

## Special Issue

# Crystallographic Planes Deformation in Metallic Materials

### Message from the Guest Editor

Plastic deformation of metals is the basis for the realization of many components in different industry (automotive, aerospace, and biomedical) and an integral element of mechanical engineering. However, plastic deformation knowledge is also important for the understanding of certain failure mechanisms, e.g., creep. Crystal plasticity theory was recognized as valuable in elucidating mechanisms of plastic deformation of crystalline metals at the beginning of the previous century, but this theory has been extended since and used to consider other factors, such as the size effect and dislocations. The importance of the topics proposed for this Special Issue is evidenced by the steadily growing number of articles on crystallographic plane deformation in mainstream international journals over the past few years, and we hope that you will make further important contributions to this field through your high-quality research articles, communications, and reviews. It is our pleasure to invite you to submit your manuscript to this Special Issue.

---

### Guest Editor

Dr. Silvia Barella  
Department of Mechanics, Politecnico di Milano, Milan, Italy

---

### Deadline for manuscript submissions

closed (30 June 2023)



## Metals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.3



[mdpi.com/si/132636](https://mdpi.com/si/132636)

*Metals*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
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 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).