Special Issue

Synthesis, Processing and Applications of New Forms of Metals

Message from the Guest Editors

New processing and manufacturing techniques have boosted the exploration of both traditional and new metallic materials in emerging technological fields, which are the driving force of this Special Issue. To highlight the progress made and the challenges facing these metallic materials, this Special Issue aims to report new, recent research developments in the broad technological areas ***involving metal alloys, compounds, composites and particles***. The specific areas to be covered include, but are not limited to, the following:

- The structure, processing and properties of different metals.
- New techniques of metallic material manufacturing and processing.
- The characterization of microstructural features of metals.
- The functionalities of new forms of metals beyond their strength, ductility, hardness and modulus.
- Applications of new forms of metals in catalysis, pharmaceuticals, energy and the environment.
- The service behavior of metallic materials in extreme environments and the design of special coatings.
- High-performance aluminum alloys, copper alloys, steels, etc.
- The simulation of metallurgical process during the fabrication of metals.

Guest Editors

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Deadline for manuscript submissions

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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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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).

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