Special Issue

Numerical and Data-Driven Modelling in Coastal, Hydrological and Hydraulic Engineering

Message from the Guest Editor

The rational management of a city and its infrastructure in response to increased pollution, climate change, natural and other disasters, for daily operation and emergency response, is becoming critical to enhance livability for citizens. Creating healthy, sustainable urban environments necessitates advanced numerical tools for optimal design and management processes. As is well known, numerical models are often hindered by difficulties fully capturing the relevant physics, particularly at sub-grid scales; difficulties in capturing the variability of physical properties at the scale of the grid; and uncertainty in the measurements used to calibrate and initialize the models. These manifest as unacceptably long computational times and uncertainty in predictions. This special issue aims at exploring advanced numerical techniques for real-time prediction and optimal management in coastal and hydraulic engineering, for example (but not limited to):

- uncertainty quantification
- sensitivity analysis
- adaptive meshes
- error quantification
- data assimilation
- adaptive observations
- data-driven modelling based on machine learning
- reduced order modelling

Guest Editor

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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

Dr. Jean-Luc PROBST
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