Special Issue

Photocatalytic Activity of TiO₂ and Its Applications

Message from the Guest Editors

The increasing pollution due to a wide range of micropollutants, particularly in the aquatic ecosystem, has become a serious issue for its harmful effects on the environment and health. Currently, attention is focused on the use of photocatalysts for the degradation of pollutants by advanced oxidation processes (AOPs). Titanium dioxide (TiO2) is considered the most promising material for the photocatalytic degradation of organic and inorganic pollutants, being highly efficient, non-toxic, and stable under irradiation; therefore, it has been intensively investigated for environmental applications. The aim of this Special Issue is to present recent progress on the synthesis (with particular interest on metal- and non-metal-doped TiO2 and noble metal-modified TiO2), characterization, and photocatalytic properties of TiO2-based nanostructures. We invite authors to contribute with research papers, reviews, or communications, with special emphasis on visible-light photocatalysis, plasmonic photocatalysis, photodegradation of pharmaceuticals and other emerging contaminants in water, self-cleaning treatments, and conservation of Cultural Heritage.

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