Special Issue

Advances in High-Entropy Alloys' Microstructure, Properties and Preparation

Message from the Guest Editor

The advent of high- and medium-entropy alloys (HEAs and MEAs) has broken through traditional alloy design methodologies, attracting increasing research attention due to their advanced performance and outstanding properties. Recent progress in compositional and structural design concepts, as well as preparation techniques, have further enhanced the performance of HEAs and MEAs, a topic within the scope of this Special Issue.

In this Special Issue, we welcome review articles and research papers that focus on microstructure, property, and preparation advances in high-entropy alloys and shed light on future research directions. The topics will include but are not limited to the following: (1) various types of HEAs and MEAs; (2) various strengthening and plasticity mechanisms; (3) various advanced design methods; (4) various advanced preparation techniques; and (5) various advanced characterization tools.

- high-entropy alloys
- medium-entropy alloys
- refractory high-entropy alloys
- mechanical performance
- computational-aided design
- powder metallurgy
- additive manufacturing
- transformation-induced plasticity
- heterostructure

Guest Editor

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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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