

Special Issue

Material Modeling in Multiphysics Simulation

Message from the Guest Editors

Virtual prototyping techniques, generally based on numerical methods, are widely used in the design process of an industrial product. The Special Issue is aimed at investigating metallic material modeling techniques for virtual prototypes with emphasis on both the theoretical basis and the experimental identification and verification. Special attention is addressed to simulation issues in metal forming and other metal processing technologies, in cyclic plasticity and thermal fatigue, in MEMs operation and soldering, in thermo-electro-mechanical modeling of electric vehicles components such as batteries, electric motors, electronics.

The purpose of this Special Issue is to collect papers providing state-of-the-art knowledge on material modeling for multiphysics simulations. Researchers are encouraged to submit research as well as review papers on specific aspects of the proposed subject or also to describe applications in which the above-mentioned topics are applied to relevant engineering case studies.

Guest Editors

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Deadline for manuscript submissions

closed (30 September 2023)



Metals

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Impact Factor 2.5
CiteScore 5.3



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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

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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).

