

Special Issue

Photocatalysts for Efficient Removal of Dyes from Industrial Effluents: Prospects and Challenges

Message from the Guest Editors

Photocatalysis is a promising green, clean and environmentally friendly technology with low energy consumption developed in recent years for the treatment of industrial wastewater. Organic dyes constitute one of the largest groups of wastewater pollutants. The synergistic effects of adsorption and visible light catalysis significantly enhance the removal of dyes. This Special Issue will focus on photocatalysts for the efficient removal of dyes from industrial effluents. The perspectives and challenges generated by various photocatalytic materials, dyes and mechanisms of degradation processes will be evaluated. Thus, the synergic effect of dye adsorption on the efficiency of various high-surface-area photocatalysts such as semiconductors, supported metals/oxides, composites and carbonaceous and hybrid mesoporous materials will be evidenced. The properties of the polluting dyes from industrial effluents and their degradation mechanisms in conditions of various photocatalysts and light irradiations along with the future prospects of highly adsorptive photocatalytic materials and their application in the photocatalytic removal of dyes from wastewater will be evidenced as well.

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