

## Special Issue

# Fatigue and Wear of Steel Materials: Characterization and Performance Analysis

### Message from the Guest Editor

As fatigue and wear have become the predominant failure modes of steel materials during service, increasing attention has been devoted to these phenomena by both researchers and engineers. This Special Issue focuses on the characterization and performance analysis of fatigue and wear in all types of steels, including but not limited to:

- Testing methodologies
- Microstructural characterization
- Mechanical property evaluation
- Theoretical and computational studies

Given the increasingly complex service environments of steel—where temperature fluctuations, corrosive media, and dynamic loading often interact synergistically to influence fatigue and wear behavior—we particularly welcome contributions that explore multi-factor coupling effects on steel performance.

Advanced experimental characterization techniques and computational modeling approaches remain key areas of interest, as they provide critical insights for developing more robust research tools and ultimately enhancing the service performance of steel materials.

---

### Guest Editor

Dr. Chunlei Zheng

The College of Materials Science and Engineering, Yanshan University,  
Qinhuangdao 066004, China

---

### Deadline for manuscript submissions

15 November 2025



## Metals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.3



[mdpi.com/si/237234](https://mdpi.com/si/237234)

*Metals*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[metals@mdpi.com](mailto:metals@mdpi.com)

[mdpi.com/journal/  
metals](https://mdpi.com/journal/metals)





# Metals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.3



[mdpi.com/journal/  
metals](https://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).