Special Issue

Research on Microstructure Evolution and Properties of High-Strength Steel

Message from the Guest Editors

High/ultrahigh-strength steels are advanced materials with exceptional strength and toughness. They are widely used in various industries, due to their ability to withstand high stress and weight. Reasonable microstructure design and its evolution features are crucial for the achievement of excellent mechanical properties. Chemical composition, preparation technology , and processing are important factors that significantly affect the microstructure characteristics of materials. Thus, integrated research on the composition, processing, microstructure, and properties of materials will provide a better understanding of the correspondence between microstructures and mechanical properties, to promote the development and application of high/ultrahigh-strength steels. The aim of this Special Issue is to publish original research articles, communications and reviews dealing with processing techniques, microstructure evolution, fracture behavior, and the strengthening and toughening mechanisms of high-strength steels. Contributions encompassing experiments, simulations, and modelling related to the above subject are all encouraged.

Guest Editors

Dr. Guosheng Sun

Nano and Heterogeneous Materials Center, School of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing, China

Dr. Zhenguang Liu

School of Materials Science and Engineering, Jiangsu University of Science and Technology, Zhenjiang, China

Deadline for manuscript submissions

closed (20 July 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/188016

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)