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Mathematical Modeling and Simulations of Wastewater Treatment Processes

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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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Special issue



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Message from the Editor-in-Chief

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