Special Issue

Photoelectric Nanomaterials for Biochemical Sensing, Photon Detection, and Energy Conversion Applications

Message from the Guest Editors

In recent decades, although significant progress has been made in the development of photoelectric devices for a variety of applications, the understanding and optimization design of high-performance photoelectric devices still requires improvement in various specific applications. Recently, the emerging use of nanostructures/nanomaterials in newly developed nanotechnology has provided opportunities to significantly promote the performance of devices by enhancing the efficiencies of optical absorption, carrier separation and transfer. On the other hand, numerous kinds of new materials and device configurations, such as perovskite materials, organic–inorganic heterojunctions, nanophotonics, and semiconductor-electrolyte junction, have been developed. The combination of nanostructures/nanomaterials and new (or traditional) materials and device configurations will surely lead to a much improved performance of photoelectric devices. Keywords:

- carrier transport
- photoelectric sensing
- photon detection
- solar energy conversion
- plasmonics
- nanomaterial growth
- Schottky junction
- photoelectrochemical responses
- solar cells

Guest Editors

Prof. Dr. Shaolong Wu

Prof. Dr. Long Wen

Dr. Xiaobo Hu

Deadline for manuscript submissions

closed (30 September 2023)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/142086

Nanomaterials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

mdpi.com/journal/nanomaterials

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/nanomaterials

MDPI

About the Journal

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
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering)