Title: Future Trends in Photocatalysis for Environmental Applications

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Technological innovation in the treatment of contaminated liquid and gaseous streams is expected to be a key factor in securing a clean and sustainable environment. Innovative treatment concepts encompassing a small footprint and environmental impact has stimulated the scientific and industrial community.

This special thematic issue of Journal of Hazardous Materials collects scientific studies concerning novel materials, processes and concepts which have been applied to solve realistic environmental problems, including real environmental matrices, contaminated groundwater, surface water, wastewater and contaminated air. The elimination of residues of contaminants of emerging concern remaining in the effluents of conventional wastewater treatment processes is discussed in many studies in this special issue. Examples include: i) novel photocatalysts with high visible light activity for water depollution and CO₂ photoreduction; ii) catalytic nanosorbents (e.g. Metal Organic Frameworks-MOFs) for sorption and oxidation of contaminants; iii) strategies to operate iron based advanced oxidation/reduction reactions at mild pH; iv) water disinfection and removal of organic and inorganic contaminants, iv) novel designs and models of photocatalytic reactors, and v) sono- and photoelectrocatalytic systems for the removal of contaminants of emerging concern.

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