Special Issue

Advanced Design and Synthesis of Novel Photocatalyst Materials for Wastewater Remediation

Message from the Guest Editor

Advanced oxidation processes are widely used to degrade organic pollutants in wastewater. In this regard, photocatalysis is a green, low-cost, and efficient technology for wastewater remediation. Petrochemicals, organic dyes, pharmaceuticals, endocrine disruptors, and various industrial additives are common organic pollutants in wastewater. Some of the common materials, such as metal oxides, chalcogenides, polyoxometalates, carbon quantum dots, graphene oxide, carbon nitride, MXene, bismuth oxybromide, and metal–organic frameworks, have been studied for photocatalytic processes in wastewater remediation. Developing novel nanomaterials, especially heterojunctions with improved photocatalytic efficiency, has been considered an emerging and active research topic. Potential topics of interest include, but are not limited to, the following:

- Design and synthesis of novel nanomaterials or composite materials;
- Studies and investigations of the effective parameters in the photodegradation of organic pollutants in wastewater;
- Experimental and theoretical studies regarding the photocatalytic mechanism;
- Photocatalytic process optimization and reuse of the photocatalysts.

Guest Editor

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Message from the Editor-in-Chief

In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

Editor-in-Chief

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