Special Issue

Advanced Chalcogenide Materials for Optoelectronic Applications

Message from the Guest Editor

In the field of optoelectronics, advanced chalcogenide materials stand out due to their versatile applications and unique properties. This Special Issue focuses on the comprehensive exploration of chalcogenide materials, ranging from phase-change materials, chalcogenide glasses, and thin film solar cells, and extending to the area of 2D and layered structures. The focus is placed on both the synthesis and structural characterization of these materials, along with an in-depth examination of their optical and electronic properties, which are crucial for their functionality in optoelectronic devices. A significant aspect of this issue is the investigation of phase-change materials (PCMs). Known for their quick and reversible transition between crystalline and amorphous states, they offer innovative avenues in data storage and neuromorphic computing applications. This is complemented by studies on amorphous semiconductors and nanocrystalline chalcogenides, paving new paths in material science. The phenomenon of ovonic threshold switching, inherent to these materials, highlights their potential in switching and memory applications [...].

Guest Editor

Dr. Alin Velea

Optical Processes in Nanostructured Materials, National Institute of Materials Physics, 077125 Bucharest, Romania

Deadline for manuscript submissions

20 September 2025

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/193631

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)