

Special Issue

Nuclear Materials Fundamentals and Applications

Message from the Guest Editors

This Special Issue invites contributions focusing on advancements in materials of experimental, theoretical, and computational aspects for nuclear applications. The topics of the Special Issue include the materials of fuels, cladding, core structures, pressure vessels, moderator and control components for fission reactors, and the first walls, blankets, insulators, and magnets for fusion reactors. The Special Issue welcomes the subjects of the interaction of neutrons, plasmas, ion beams, electron beams and electromagnetic radiation with materials in nuclear systems. The neutron and charged particle radiation effects in materials, including defects, transmutations, microstructures, phase changes, and macroscopic properties, are also a major concern of this issue.

Guest Editors

Dr. Zhoutong He

Shanghai Institute of Applied Physics, Chinese Academy of Sciences,
Shanghai 201800, China

Dr. Min Liu

Sino-French Institute of Nuclear Engineering and Technology, Sun Yat-Sen University, Zhuhai 519082, China

Dr. Wei Qi

Ji Hua Laboratory, Foshan 528200, China

Deadline for manuscript submissions

closed (10 January 2025)



Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/162957

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

[mdpi.com/journal/
materials](https://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](https://mdpi.com/journal/materials)



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)