Special Issue

Functional 2D Nanomaterials for Photoelectrochemical Applications

Message from the Guest Editor

Two-dimensional (2D) materials have generated extensive research into their unique functional, electrical, and mechanical properties. This Special Issue is intended to compile research articles, reviews, and communications covering topics related to the development of 2D materials and their nanocomposites for various electrochemical and photoelectrochemical applications. Research areas may include (but not limited to) the following:

- Development of 2D photoelectrocatalytic materials
- Photoelectrochemical applications of 2D nanomaterials
- Photoelectrochemical sensors and biosensors
- Electrochemical and Photoelectrochemical water splitting
- Photovoltaic cells
- Perovskite solar cells (PSCs) and Dye-sensitized solar cells (DSSCs)
- Photoelectrochemical reduction of CO2, N2, and CO
- Photoelectrochemical deactivation of pathogens
- Photoelectrochemical oxidation organic and inorganic toxic compounds
- Photoelectrochemical capacitive deionization
- All photoelectrochemical related chemical reactions and applications.

Guest Editor

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Deadline for manuscript submissions

closed (20 November 2023)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/167352

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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

Prof. Dr. Eugenia Valsami-Jones
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