Special Issue

Advances in Topological Materials: Fundamentals, Challenges and Outlook, Volume II

Message from the Guest Editor

The discovery of the time-reversal topological insulators in two and three dimensions has greatly inspired the study of topological properties of the electronic band structure of crystalline materials. Topological insulators are characterized by an energy gap in the bulk electronic band structure and metallic states on the boundaries. Closing of the band gap by the surface or edge states is caused by nontrivial topology of the bulk states, originating from an inversion in the order in the valence and conduction bands at time reversal invariant wave vectors in the Brillouin zone. In this Special Issue, we focus on topological nanomaterials, nanostructures, and nano-metamaterials. Research on the topological effects at the nanoscale not only leads to the observation of new phenomena, such as Majorana fermions in topological nanowires but is also primarily important for the application of topological materials and metamaterials in modern electronic, acoustic, and optical devices. This Special Issue aims to highlight the latest state-of-the-art studies on the topological effects in nanomaterials, nanostructures, and nano-metamaterials.

Guest Editor

Prof. Dr. Sławomir P. Łepkowski
Institute of High Pressure Physics,"Unipress", Polish Academy of Sciences, ul. Sokołowska 29/37, 01-142 Warszawa, Poland

Deadline for manuscript submissions

closed (20 January 2024)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/130100

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)