Special Issue

Mathematical Modeling and Simulations of Wastewater Treatment Processes

Message from the Guest Editors

The IWA-family Activated Sludge Models have been the most significant contribution in the field of modeling biological processes in municipal wastewater treatment plants (WWTPs) over the past 35 years. The uniform structure of these models has constituted a convenient base for further development of model concepts for not only the activated sludge process but also biofilm and hybrid systems, and anaerobic digestion processes.

Model applications can generally be classified under four categories—process optimization and upgrade of existing plants, design of new facilities, and development of new treatment concepts. In recent years, new developments have also been proposed to standardize the organization of simulation studies and reduce the uncertainty of wastewater treatment design and analysis based on simulations with well-calibrated models. Resource recovery and energy efficiency are the latest trends in wastewater treatment.

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Deadline for manuscript submissions

closed (31 August 2021)

Water

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0

mdpi.com/si/47537

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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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