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# Sustainable Hydraulic Structures: Design, Monitoring, and Management

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**closed (20 June 2023)**

## Message from the Guest Editors

Today's hydraulic engineers must embrace several new challenges and environmental requirements, emerging in response to the quickly growing world population, climate change, conservation of the landscape aquatic ecosystems, evolving agriculture, and growing industrial needs. This SI aims to bring original studies and comprehensive review regarding the eco-friendly design concepts, type of construction materials used for the construction, and best practices regarding monitoring and management of hydraulic structures. In particular, the following topics are of high interest for this SI:

- Dams;
- Spillways;
- Weirs;
- Upstream and downstream fish passage at dams and Run-of-River hydropower plants;
- Upstream and downstream fish passage at road culverts;
- Drainage systems;
- Stormwater convey systems;
- Flood control structures;
- Self-aeration at hydraulic structures;
- Transient turbulence in canals and conveyance structures;
- Life cycle environmental and economic impact of construction materials for hydraulic structures;
- Monitoring of hydraulic structures;
- Management of hydraulic structures.

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## Editor-in-Chief

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## Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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