

Special Issue

Wide-Bandgap and Ultrawide-Bandgap Semiconductor Nanomaterials

Message from the Guest Editor

Wide-bandgap and ultrawide-bandgap (WB and UWB) semiconductor nanomaterials represent a class of materials that have gained attention due to the electronic properties and multifaceted applications. This Special Issue aims to explore breakthroughs including, but not limited to the following: Innovative methods and techniques for synthesizing WB and UWB semiconductor nanomaterials, including inorganic non-metallic materials, organic multi-iron materials, and organic–inorganic hybrids;

Advanced computational modeling and simulations to understand the electronic, optical, and structural properties of WB and UWB materials;

Performance characterization of experimental investigations of WB and UWB semiconductor nanomaterials, including their electrical, optical, thermal, and mechanical properties;

Diverse applications of WB and UWB materials, such as in biomedical applications, energy harvesting processes, optoelectronic devices, power electronics, and more;

Applications that committed to biological applications in various aspects of therapy, diagnostics, and imaging.

Guest Editor

Dr. Wenjun Liu

School of Microelectronics and the Zhangjiang Fudan International Innovation Center, Fudan University, Shanghai, China

Deadline for manuscript submissions

closed (23 May 2025)



Nanomaterials

an Open Access Journal
by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed



mdpi.com/si/199378

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

[mdpi.com/journal/
nanomaterials](https://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](https://mdpi.com/journal/nanomaterials)



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, CAPIus / SciFinder, Inspec, and other databases.

Journal Rank:

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