Special Issue

Multi-Scale Simulation of Metals and Alloys

Message from the Guest Editors

This Special Issue is dedicated to exploring the realm of multi-scale simulation of metals and alloys, aiming to delve into the intricacies of these materials across various dimensions. We invite contributions that showcase innovative simulation methodologies, spanning atomistic and molecular scales to macroscopic scales. The focus is on elucidating the complex behaviors, mechanical properties, phase transformations and structural evolution of metals and alloys through computational models that bridge multiple length and time scales. Articles presenting advancements in simulation techniques, validation against experimental data and their application in understanding material behavior under diverse conditions are encouraged. Additionally, interdisciplinary studies illustrating the intersection of simulation techniques with materials science, engineering and industry applications are welcomed. Join us in this exploration to unravel the multifaceted world of metals and alloys through the lens of simulation across scales.

Guest Editors

Prof. Dr. Hao Wang

School of Materials and Chemistry/Interdisciplinary Center for Additive Manufacturing, University of Shanghai for Science and Technology, Shanghai, China

Prof. Dr. Wangyu Hu

College of Materials Science and Engineering, Hunan University, Changsha 410082, China

Deadline for manuscript submissions

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Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

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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

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