

Special Issue

Advanced Oxidation Processes for the Decontamination of Emerging Contaminants and Disinfection of Pathogenic Microorganisms

Message from the Guest Editor

Cost-effective and environment-friendly decontamination of emerging contaminants and disinfection of pathogenic microorganisms are major challenges in water treatment. In this regard, advanced oxidation processes (AOPs) have been considered a promising alternative because the highly reactive radicals such as hydroxyl, sulfate and organic radicals generated in AOPs can effectively degrade emerging contaminants and inactivation pathogenic microorganisms. Nevertheless, the practical application of AOPs is challenged by the interference of water matrix, formation of harmful byproducts, difficulty in scaling-up, etc. Both novel molecular mechanistic understanding and improved engineering design are needed to overcome the challenges and create effective transfer of academic research output and practical applications of AOPs. This special issue will focus on molecular studies on the mechanistic understanding, development, and implementation of AOPs for the emerging contaminants decontamination and pathogenic microorganisms disinfection in water treatment, including hydroxyl radical-, sulfate radical- and organic radical-based AOPs.

Guest Editor

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