Special Issue

Development and Characterization of High Performance Thermoelectric Materials

Message from the Guest Editors

Thermoelectric (TE) materials can directly convert heat into electricity. The process is eco-friendly, increases the sustainability of energy resources, and offers an alternative that can be implemented to alleviate the emerging energy crisis. Another very important application of TE materials is the replacement of compression-based refrigeration with solid-state Peltier coolers. The goal of the Special Issue “Development and Characterization of High-Performance Thermoelectric Materials” is to highlight the key challenges associated with the design of new materials, and to underline the recent advances in the synthesis and characterization of high-efficiency TE materials. This Special Issue welcomes original research papers (experimental, theoretical, and modelling) on new thermoelectric compounds, structure–property relationships, bulk and thin-film oxides, chalcogenides, oxychalcogenides, skutterudite materials, alloys, and intermetallic compounds. We also welcome research papers on flexible organic and polymer TE materials, organic and inorganic hybrid thin-film TE materials, multilayers, and nanomaterials.

Guest Editors

Dr. Girish Chandra Tewari

Department of Chemistry and Materials Science, Aalto University, FI-00076 Aalto, Finland

Dr. Tripurari Sharan Tripathi

Low-Temperature Laboratory, Nanotalo, Puumiehenkuja 2, Aalto University, FI-00076 Aalto, Finland

Deadline for manuscript submissions

closed (20 February 2024)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/151316

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)