

## Special Issue

# Thermomechanical Treatment of Metals and Alloys—Second Edition

### Message from the Guest Editor

Thermomechanical treatments are among the most effective methods for modifying the grain structure, structural phase states, and defect substructure determining the mechanical properties of metals and alloys. The development of new alloys and the use of new processing types open up prospects for achieving a unique combination of strength, plasticity, and functional properties in metallic materials. Despite the numerous studies along this line, the role of thermomechanical treatments in ensuring the required level of mechanical properties, the issues of the strengthening mechanisms, and the possibility of increasing strength via new grain-boundary and structural-phase designs are still relevant.

This Special Issue addresses the effect of various thermomechanical treatments on the structural phase states, deformed microstructure, and mechanical properties of metallic materials, including pure metals, steels, and alloys. Articles considering the role of strengthening mechanisms (solid solution, grain boundary, substructural, dispersion, etc.) in ensuring the mechanical properties of metals and alloys under any thermomechanical treatments are highly welcome.

### Guest Editor

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### Deadline for manuscript submissions

closed (30 April 2024)



## Metals

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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.

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### Editors-in-Chief

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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).