

Special Issue

State of the Art of Catalytic Oxidation/Reduction of Pollutants Removal

Message from the Guest Editors

Catalytic oxidation and reduction technologies stand at the forefront of advanced abatement strategies, offering the potential for high-efficiency, selective, and often energy-tunable destruction or transformation of pollutants into benign substances. Topics include, but are not limited to, the following:

- Design and synthesis of novel catalytic materials for environmental applications.
- Catalytic oxidation or reduction processes
- peroxymonosulfate/persulfate activation, photocatalytic/electrocatalytic degradation.
- Mechanistic investigations using in situ/operando characterization, theoretical calculations, and probe reactions to elucidate active sites and pathways.
- Catalytic processes for indoor air purification, industrial off-gas treatment, and vehicle emissions control.
- Catalytic remediation of contaminated soils or groundwater.
- Stability, deactivation resistance, regeneration strategies, and longevity of environmental catalysts.
- Integrated process design combining catalysis with adsorption, plasma, or biological treatment.
- Pilot-scale studies, reactor design, and techno-economic or lifecycle analysis for sustainable implementation.

Guest Editors

Dr. Feng Ju

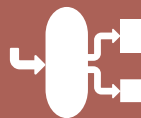
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