Special Issue

AI, Machine Learning and Digital Twin Applications in Water

Message from the Guest Editor

The application and integration of Artificial Intelligence (AI), Machine Learning (ML) tools, and Digital Twin (DT) technologies are revolutionizing the wide and complex field of sustainable water resource management. The collection of remote data via UAVs is also able to address various real-world issues, and the prediction and minimization of the impact of tsunamis on surface and subsurface water bodies through AI and ML. The virtual representation of different components of the water resource system and their integration utilizing smart sensors and automated controls within a Digital Twin (DT) framework also represent advancements in the application of remote sensing, smart sensors, IOT and feedback information. Ensembles of ML-based surrogate models, which are particularly useful in linked simulation and optimization-based decision models.

The development and utilization of innovative digital platforms that incorporate these tools and technologies for different spatial and temporal scales is rapidly gaining momentum. This Special Issue is dedicated to the field of water resource management, including the management of surface and subsurface water, and quantity and quality.

Guest Editor

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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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