Special Issue

Optoelectronic Performance of Perovskites and Nanostructure Thin Films

Message from the Guest Editors

Low-dimensional nanomaterials possess unique properties, such as a high surface-to-volume ratio and tunable electronic and optical properties. These materials have dimensions at the nanometer or subnanometer scale, which are significantly smaller than their bulk counterparts. The atomic-scale size of these materials enables them to exhibit novel physical phenomena not found in their macroscopically larger counterparts. Perovskites and nanostructure thin films hold great promise for the development of photoelectric device applications due to their unique properties and potential for integration with conventional electronic components. Their tuneable electronic and optical properties make them highly attractive for use in nextgeneration optoelectronic device applications. Continued research and development of these materials will undoubtedly lead to the creation of more innovative and advanced optoelectronic devices in the future. The present Special Issue of Nanomaterials aims to present the current state of the art in the use of perovskites and nanostructure thin films for optoelectronic performance, including, but not limited to, solar cells, photodetectors, and LEDs.

Guest Editors

Dr. Giovanni Mannino

National Research Council, Institute for Microelectronics and Microsystems (CNR-IMM), Zona Industriale, Strada VIII no. 5, 95121 Catania, Italy

Prof. Dr. Hai Li

School of Flexible Electronics and Institute of Advanced Materials (IAM), Nanjing Tech University, Nanjing 211816, China

Deadline for manuscript submissions

closed (25 July 2025)



Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3 CiteScore 9.2 Indexed in PubMed



mdpi.com/si/224101

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



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 nanometerscale 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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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)

