

Special Issue

Biotechnologies for Wastewater Treatment and Environmental Remediation

Message from the Guest Editor

The Special Issue explores innovative and sustainable biotechnological approaches to address the growing challenges of water pollution and environmental degradation. With increasing industrialization and urbanization, the demand for effective and eco-friendly treatment technologies has become more critical than ever. This Issue highlights recent advances in microbial processes, enzymatic treatments, biofilm technologies, and genetically engineered organisms for the efficient removal of contaminants such as heavy metals, nutrients, emerging pollutants, and organic compounds from wastewater.

Key topics include the application of microbial consortia in bioreactors, the use of biosorbents and biochar, and advancements in phytoremediation and constructed wetlands. The Issue also delves into the integration of omics technologies and systems biology to optimize biodegradation pathways and enhance treatment performance. Emphasis is placed on the circular economy and resource recovery, showcasing how biotechnology not only remediates but also recycles wastewater by generating valuable byproducts such as bioenergy, bioplastics, and nutrients.

Guest Editor

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Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

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