Special Issue

Photocatalysis and Electrocatalysis for Water Remediation

Message from the Guest Editors

Water pollution remains a pressing global issue, driven by persistent pollutants like pharmaceuticals, microplastics, perfluorinated compounds, and pesticides from industrial, agricultural, and domestic sources. Traditional biological treatments often fall short in removing these refractory contaminants. In contrast, photocatalysis and electrocatalysis generate highly oxidative radicals capable of efficiently degrading such pollutants, offering eco-friendly and sustainable water remediation alternatives. This Special Issue invites original research, reviews, and perspectives on recent advances in photocatalytic and electrocatalytic processes for water treatment. Topics include:
1) novel photocatalysts and electrocatalysts for pollutant degradation;
2) mechanistic insights into catalytic processes;
3) hybrid systems (e.g., photocatalysis-membrane, photo-electrolysis);
4) energy and environmental considerations;
5) scale-up for practical applications;
6) innovative reactor designs. We aim to provide an interdisciplinary platform to showcase the latest developments and future directions in catalytic water remediation. Contributions from both fundamental and applied research are welcome.

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Deadline for manuscript submissions

31 December 2025

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/243600

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