

Special Issue

Mechanical Behaviors and Interfacial Segregation Phenomena in Metallic Materials: Simulation, Theory, and Characterization

Message from the Guest Editors

Given the polycrystalline nature of most technically relevant metallic materials, the segregation of impurity or solute elements at both intragranular and intergranular interfaces can significantly change their mechanical behaviors, thereby alternating the overall mechanical performance of these materials. Understanding the relationship between interfacial segregation and mechanical behavior at various length scales is not only important for enriching our fundamental knowledge of interface science, but also sheds lights on the design of novel metallic materials with improved properties via interfacial segregation engineering. In this Special Issue, we welcome articles dealing with the use of simulation, theoretical, and experimental tools to investigate the relationships between mechanical behaviors and interfacial segregation phenomena in metallic materials. Studies on the effects of interfacial segregation on mechanical behaviors in such materials using data-driven and physics-informed modeling are highly encouraged.

Guest Editors

Dr. Chongze Hu

Department of Aerospace Engineering and Mechanics, The University of Alabama, Tuscaloosa, AL 35406, USA

Dr. Xin Wang

Department of Metallurgical and Materials Engineering, The University of Alabama, Tuscaloosa, AL 35406, USA

Deadline for manuscript submissions

30 November 2024



Metals

an Open Access Journal
by MDPI

Impact Factor 2.6
CiteScore 4.9



mdpi.com/si/194954

Metals

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 2.6
CiteScore 4.9



[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, CAPIus / 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 16.5 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 2024).