Special Issue

Recent Advances in Catalytic Materials for Water and Air Treatment

Message from the Guest Editors

The growing global demand for clean water and fresh air has spurred extensive research into efficient catalytic materials, including metal oxides, perovskites, MOFs, COFs, and carbon-based catalysts for environmental remediation. Catalytic processes are vital for sustainable, energy-efficient degradation of pollutants such as volatile organic compounds (VOCs), nitrogen oxides (NOx), carbon monoxide (CO), and emerging contaminants. Recent progress in catalytic oxidation, photocatalysis, photothermal catalysis, and advanced oxidation processes (AOPs) has enhanced reaction rates, selectivity, and energy efficiency in water and air treatment technologies. This Special Issue, "Recent Advances in Catalytic Materials for Water and Air Treatment," invites high-quality research on novel catalyst design, reaction mechanisms, and performance optimization targeting the removal of organic/inorganic pollutants, greenhouse gases, and toxic emissions. Serving as a platform for transformative advances, this collection aims to accelerate the development of next-generation catalytic technologies for sustainable purification of water and air.

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