



water

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Challenges and Opportunities in Wastewater Reuse

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Message from the Guest Editors

Nowadays, it is becoming increasingly clear that urban treated wastewater, whose reuse has become an important component of long-term water resources management worldwide, is a key source of both chemical and biological contaminants of emerging concern (CECs). Current water quality guidelines for reclaimed wastewater predominantly address risks associated with the presence of microbial organisms and chemical parameters, such as Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), *E. coli*, and worms, and in some cases heavy metals, which, however are insufficient for complete risk assessment. Current open challenges related to CECs include (i) their transformation when present in urban wastewater treatment plants and in environmental matrices (soil, groundwater, and surface water), (ii) their accumulation in soil and uptake by plants components, (iii) their biological potency for environmental effects to non-target organisms, (iv) the evolution and spread of antibiotic resistance determinants, and (v) the development and application of sustainable technologies that are able to remove or minimize such microcontaminants in wastewater.



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Special Issue



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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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