Special Issue

Modern Steel Development and Modelling

Message from the Guest Editor

The choice of materials has become the key element in lightweight design due to transportation growth and the increasing demand to reduce greenhouse gas emissions. For automotive and aerospace applications, advanced steel concepts remain the material of choice, despite the competition of new materials such as polymer composites, aluminum alloys, or also magnesium alloys. The modeling of phase diagrams, phase transformation, and mechanical properties is crucial for the development of advanced steels and innovative steel concepts. This Special Issue aims to address the latest research devoted to advanced steels and their modeling, especially their microstructure, mechanical properties, and processing. The latest developments in modeling using the CALPHAD method will be reviewed in detail. New developments in simulation software, such as Thermo-Calc, OpenCalphad, MatCalc, etc., will be presented in this Special Issue. The Special Issue is a selection of manuscripts from the symposium **"Modern Steel Development and Modelling"** (MSDM 2021).

Guest Editor

Prof. Dr. Ludovic Samek

Faculty for Engineering and Environmental Sciences, University of Applied Sciences Upper Austria, Stelzhamerstrasse 23, Office O2-001, 2nd Floor, A-4600 Wels, Austria

Deadline for manuscript submissions

closed (31 December 2021)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/91076

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

mdpi.com/journal/metals

About the Journal

Message from the Editorial Board

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.

Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

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).

MDPI