Special Issue

Development and Applications of Optoelectronic Nanocomposite Materials for Energy Conversion and Storage

Message from the Guest Editors

Due to the significant surface effects, small size effects, quantum size effects, and macro quantum tunneling effects, nanocomposites exhibit excellent properties in optical, mechanical, electrical, thermal, magnetic, and other aspects, making them very promising in energy conversion and storage technologies, including solar energy conversion, battery technology, supercapacitors, fuel cells, catalysis technology, and thermoelectric conversion. This Special Issue aims to present recent progress related to nanocomposites that provide improved performance, cost-effectiveness, stability, and durability, which can be effective and accessible to use clean and green energy sources. The interdisciplinary collaboration of research and technological innovation will overcome the current barriers and promote the widespread application and development of nanomaterials in energy conversion and storage.

Guest Editors

Dr. Shaohui Li

School of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450001, China

Dr. Xiaoman Bi

School of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450001, China

Deadline for manuscript submissions

closed (20 July 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/213860

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

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

MDPI

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)