Special Issue

Microstructure and Mechanical Properties of Metallic Materials Under Heat Treatment

Message from the Guest Editors

This Special Issue focuses on experimental and modeling results targeting conventional and non-conventional technologies for thermal or thermochemical treatments including those with high heating rates, thermal cycling, and very short soaking times. Researchers are invited to share their work on applying the above-mentioned conventional and innovative technologies on steel and non-ferrous alloys, showing the link between processing parameters, microstructure (including texture), and mechanical properties.

Keywords:

heat treatment;

thermo-chemical treatment;

non-conventional heat treatment;

ultra-fast heating;

ultra-short annealing;

thermal cycling; steel; advanced high-strength steels; electrical steels:

non-ferrous alloys;

microstructure:

texture;

properties;

Guest Editors

Prof. Dr. Roumen Petrov

Department of Electromechanical, Systems and Metal Engineering, Ghent University, B-9052 Ghent, Belgium

Dr. Virgínia Bertolo

Department of Materials Science and Engineering, Delft University of Technology, Mekelweg 2, 2628 CD Delft, The Netherlands

Deadline for manuscript submissions

25 April 2026



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/217958

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

mdpi.com/journal/ metals





Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



About the Journal

Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Editor-in-Chief

Prof. Dr. Yong Zhang

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

