Special Issue

Mechanical Properties of Advanced Metamaterials

Message from the Guest Editors

With rapid advancements in material science and engineering, understanding and harnessing the mechanical properties of novel materials are crucial for developing next-generation technologies across sectors such as aerospace, biomedical engineering, robotics, energy, and environmental systems. This Special Issue focuses on the mechanical behavior, characterization, design, and multifunctional applications of advanced metamaterials and related material systems. We invite original research articles, reviews, and case studies that explore theoretical, computational, and experimental approaches to, but not limited to, the mechanical performance of the following materials and systems:

- Mechanical metamaterials;
- Nanomaterials and nanostructured composites;
- Smart materials and stimuli-responsive systems;
- Biomaterials with tailored mechanical properties;
- Soft robotics and compliant mechanisms;
- Thermal metamaterials with mechanical functionality;
- Advanced composite materials and hierarchical structures.

Guest Editors

Dr. Xueyan Chen

Dr. Xiaojun Tan

Dr. Qingxiang Ji

Deadline for manuscript submissions

20 December 2025

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/240102

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)