



Chunmiao Zheng

Vice President, Eastern Institute
of Technology, Ningbo, China

Tuanchenghu Regulating Reservoir + Forbidden City

May 30, 2024. Beijing. USD 100.



Tuanchenghu Regulating Reservoir

Situated to the south of the Summer Palace in Beijing, the reservoir is a key facility for the Beijing section of the South-to-North Water Diversion Project, the largest water diversion project in the world and designed to alleviate water shortage in Northern China. The Digital Twin South-to-North Water Diversion Project utilizes digital twin technology to digitally represent the entire infrastructure, integrating real-time monitoring data for holistic operational visibility. Offering the four preemptive functions (forecasting, early warning, scenario rehearsal, contingency planning), it ensures safe, efficient water supply through intelligent resource allocation, design optimization, and cross-departmental collaboration via shared real-time info. It enhances public participation and regulatory oversight, setting a standard for modern water project management in China.

Forbidden City

A UNESCO World Heritage site, Forbidden City is world's largest and best-preserved wooden palace complex located in the center of Beijing and China's largest museum of ancient culture and art showcasing the cultural treasures of the Ming and Qing Dynasties (1368-1911).

Xiaolangdi Dam + Longmen Grottoes

May 30-31. Luoyang (800 km south of Beijing). USD 530.



Xiaolangdi Dam (Height: 154 m. Length: 1,317 m) on the Yellow River has a total installed capacity of 1,800 MW and generates up to 5.1 TWh annually with the help of six 306 MW turbines. A pioneering application and flagship pilot of digital twin technology in water infrastructure in China, Digital Twin Xiaolangdi integrates advanced data processing and simulation for enhanced efficiency, safety, and environmental management. The Digital Application processes multi-source data for real-time monitoring, analysis, and decision-making. It enables four preemptive functions (forecasting, early warning, scenario rehearsal, contingency planning) for enhanced flood control and dam safety. Advanced algorithms provide insights for resource management and disaster response.

Longmen Grottoes

A UNESCO World Heritage site with almost 110,000 Buddhist stone statues, 60+ stupas and 2,800+ stele inscriptions in 2,300+ caves and niches carved into the steep limestone cliffs over a 1km long stretch, Longmen Grottoes contain the largest and most impressive collection of Chinese art of the late Northern Wei and Tang Dynasties (316-907).

WELCOME TO BEIJING



Welcome to Beijing, China's capital city whose story goes back at least 3,000 years. In Beijing, you'll find a wealth of history, both ancient (the Hall of Preserving Harmony, Summer Palace, Forbidden City) and more recent (Chairman Mao Memorial Hall, Tiananmen Square). A visit to the Great Wall, the longest manmade structure in the world, is absolutely essential.

Beijing is China's political, economic, cultural and educational center as well as China's most important center for international trade and communications, and one of the six ancient cities in China. It has been the heart and soul of politics and society throughout its long history and consequently, there is an unparalleled wealth of discovery to delight and intrigue travelers as they explore Beijing's ancient past and enjoy its exciting modern development.

With over 21 million residents, Beijing is the world's most populous national capital city and is China's second largest city after Shanghai.

Visit and enjoy Beijing culture!

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SHANDONG SURVEY AND DESIGN INSTITUTE OF WATER CONSERVANCY CO., LTD



航天宏图
Piesat



捷泰云际
GiStack

EXHIBITION

As an important component of HIC2024, exhibition will take place alongside this conference, providing an invaluable opportunity to see products and network with industry and other users.

More information will be available on www.HIC2024.org

CONTACT

Ms. Stephanie Mao

Tel: +86 (10) 6878-6350

Email: contact@hic2024.org

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