

## Special Issue

# Titanium Alloys: Microstructure, Deformation and Mechanical Properties

### Message from the Guest Editor

Thanks to the good features of titanium alloys, they have been considered advanced materials. A large variety of microstructures, including lamellar, martensite, equiaxed globular and bimodal microstructures have been studied, however, detailed studies are still necessary because of increasing demands for optimizing their properties by varying processing parameters and resulting microstructures. This Special Issue aims to collect works related but not limited to the following topics. Reviews, original articles, and computer simulations of their mechanical behavior under different loading conditions are welcomed.

- Processing Maps Theory
  - Deformation behavior and mechanism of titanium alloys;
  - Dynamic recrystallization mechanisms and microstructure evolution;
  - Novel processing maps for titanium alloys.
- Model and Numerical Simulation
  - Quantitative assessment of microstructure variable;
  - Microstructure model and constitutive equation based on internal state variable;
  - Microstructure model and constitutive equation based on fuzzy neural network;
  - 3D finite element simulation in blade forging of titanium alloys.

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### Guest Editor

Prof. Dr. Jiao Luo

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### Deadline for manuscript submissions

closed (30 April 2023)



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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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#### Rapid Publication:

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).