Special Issue

Novel Insights into Low-Carbon Metallurgical Process Simulation and Optimization

Message from the Guest Editors

The metallurgical industry is at a pivotal moment in its transition toward carbon neutrality. As a major contributor to global CO_2 emissions, the sector is rapidly advancing low-carbon technologies. However, the complexity of high-temperature reactions and the cost of experimental trials continue to limit rapid progress. In this context, computational modeling and simulation have emerged as powerful enablers of innovation. In particular, advanced approaches enable:

- **Accurate prediction** of complex high-temperature, multiphase phenomena
- **Process optimization** for improved efficiency and reduced emissions
- **Accelerated development** of low-carbon metallurgical technologies

This Special Issue aims to highlight cutting-edge research on the simulation and optimization of sustainable metallurgical processes, fostering collaboration between academia and industry to drive impactful, real-world solutions.

Guest Editors

Dr. Fuhai Liu
Dr. Kai Feng
Dr. Hang Hu

Deadline for manuscript submissions

31 October 2026

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.7

mdpi.com/si/275805

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 5.7

mdpi.com/journal/metals

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 18.7 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).

MDPI