



International Association
for Hydro-Environment
Engineering and Research

Hosted by
Spain Water and IWHR, China



IAHR / IWA Joint Specialist Group on Marine Outfall Systems NEWSLETTER

Welcome

On behalf of the Joint Specialist Group on Marine Outfall Systems, welcome to our first newsletter of 2023.

While the world has seen many changes and faced many challenges in the last few years, the need to safely dispose of wastewater has anything but diminished. Effective sanitation and the conservation of our oceans, rivers and marine resources remain paramount and form two of the key United Nations Sustainable Development Goals.

Despite recent challenges, work has continued internationally to advance the science and technology of all aspects of wastewater discharges from outfalls. Many new outfall systems have also been built or are currently in development making 2023 an exciting year for all practitioners in this field.

So, whether your interest lies in design, construction, diffuser hydraulics, environmental impacts, or outfalls as a whole, we hope you find the content of interest and it encourages you to get involved.

We would also like to take this opportunity to introduce you to the new leadership team which has recently been invigorated by new members from Canada, China and New Zealand.

Please click on the following links to find further information and details on how to get involved. [IWA link](#) [IAHR link](#)

Kind regards,

Majid Mohammadian (Chair) and Ed Beling (Vice-Chair)

Upcoming events

ISOS 2023 - 4th International Symposium on Outfall Systems Buenos Aires, Argentina, 27-29 March 2023

Experts in water resources, sanitation, hydraulics, water management, oceanography, biology, coastal and environmental engineering are invited to gather in Buenos Aires to exchange knowledge, discuss technologies, design and management issues, as well as a range of other aspects related to effluent discharges into coastal waters, rivers, and estuaries.



To be held in the [El Palacio de las Aguas Corrientes](#), Buenos Aires

For further information and to register please go to <https://www.cofes.org.ar/isos2023/>

40th IAHR World Congress: Rivers – Connecting Mountains and Coasts Vienna, Austria, 21-25 August 2023

Under the overall theme Rivers - connecting mountains and coasts, the 40th IAHR World Congress will focus attention on the importance of an integrated and intelligent approach to the management of the full water cycle to address the global challenges faced by people and the environment.

From Snow to Sea highlights IAHR's commitment to the critical role that sound understanding of the water cycle plays in achieving the Sustainable Development Goals (SDGs), not the least of which is the connection between the ocean goal (SDG 14) and the water goal (SDG 6) in addressing land-based activities affecting the sea.

For further information and to register please go to <https://rivers.boku.ac.at/iahr/>

New publication on the numerical simulation of effluent discharges

Numerical Simulation of Effluent Discharges: Applications with OpenFOAM

This new IAHR book provides a valuable resource for understanding the effluent discharge mechanisms and the approaches for modelling them. It bridges the gap between academia and industry by a focused approach in CFD modelling and providing practical examples and applications. With a detailed discussion on performing numerical modelling of effluent discharges in various ambient waters and with different discharge configurations, the book covers the application of OpenFOAM in effluent discharge modelling.

Features:

- Covers the fundamentals in predicting the mixing characteristics of effluents resulting from desalination plants.
- Reviews the past CFD studies on the effluent discharge modelling thoroughly.
- Provides guidance on the future steps in modelling of effluent discharges.

The book will benefit both academics and professional engineers practicing in the area of environmental fluid mechanics and working on effluent discharge modelling.

The book is available on the IAHR website: <https://www.iahr.org/index/detail/845>

Spotlight on the new large diameter outfalls servicing Buenos Aires

The Riachuelo System

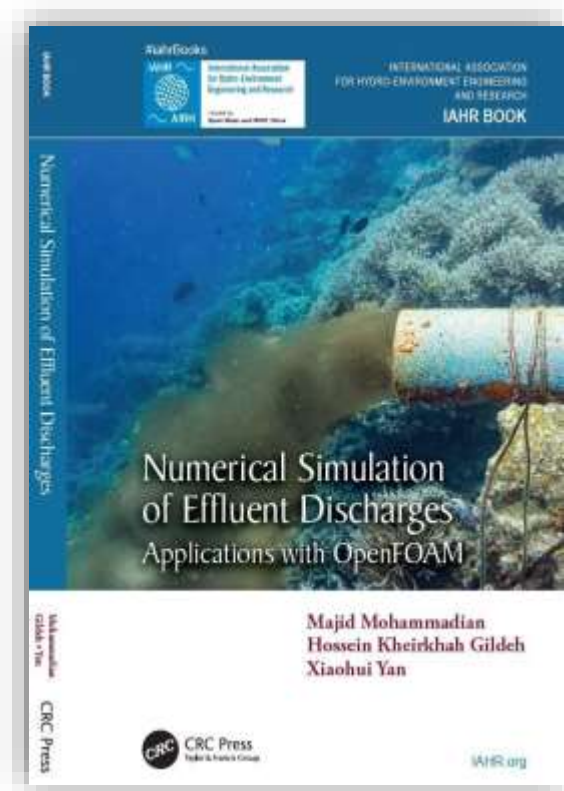
This major infrastructure project will increase the transport capacity of sewerage in the metropolitan area of Buenos Aires, improving the quality of the service to more than 4.3 million people and preventing contamination of Argentina's Riachuelo River from effluent.

The project includes a 12 km underwater pipeline of 4.3 m diameter constructed using a tunnel boring machine.

Along the last 1.5 km, 34 diffusers will be constructed to aid dilution of the wastewater within the De la Plata River, thus ensuring compliance with the current regulations relating to river environmental quality.

An innovative technology system will be used for the mounting of diffusers, the 63 cm diameter and 28 m length steel pipes will be pushed from inside the tunnel until they outcrop over the river bed. Installation of 6-port rosettes will then enable adequate dilution in the river.

For further information please go to <https://www.isos2023.com.ar/el-sistema-riachuelo/>



Other news

Dr Phil Roberts wins Hunter Rouse Hydraulic Engineering award of ASCE

The American Society of Civil Engineers (ASCE) has honoured Dr Philip J.W. Roberts, Ph.D., P.E., F.ASCE, with the 2022 Hunter Rouse Hydraulic Engineering Award for excellence in hydraulics. The award was presented in acknowledgement of Phil's long-standing commitment to engineering aspects of ocean outfalls and water intakes.

“Dr Roberts has made exceptionally significant contributions to modern hydraulic engineering through over 44 years of teaching and research. He obtained his doctoral degree from California Institute of Technology, and started a faculty position in Georgia Tech in 1978. His research focuses on environmental fluid mechanics and hydraulic engineering, especially in marine outfall design. He played a major role in ASCE Manual 97, Hydraulic Modeling: Concepts and Practice (2000)”.

“Throughout his career, Dr Roberts has conducted intensive laboratory experimental investigation of turbulent mixing, ocean outfalls, analysis of complex field studies, and mathematical modelling of turbulent dispersion and transport. His innovative research on diffuser mixing process won ASCE's Collingwood Prize in 1980. He was one of the only two Distinguished Scholars in NOAA's Oceans and Human Health Initiative, in which he conducted research on the hydrodynamics of pathogen transport in coastal waters. He was also the UPS Foundation Visiting Professor at Stanford University from 1993 to 1994. EPA has adopted Dr. Roberts' mathematical models and methods for marine outfall design”.

On behalf of the committee, we would like to congratulate Phil on this well-deserved achievement.

How to get involved

Please contact Majid Mohammadian (amohamma@uottawa.ca), Ed Beling (edbeling@intrawater.com) or your local committee member if you would like further information.