Special Issue

Advances in the Application of Molecular Biology to Biological Water Treatment Processes

Message from the Guest Editors

This Special Issue seeks to highlight the strengths, challenges, and opportunities we face when we apply biological molecular tools to elucidate the processes occurring during the water and wastewater treatment. Culture-independent methods and the application of -omics for the microbial identification provided innovative vision about the metabolic, biochemical, and genetic aspects within bioprocesses for pollutant degradation, the operational features of biological water treatment are driven by the optimal conditions for the growth of target microorganisms or microbial consortia able to carry out specific metabolic pathways and enzyme production, among others. Given the novelty of topics, further efforts must be invested to cover the lack of knowledge about the microbial patterns and their functionalities. Therefore, the topics include but not limited to:

- Metagenomics analysis of bioprocesses;
- Metatranscriptomic exploration in biological applications;
- Unraveling metabolomics for biomonitoring;
- Antibiotic-resistant bacteria in water and water treatment;
- Virome characterization.

Guest Editors

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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

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