Special Issue

Catalytic Materials and Processes for Water Pollution Control

Message from the Guest Editors

This Special Issue is dedicated to presenting cutting-edge advances in catalytic materials and processes for water pollution control, including (1) design of high-performance catalytic materials (e.g., functionalized nanomaterials, single-atom catalysts, carbon-based materials, defect-engineered oxides, and hybrid materials) for enhanced decontamination; (2) development of efficient catalytic processes (e.g., Fenton and Fenton-like reactions, activated persulfate oxidation, mediated permanganate oxidation, reductive dehalogenation, photocatalysis, and electrocatalysis); (3) mechanistic insights into reactive species formation, reaction pathways, and interfacial catalytic chemistry; (4) performance evaluation of the broad-spectrum efficacy and practical applicability of catalytic technologies in complex water matrices. We welcome original research and reviews bridging material science, reaction engineering, and environmental chemistry, contributing to knowledge at the forefront of catalytic water purification.

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