

Special Issue

Advances in Catalytic Reaction for Wastewater Treatment

Message from the Guest Editors

This Special Issue aims to encompass advanced catalytic approaches for heavy metal removal via adsorption-coupled redox processes, electrochemical oxidation/reduction systems for persistent contaminant degradation, and environmentally benign catalysts designed for selective pollutant targeting. Particular emphasis will be placed on photocatalysis utilizing tailored nanomaterials for the solar-driven degradation of emerging organic pollutants, as well as hybrid systems combining membrane separation with catalytic functionalities. We encourage the submission of studies on bioelectrochemical technologies that leverage microbial-catalytic interfaces for energy-efficient treatment, alongside investigations into catalyst stability, regeneration protocols, and lifecycle assessments. Submissions addressing mechanistic insights into interfacial reaction dynamics, catalyst design principles (e.g., defect engineering, surface functionalization), and field-scale implementation challenges are particularly welcome.

Guest Editors

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Deadline for manuscript submissions

closed (31 December 2025)



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