Special Issue

Nanomaterials for Photocatalytic Degradation of Organic Pollutants and Inactivation of Microorganisms

Message from the Guest Editor

Heterogeneous photocatalysis is highly appreciated for the removal of organic contaminants from gas and aqueous phases. Photocatalysis is an alternative or synergetic process for biological degradation. At present, the need to develop ecologically clean solar-induced chemical processes, such as photocatalysis, are limited by low quantum efficiencies. Special attention is focused on the design of semiconductor materials with specific morphologies and microstructures in order to enhance their ability to photodegrade persistent organic pollutants. In this regard, it is highly required to improve the performance of semiconductors by a suitable architecture which integrates the usually incompatible features of large specific surface area, high charge-carrier mobility, low electron-hole recombination rate. This Special Issue aims to report recent developments in the design and synthesis of highly functional nanostructured photocatalysts. Furthermore, research to understand the mechanisms of photocatalytic degradation of persistent organic pollutants and the processing–structure–property relationships is also of great interest to this Special Issue.

Guest Editor

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