Special Issue

Advanced Lightweight Materials: Processing, Characterization and Applications

Message from the Guest Editor

We are pleased to invite you to publish original contributions in the area of processing, characterization and applications of advanced lightweight materials. Advanced lightweight materials, such as aluminum alloy, magnesium alloy and titanium alloy, are important structural metal materials with excellent characteristics of high specific strength, high specific stiffness and excellent lightweight effect, etc. However, poor formability and the difficulty of trade-off of strength and ductility in advanced lightweight alloys limit the application of the materials. Articles concerning the theories, technologies and applications related to the processing, characterization and applications of advanced lightweight materials are welcome. Therefore, this Special Issue will cover-but is not limited to-the following fundamental and applied research topics:

- Advanced lightweight alloys;
- Processing and forming processes;
- Material characterization;
- Mechanical properties;
- Damage and fracture;
- Constitutive modelling;
- Strengthening mechanisms;
- Process and system modelling;
- Applications.

Guest Editor

Prof. Dr. Yanli Song

Hubei Key Laboratory of Advanced Technology for Automotive Components, Wuhan University of Technology, Wuhan 430070, China

Deadline for manuscript submissions

closed (31 October 2025)



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/219284

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).

