Special Issue

Structure, Synthesis and Applications of TiO2-Based Nanomaterials

Message from the Guest Editor

Functional titanium dioxide-based nanomaterials and nanocomposites are the subject of renewed contemporary interest towards diverse applications in the fields of energy materials, environmental remediation, and chemical engineering. Progress towards the implementation of TiO2 encompasses five main areas: (1) The synthesis of TiO2 nanostructures such as nanotubes, nanoflowers, nanospheres, and mesocrystals; (2) The fabrication of multi-scale heterostructures; (3) Functionalization with secondary phases including metal/metal oxide nanoparticles, graphene and carbon nanotubes; (4) The modification of TiO2 lattices through cation and anion substitution and doping, and (5) design and fabrication of functional titania based systems towards specific applications. For this Special Issue, we invite contributions from researchers working on applied TiO2 materials across diverse fields.

Guest Editor

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

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