Special Issue

Advances in Open-Channel Flow Hydrodynamics

Message from the Guest Editors

Open-channel flows continuously interact with natural and man-made structures—vegetation, grade controls, piers, and culverts, among others—shaping turbulence, sediment transport, and morphodynamics. This Special Issue aims to compile cutting-edge research on these fluid–structure interactions, emphasizing both fundamental insights and practical applications for river restoration, flood control, and sustainable infrastructure design. We welcome contributions that employ experimental, numerical, or field approaches, covering topics including, but not limited to, the following:

- Turbulence and coherent structures in natural and engineered channels.
- Flow–vegetation interaction and bio-hydraulic feedbacks.
- Local scouring and sediment transport around hydraulic structures.
- Hydraulic jump dynamics and flow transitions.
- Boundary layer and wall effects in open channels.
- Turbulent jets in cross-flows and submerged outlets.
- Solitary waves and tidal bores in riverine and coastal environments.
- Remote sensing and nonintrusive measurement techniques.
- Data-driven and machine learning models for flow prediction.
- Adaptive control strategies for flood and sediment management.

Guest Editors

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

Editor-in-Chief

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