

Special Issue

Metal Oxides for Photovoltaic and Photocatalytic Applications

Message from the Guest Editor

It is known that the growth and progress of modern human societies require smart environmental friendly solutions for energy harvesting and energy consumption. The duet Photovoltaics - Photocatalysis employing semiconductor metal oxides seems to be amongst the most reasonable sustainable solutions. Electrical charges are in both cases generated after interaction of light with the semiconductor material; the wide bandgaps of metal oxides hinders the spontaneous charge recombination process that tends to occur immediately afterwards. In photovoltaics the produced charges are employed in the production of electrical energy while in photocatalysis these charges are used in chemical oxidation reactions occurring on the surface of the materials. Tunability and efficiency of both processes still face challenges and are therefore very active ongoing research.

This issue is meant to create an open space for debate and exchange and therefore invites the whole community of academic and industrial researchers involved in both fundamental studies and applied solutions to share recent findings, views, and expectations in this challenging field of research and technology.

Guest Editor

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Deadline for manuscript submissions

closed (20 November 2023)



Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



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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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