Special Issue

Advances in Field-Assisted Processing of Metallic Materials: Experiments and Simulations

Message from the Guest Editors

Researchers around the world are exploring various novel energy-efficient processes, such as electropulsing, electrically assisted deformation, electromagnetic processing, electrically assisted annealing/heat treatment, and field-assisted (electric/magnetic/microwave) sintering. Besides experimental studies, coupled multiphysics models have been developed to simulate the interplay between thermal, electrical, magnetic, and mechanical effects.

This Special Issue is dedicated to presenting advances in the experimentation and simulation of these novel energy-efficient processes in order to provide and share new insights and practical findings in this field. Potential manuscripts may address, but are not limited to, the following topics:

Microstructure evolution (grain size, grain boundaries, texture/microtexture, twinning, etc.);

Phase trans/formation and control (intermetallics, precipitation, etc.);

Property optimization (strength, nano/microhardness, electrical/thermal conductivity, magnetic, etc.);
Process optimization (forming, machining, sintering, heat treatment, deposition, coating, additive manufacturing, etc.).

Guest Editors

Dr. Daudi Waryoba

Engineering, Penn State University, DuBois, PA 15801, USA

Dr. Zahabul Islam

Mechanical and Manufacturing Engineering, School of Engineering, Bowling Green State University, Bowling Green, OH 43403, USA

Deadline for manuscript submissions

closed (10 June 2024)



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/189286

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).

