

## Special Issue

# Preparation, Microstructure, and Mechanical Properties of Biomedical Metallic Materials

### Message from the Guest Editor

This Special Issue focuses on the full pathway from material preparation to microstructural evolution to the resulting mechanical behavior of the developed metallic material, and seeks to emphasize how processing parameters, alloy chemistry, and surface modification govern functional properties. Contributions should explore emerging fabrication methods such as additive manufacturing, severe plastic deformation, and advanced thermomechanical treatments, alongside detailed characterization of grain structure, phase stability, corrosion behavior, and fatigue resistance. Particular attention will be devoted to materials used in implants, stents, orthopedic devices, and dental applications, where strength, ductility, wear resistance, and biological response must be balanced. By integrating experimental studies, modeling, and application-driven design, the Special Issue aims to highlight new strategies for tailoring microstructure-property relationships and accelerating the development of safe, durable, and high-performance metallic biomaterials.

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### Guest Editor

Dr. Alex A. Volinsky

Department of Mechanical Engineering, University of South Florida,  
Tampa, FL 33620, USA

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### Deadline for manuscript submissions

10 November 2026



## Metals

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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 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.

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### Editor-in-Chief

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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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).