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Hydrodynamics in Pumping and Hydropower Systems

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Message from the Guest Editors

Pumping and hydropower systems are important pieces of equipment in the area of engineering, energy, water resources, and the chemical industry. Modeling complex flows is a major challenge in understanding the mechanism of liquid transport and energy conversion. The design, operation, and maintenance of pumping and hydropower systems are based on the calculation and analysis of the hydraulic transient. The scientific outcomes can help support engineers and decision makers in evaluating the energy performance and in implementing measures aiming to increase the operating efficiency and reliability. The research achievements provide a basis and guidance for the safe, stable, and efficient operation of pumping and hydropower systems.

The aim of this Special Issue is to provide an overview of these new challenges arising from a wide range of pumping and hydropower systems, including the design method, optimization, numerical simulation, turbulence modelling, etc. The topics will concern new findings and developments for a phenomenon mechanism analysis and/or engineering design guidance through a numerical simulation or experiments for pumping and hydropower systems.



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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.

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