



Multi-Functional High Entropy Alloys: Relationship between Microstructure and Property

Guest Editor:

Dr. Jeong Min Park

Department of 3D Printing
Materials, Korea Institute of
Materials Science, Changwon
51508, Republic of Korea

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Message from the Guest Editor

Dear Colleagues,

The emergence of multiprincipal element alloys (MPEAs), known as high-entropy alloys (HEAs) and medium-entropy alloys (MEAs), has significantly increased the possibility of discovering new alloys via traditionally uncommon element grouping. Since this design concept of MPEAs is promising a broad range of compositional flexibility, various MPEAs exhibiting multifunctional performances have been developed over the past two decades. Moreover, beyond the advantages of compositional complexity of this type of alloys, most material scientists have attempted to finetune the microstructure to overcome the limitation of the property window of MPEAs via grain refinement, precipitation hardening, or heterostructuring.

Based on the compositional flexibility of MPEAs, controllable microstructural factors are diverse, and these microstructural factors complicatedly affect the properties of MPEAs. In order to develop a novel strategy for effectively tailoring the multifunctional performance of metallic materials, a comprehensive understanding of the relationship between microstructure and properties is needed.





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Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

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Materials Editorial Office
MDPI, Grosspeteranlage 5
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