



41ST IAHR WORLD CONGRESS SINGAPORE

Hosted by
Spain Water
and IWHR, China



22 – 27 JUNE 2025

INNOVATIVE WATER ENGINEERING
FOR SUSTAINABLE DEVELOPMENT



Call for Papers is Now Open!

Message from the International Scientific Committee Co-Chair



Adrian Law
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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 adaptations, 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 41st 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 41st IAHR World Congress 2025 in Singapore 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



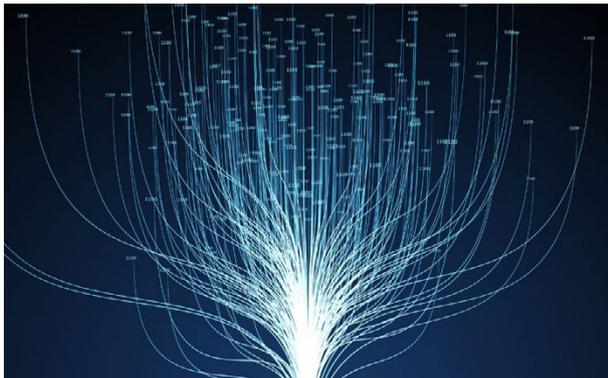
A.3 Water Engineering and Society

- 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 International Scientific Committee shall be jointly co-chaired by IAHR and Singapore.

Representatives include:

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Call for Abstracts Submission

Key dates & deadlines

2024

1 August – Abstract Submission Opens
31 October – Abstract Submission Closes

2025

15 January – Notification to Authors
15 February – Acceptance by Authors
15 March – Full Paper Submission Deadline
31 March – Deadline for Author Registration

IAHR and the Congress Organising Group invite you to take part in the 41st IAHR World Congress in Singapore 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 is now open. All extended abstracts will be peer-reviewed, and the Congress’ International Scientific Committee (ISC) will inform contributors if their abstract has been selected by 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.

Access the full list of sub-topics under each theme, abstract template and submission process, visit: <https://2025.iahr.org/Home/Submissions>



Organisers:

