

Special Issue

Advances in High-Performance Magnesium Alloys: Microstructure, Processing and Performance

Message from the Guest Editors

This Special Issue, entitled “Advances in High-Performance Magnesium Alloys: Microstructure, Processing and Performance,” aims to showcase cutting-edge research and comprehensive reviews addressing these critical challenges. We invite contributions focusing on novel alloy design strategies (e.g., rare-earth-containing systems and rare-earth-free systems), advanced processing techniques (including additive manufacturing, severe plastic deformation, thermomechanical processing, and novel heat treatments), and the precise characterization and control of microstructural features (such as grain refinement, texture modification, precipitation hardening, and phase distribution). Furthermore, we welcome studies elucidating the relationships between these microstructural characteristics and the resulting mechanical properties (strength, ductility, creep, and fatigue), functional properties (corrosion resistance, biocompatibility, and damping capacity), and performance under service conditions.

Guest Editors

Dr. Kui Wang

School of Materials Science and Engineering, Jiangsu University, Zhenjiang 212013, China

Dr. Kai Ma

School of Materials Science and Engineering, North University of China, Taiyuan 030051, China

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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.

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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