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Advanced Nanomaterials for Energy, Environmental and Biological Applications

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DESCRIPTION

Nanoscience and nanotechnology are interdisciplinary fields that include physics, chemistry, materials science, and engineers to address the forthcoming challenges to be faced by the people such as in the search of renewable energies for sustainable development, and new carbon capture and environmental protection technologies. Nanomaterials are one of the hottest topics in nanoscience and nanotechnology right now, and they're gaining a lot of attention. They continue to demonstrate promising potential and have found use in the applications of solar cells, fuel cells, secondary batteries, supercapacitors, air and water purification, and the removal of indoor and outdoor air pollutants. The convergence of analytical techniques and nanotechnology allows for the development of miniaturized, rapid, ultrasensitive, and low-cost methods for in-situ and field-based environmental monitoring. To create various catalytic and affinity biosensors, biological elements can be attached to the nanomaterial surfaces. In these aspects, the special issue will cover a broad range of subjects from nanomaterial synthesis and characterization to energy-related demonstration and relevant technologies and devices. Hence, this special issue is focused on the most important and widely used advanced nanomaterials (i.e. carbon nanotubes, nanofibers and nanowires, metal/metal oxide nanoparticles, nanocomposite, quantum dots, nanoporous adsorbents, and dendrimers), their integration in functional analytical devices, the advantages from the outcome of the results s and limitations of these materials aiming at the fabrication of nanostructured materials and their energy environmental and biological applications.

KEYWORDS

- synthesis characterization of nanostructured materials
- catalysis processes and applications; photochemistry; photocatalytic activity
- nanomaterial for energy applications like solar cells, Li-ion batteries and optoelectronic devices
- nanocomposite, hybrid; nanocrystal, nanoparticles; nano-safety, nanomedicine
- nanofabrication, and characterizations; nanotribology, nanoreactors

Submission deadline: 31.08.2023

HOW TO SUBMIT

The authors are kindly invited to register at our paper processing system and submit their contribution (both original papers or reviews are welcome) using a special track established for this topical issue: Section/Category – "Special Issue on Advanced Nanomaterials for Energy, Environmental and Biological Applications". All manuscripts will undergo the standard peer-review process (single-blind, at least two independent reviewers) and will be treated in the same way as other regular articles (indexing, abstracting, immediate publication, etc.). Instructions for authors are available here.

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