
# Call for Papers is Now Open!

## Message from International Scientific Committee Co-Chair

**Adrian Law**
Professor
National University of Singapore/Nanyang Technological University Singapore

It is with immense pleasure and anticipation that we extend our warmest welcome to all of you to the 41st IAHR World Congress in Singapore in 2025. The vibrant city-state of Singapore is well known for its long-term commitment to water management, and broad research and development efforts in innovation and sustainability. We are therefore proud to have this important opportunity to act as the global platform for researchers, engineers, and decision makers in the hydro-environment domains to come together to share recent advances and experiences, identify emerging technology trends, and engage in lively debates.

The Congress's theme is "Innovative Water Engineering for Sustainable Development". We aim to foster interdisciplinary dialogue, exchange cutting-edge knowledge, and explore innovative solutions to the world's most pressing water-related challenges. Together, we will delve into the complexities of water engineering, hydroinformatics, climate change adaptions, and much more, with a focus on how innovations can further advance the Sustainable Development Goals (SDGs) for the global community.

Lastly, on behalf of the International Scientific Committee, we also like to extend our sincere gratitude to the organizers, sponsors, and participants for their unwavering support and commitment to advancing the frontiers of hydro-environment engineering. Together, let us make this congress a resounding success and a catalyst for positive change.

Welcome to Singapore!

# Main theme: Innovative Water Engineering for Sustainable Development

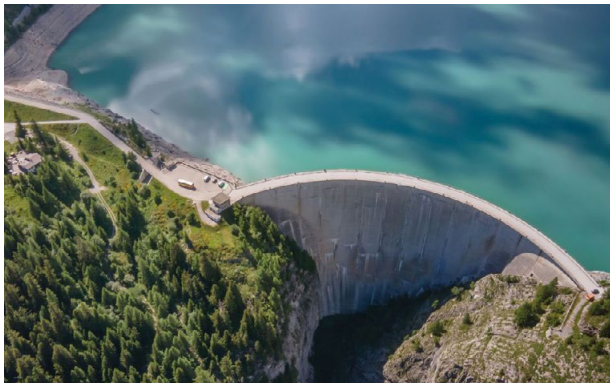
## Introduction

The IAHR World Congress 2025 in Singapore is a landmark event that centers around the pivotal theme of innovative water engineering for sustainable development. The global gathering will address the multifaceted challenges posed by the dynamic intersection of water resources management, climate change adaptation, and the intricate interplay between water, energy, food security, and nature. It shall provide a platform for experts, researchers, and practitioners from around the world to converge and share cutting-edge insights, groundbreaking research, and new solutions in the field of water engineering to meet these challenges.

As nations grapple with the effects of climate change, the Congress will delve into innovative water engineering that adapts to the evolving challenges posed by a changing hydro-environment. Another focal point of the Congress will be the exploration of innovative concepts that alleviate the increasing pressure on the water-energy-food nexus and acknowledge the intrinsic linkages between these vital resources. Understanding and optimizing this nexus is crucial for fostering sustainable development, and the Congress shall promote the global exchange and collaboration for integrated approaches that maximise these interconnected resources.

Finally, a key objective of the IAHR World Congress 2025 is to address the United Nations Sustainable Development Goals (SDGs) related to water resources. These goals encompass a spectrum of global targets to tackle issues ranging from water scarcity and quality to sanitation and ecosystem preservation. By placing a spotlight on innovative water engineering, the Congress aims to contribute to the advancement of these SDGs in both rural and urban environments, towards a resilient society for the well-being of current and future generations.

## Congress Topics:
## Theme A: Water Engineering and Technological Innovations



**A.1 Climate Change Mitigation**
- A.1.1 Water Footprint Reduction
- A.1.2 Incorporation of Water-related Renewable Energies
- A.1.3 Energy Efficiencies to be gained from Water Uses
- A.1.4 Carbon Sequestration and Storage in Aquatic Environments
- A.1.5 Reduction of Greenhouse Gas Emissions from Water Systems
- A.1.6 Other Related Topics

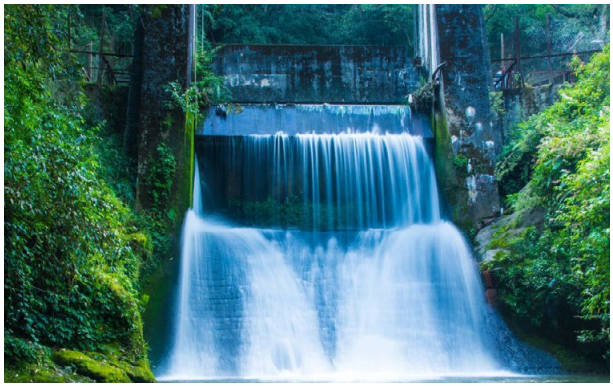
**A.2 Improving Resilience against Water Hazards and Natural Disasters**
- A.2.1 Coastal Processes and Hazards
- A.2.2 Hydraulic Structures and Processes
- A.2.3 Enhancements in Urban Drainage Systems
- A.2.4 Sediment Transport and Bathymetrical Changes Assessment
- A.2.5 Forecasting and Warning
- A.2.6 Disaster Risk Reduction
- A.2.7 Other Related Topics

Congress Topics:

## Theme A: Water Engineering and Technological Innovations

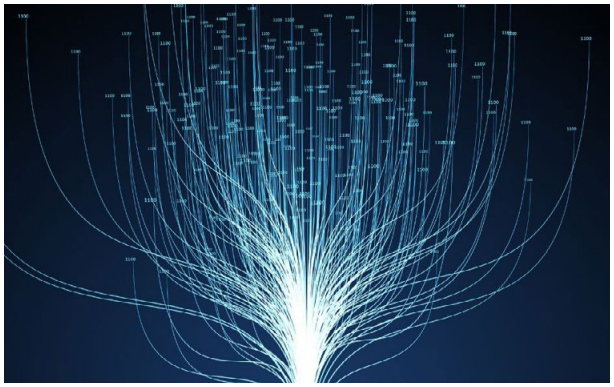
**A.3 Water Engineering and Society**

A.3.1 Water Resources Management
A.3.2 River Engineering and Management
A.3.3 Reservoirs Management
A.3.4 Urban Hydraulics
A.3.5 Eco- and Environmental Hydraulics
A.3.6 Water Reclamation and Reuse
A.3.7 Seawater Desalination
A.3.8 Cross-boundary Water Transfer
A.3.9 Alternative Water Resources
A.3.10 Multi-objective Optimisation
A.3.11 Other Related Topics



**A.4 Water Engineering for Energy Transition and Food Security**

A.4.1 Reservoir Renewable Energy Systems (Hydropower, Floating Solar, etc)
A.4.2 Marine Renewable Energy Systems (Wave Power, Tidal Power, Hybrid Solutions, etc)
A.4.3 Offshore Renewable Energy Systems (Offshore Wind Power, Oceanic Current Power, etc)
A.4.4 Water-Energy-Food Nexus
A.4.5 Water Management for Urban Agriculture
A.4.6 Water for Hydrogen Production
A.4.7 Blue Economy
A.4.8 Other Related Topics



**A.5 Digital Transformation**

A.5.1 Artificial Intelligence (AI) Tools for Analysis and Decision Support under Certainties
A.5.2 Computational Methods for Climate and Meteorology
A.5.3 Computational Methods for Hydraulic and Water Quality Modelling
A.5.4 Computational Methods for Coastal Processes (Waves, Currents, etc.)
A.5.5 Data-Driven Methods and Machine Learning Techniques
A.5.6 Hydroinformatics and Big Data Analytics
A.5.7 Other Related Topics


**A.6 Experimental and Field Methods**

A.6.1 Advanced Experimental Techniques
A.6.2 Hydrological Measurements (Flow, Groundwater, Precipitation, etc.)
A.6.3 Water Quality Sampling and Analysis
A.6.4 Aquatic Ecology and Biological Surveys
A.6.5 Environmental Management and Monitoring
A.6.6 Remote Sensing – Satellite
A.6.7 Remote Sensing – Others (Unmanned Aerial Vehicles (UAV), Radar, etc)
A.6.8 GIS Applications
A.6.9 Data Uncertainty Analysis and Assessment
A.6.10 Other Related Topics

## Congress Topics:
## Theme B: Water Engineering and Socio-Economic Considerations

**B.1 Climate Change Adaptation**

- B.1.1 Coastal Protection and Management
- B.1.2 Flood and Droughts Management
- B.1.3 Improvement in Design Guidance under Climate Change
- B.1.4 Revised Engineering Practices in Harmony with Nature
- B.1.5 Resilience Strategies for Extreme Events
- B.1.6 Adoption of Green and Grey Water Infrastructure
- B.1.7 Other Related Topics

**B.2 Water and Nature**

- B.2.1 Innovative Solutions for City in Nature with Water
- B.2.2 Nature-based Solutions for upstream catchments and small streams
- B.2.3 Nature-based Solutions for large rivers
- B.2.4 Nature-based Solutions for Coastal and Estuarine Waters
- B.2.5 Biodiversity in Aquatic Environments
- B.2.6 Ecosystem Services
- B.2.7 Other Related Topics

**B.3 Hydro-Environment Engineering Culture**

- B.3.1 Hydro-Environment History and Heritage
- B.3.2 Hydro-Environment Development and Cooperation
- B.3.3 Hydro-Environment Education
- B.3.4 Coastal Resilience and its Definitions
- B.3.5 Social Hydrology and Citizen Science
- B.3.6 Other Related Topics

# International Scientific Committee

The ISC shall be jointly co-chaired by IAHR and Singapore.

**Representatives include:**

### Members

**Adrian Law**, National University of Singapore/Nanyang Technological University, Singapore (Co-Chair)
**Hazel Khoo**, Director, Coastal Protection Department, PUB, Singapore
**Philip Liu**, National University of Singapore, Singapore
**Vladan Babovic**, National University of Singapore, Singapore
**David McCarthy**, Monash University
**Stefan Felder**, UNSW Sydney
**Lloyd Chua**, Deakin University
**Sandra Soares-Frazao**, Universite Catholique de Louvain
**Tobias Bleninger**, Federal University of Paraná
**Majid Mohammadian**, University of Ottawa
**Bryan W. Karney**, University of Toronto
**Christos Katopodis**, Katopodis Ecohydraulics Ltd
**Gregory Lawrence**, University of British Columbia
**David Zhu**, Ningbo University / University of Alberta
**Zhiguo He**, Zhejiang University
**Pengzhi Lin**, Sichuan University
**Dongdong Shao**, Beijing Normal University
**Wenxin Huai**, Wuhan University
**Yangwen Jia**, China Institute of Water Resources and Hydropower Research (IWHR)
**Jianyun Zhang**, Nanjing Hydraulic Research Institute
**Qiuwen Chen**, Nanjing Hydraulic Research Institute
**Shijian Fu**, Chongqing Normal University
**Yujun Yi**, Beijing Normal University
**Qiuhua Liang**, Zhengzhou University
**Nian Sheng Cheng**, Zhejiang University
**Haifeng Jia**, Tsinghua University
**Fang He**, Zhejiang University
**Zhengzhi Deng**, Zhejiang University
**Jochen Aberle**, Leichtweiß-Institute for Hydraulic Engineering and Water Resources
**Silke Wieprecht**, University of Stuggart
**Ting Fong May Chui**, The University of Hong Kong
**Mohamed S. Ghidaoui**, The Hong Kong University of Science and Technology
**Huan-Feng Duan**, The Hong Kong Polytechnic University
**Krishnan Murali**, Indian Institute of Technology Madras
**Subhasish Dey**, Indian Institute of Technology Jodhpur
**Sannasi Sannasiraj**, Indian Institute of Technology Madras Corrado Gisonni, Università della Campania 'Luigi Vanvitelli'
**Claudia Adduce**, Roma Tre University
**Silvia Meniconi**, University of Perugia
**Claudio Comoglio**, Politecnico di Torino
**Hitoshi Tanaka**, Tohoku University
**Norio Tanaka**, Saitama University
**Sung-Uk Choi**, Yonsei University
**Jin-Hwan Hwang**, Seoul National University
**Eun-Sung Chung**, Seoul National University of Science and Technology
**Tae-Woong Kim**, Hanyang University
**Joseph Hun-Wei Lee**, Macau University of Science and Technology
**Chun Kiat Chang**, River Engineering and Urban Drainage Research Centre (REDAC), Universiti Sains Malaysia
**Gerald Augusto Corzo**, IHE Delft Institute for Water Education
**Ellis Penning**, Deltares
**Bas Jonkman**, TU Delft
**Asaad Shamseldin**, University of Auckland
**Mark Davidson**, University of Canterbury
**José Maria Santos**, University of Lisbon
**Pilar García-Navarro**, Universidad de Zaragoza, Q5018001G
**Francisco Martínez-Capel**, Universitat Politècnica de València
**Anton J. Schleiss**, Ecole Polytechnique Fédérale de Lausanne (EPFL)
**Volker Weitbrecht**, ETH Zürich
**Christina Tsai**, National Taiwan University
**Howard Hao-Che Ho**, National Taiwan University
**Chia-Ren Chu**, National Central University
**Dong-Jiing Doong**, National Cheng Kung University
**Shih-Chun Hsiao**, National Cheng Kung University
**Kim Irvine**, Thammasat University
**Roger Falconer**, Cardiff University
**Thorsten Stoesser**, University College London
**Vladimir Nikora**, University of Aberdeen
**Dubravka Pokrajac**, University of Aberdeen
**Jaan Pu**, University of Bradford
**Fabian Bombardelli**, University of California, Davis
**Harindra Joseph Fernando**, University of Notre Dame
**Gary Parker**, University of Illinois Urbana-Champaign
**Heidi M. Nepf**, Massachusetts Institute of Technology
**George Constantinescu**, IIHR - Hydroscience & Engineering, The University of Iowa
**Panayiotis (Panos) Diplas**, Lehigh University
**Gregory Pasternack**, University of California, Davis
**Oliver Fringer**, Stanford University
**Zhenhua Huang**, University of Hawai'i at Mānoa
**Robert Ettema**, Colorado State University
**Thi Thanh Nga Pham**, Vietnam Institute of Meteorology, Hydrology, and Climate Change (IMHEN)

### Reviewers

**Benjamin Dewals**, University of Liege
**Pieter Rauwoens**, KU Leuven
**Eduardo Yassuda**, Tetra Tech South America
**Carlos Galvao**, Federal University of Campina Grande
**Van-Thanh-Van Nguyen**, McGill University
**Sylvie Spraakman**, City of Vancouver
**Ahmad Shakibaeinia**, Polytechnique Montréal
**Shooka Karimpour**, York University
**Ioan Nistor**, University of Ottawa
**Hossein Bonakdari**, University of Ottawa
**José Adriasola-Velasco**, Bechtel
**Lu Wang**, Sichuan University
**Qian Yu**, China Institute of Water Resources and Hydropower Research
**Gensheng Zhao**, Nanjing Hydraulic Research Institute
**Dawei Guan**, Hohai University
**Juan Pablo Rodríguez Sánchez**, Universidad de los Andes
**Gordon Gilja**, University of Zagreb
**Pavel Rudolf**, Brno University of Technology
**Jeffrey A. Tuhtan**, Tallinn University of Technology
**Florian Cordier**, EDF R&D LNHE
**Kamal El Kadi Abderrezzak**, EDF R&D LNHE
**Damien Violeau**, EDF R&D LNHE
**Jerome Le Coz**, National Research Institute for Agriculture, Food and Environment (INRAE)
**Katinka Koll**, Technical University of Braunschweig
**Ali Pourzangbar**, Karlsruhe Institute of Technology
**Andreas Kron**, Karlsruhe Institut of Technology
**Mario Franca**, Karlsruhe Institute of Technology
**Stefan Haun**, University of Stuttgart
**Eva Fenrich**, SystainAbility
**Manousos Valyrakis**, Aristotle University Of Thessaloniki
**Muhammad Waqar**, The Hong Kong University of Science and Technology
**Moez LOUATI**, The Hong Kong University of Science and Technology
**Nicola Paccanelli**, Ove Arup
**Ravindra Vitthal Kale**, National Institute of Hydrology Roorkee
**Zulfequar Ahmad**, IIT Roorkee
**Andrea Sulis**, University of Sassari
**Caterina Capponi**, University of Perugia
**Bruno Brunone**, University of Perugia
**Gabriele Freni**, Kore University of Enna
**Orazio Giustolisi**, Polytechnic University of Bari
**Michele Mossa**, Polytechnic University of Bari
**Cristiana Di Cristo**, University of Naples Federico II
**Nadia Penna**, Università della Calabria
**Gioele Ruffini**, Sapienza University of Rome
**Angelo Leopardi**, University of Cassino and Southern Lazio
**Alessio Radice**, Politecnico di Milano
**Kenichiro Kobayashi**, Saitama University
**Satoru Oishi**, Kobe University
**Daisuke Nohara**, Kajima Technical Research Institute
**Dalila Loudyi**, Hassan II University of Casablanca
**Yorick Broekema**, Deltares
**David Ferras**, IHE Delft
**Arthur Mynett**, IHE Delft and Delft University of Technology
**Franz Tscheikner-Gratl**, Norwegian University of Science and Technology
**Tomasz Dysarz**, Poznan University of Life Sciences
**Joanna Wicher-Dysarz**, Poznan University of Life Sciences
**Michael Nones**, Institute of Geophysics, Polish Academy of Sciences
**Tiago Ferradosa**, University of Porto
**F. Carvalho Rita**, University of Coimbra
**Anton Bergant**, Litostroj Power
**John Okedi**, University of Cape Town
**José M. Carrillo**, Universidad Politécnica de Cartagena
**P. Amparo López-Jiménez**, Universitat Politècnica de València
**Modesto Pérez-Sánchez**, Universitat Politècnica de València
**Natalia Garcia Estevez**, ACCIONA Ingenieria
**Ismail Albayrak**, ETH Zurich
**Schalko Isabella**, Swiss Federal Research Institute WSL
**Zhihua Xie**, Cardiff University
**Iacopo Carnacina**, Liverpool John Moores University
**Daniel Valero**, Imperial College London
**Valentin Heller**, University of Nottingham
**Reza Ahmadian**, Cardiff University
**Jennifer G Duan**, University of Arizona
**Marian Muste**, University of Iowa
**Ibrahim Demir**, University of Iowa
**Constantinescu George**, University of Iowa
**Ramesh Teegavarapu**, Florida Atlantic University
**Binbin Wang**, University of Missouri
**Yifan Zheng**, Bechtel Corporation
**David Wegner**, Woolpert Engineering
**Xiaofeng Liu**, Pennsylvania State University
**Arturo Leon**, Florida International University

# Call for Abstracts Submission

Key dates
**1 July 2024 – Abstract Submission Opens**
**30 September 2024 – Abstract Submission Closes**
**Beginning of January 2025 – Notification to Authors**
**1 January 2025 – Full Paper Submission Opens**
**28 February 2025 – Full Paper Submission Closes**

IAHR and the Congress Organising Group invite you to take part in the 41st IAHR World Congress from 22 to 27 June 2025. Themed "Innovative Water Engineering for Sustainable Development", the congress will focus on the importance of innovative water engineering towards meeting the Sustainable Development Goals (SDGs) and targets related to water resources. By placing a spotlight on innovative water engineering, the event aims to contribute to the advancement of these SDGs in both rural and urban environments, towards a resilient society for the well-being of current and future generations.

The Congress shall be organized around two main themes: Water Engineering and Technological Innovations and Water Engineering and Socio-Economic Considerations, together with the relevant subthemes. We are pleased to announce that the online extended abstract submission process opens on 1st of July 2024. All extended abstracts will be peer-reviewed, and the Congress International Scientific Committee (ISC) will inform contributors if their abstract has been selected by the beginning of January 2025. Authors who would like to write a full paper for proceedings (not necessary for participating at the conference if not wished by the author) will then have an 8-week period to submit their full paper, after which they will be reviewed for final acceptance. For the full list of congress topics, visit: https://2025.iahr.org/Home/Themes

The 41st IAHR World Congress organizers look forward to your contributions and meeting you all in June 2025 in Singapore.

**For more information on abstract submission, visit: https://2025.iahr.org/**

Organisers:

IAHR AIRH International Association for Hydro-Environment Engineering and Research
Hosted by Spain Water and IWHR, China

PUB SINGAPORE'S NATIONAL WATER AGENCY

NUS National University of Singapore

NANYANG TECHNOLOGICAL UNIVERSITY

Version 1.0, as of June 2024. This brochure is printed on environmentally friendly paper.