Special Issue

Forming and Manufacturing of High-Performance Structural Materials

Message from the Guest Editors

This Special Issue focuses on the processing and structure properties in the forming and manufacturing of high-performance structural materials; this mainly involves the optimization and application of cutting-edge processes relating to additive manufacturing, forming and manufacturing, multi-energy composite machining, etc.; the study of new light-weight alloys, high-temperature structural materials, ceramic composites, etc.; the forming process and performance enhancement; the exploration of nano-materials; and the preparation and application of gradient functional materials. The main research is to study the thermal-force–chemical coupling mechanism and defect control methods in the forming process in order to deeply analyze the evolution law of microstructure in the material forming process, as well as to study the quantitative relationship between the material's structural characteristics, mechanical properties, and physical properties. Focus will be placeed on assessing the service performance of materials under extreme working conditions, as well as promoting the construction of material genome programs and databases.

Guest Editors

Prof. Dr. Renjie Ji

College of Mechanical and Electronic Engineering, China University of Petroleum (East China), Qingdao 266580, China

Dr. Kaiguang Luo

College of Mechanical and Electronic Engineering, China University of Petroleum, Qingdao 266580, China

Deadline for manuscript submissions

20 June 2026

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/254060

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

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)