Special Issue

Borophene and Boron-Based Nanomaterials

Message from the Guest Editors

Borophene, a two-dimensional (2D) material composed of boron atoms, has emerged as a focal point of extensive research due to its exceptional mechanical properties, surpassing even graphene in strength and flexibility. These attributes render borophene pivotal in the development of robust and resilient nanomaterials. In addition, its high electrical conductivity and anisotropic electronic characteristics present promising opportunities in advanced electronics and energy storage technologies. Moreover, its unique chemical reactivity offers potential applications in catalysis, particularly in hydrogen storage and fuel cells. The present Special Issue of *Nanomaterials* aims to showcase the latest advancements in borophene and boron-based compounds, highlighting their synthesis, properties, and multifaceted applications, including advances in both theoretical and experimental aspects. By presenting cutting-edge research from leading experts in the field, we hope to attract high-quality submissions that contribute to the high impact and significance of this journal, fostering further advancements and collaborations in this exciting area of research.

Guest Editors

Prof. Dr. Guoan Tai

College of Aerospace Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, China

Dr. Chuang Hou

Matsuhisa Laboratory, Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, Japan

Deadline for manuscript submissions

10 June 2026

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/213237

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

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. 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)

MDPI