Special Issue

Structure, Synthesis, and Applications of TiO_2-Based Materials

Message from the Guest Editors

An exponential growth of research activities focused on TiO2-based materials has been seen in the past decades. In fact, some reviews highlight TiO2 as the most studied transition-metal oxide and one of the most investigated compounds in materials science. Over the last years, continuing breakthroughs in the synthetic protocols and development of TiO2-based materials have brought new findings on the synthesis of novel structures with controlled size/shape and electronic, optical, morphologic properties. TiO2-based materials have been used traditionally for catalysis/photocatalytic and photovoltaic applications. In this sense, this Special Issue aims to compile relevant contributions presenting recent advances in photocatalytic/photovoltaic application studies, kinetics and mechanism analysis, selectivity and stability analysis as well as light–matter interaction using TiO2-based materials. In addition, TiO2-based materials have shown remarkable results in others fields including sensing, electrochromic as well as hydrogen storage among others, all of which can be also featured in this collection.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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