Special Issue

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

Message from the Guest Editor

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 allovs, 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.

Guest Editor

Dr. Jeong Min Park Department of 3D Printing Materials, Korea Institute of Materials Science, Changwon 51508, Republic of Korea

Deadline for manuscript submissions

closed (20 September 2023)



an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 6.4 Indexed in PubMed



mdpi.com/si/104774

Materials Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 materials@mdpi.com

mdpi.com/journal/

materials





an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 6.4 Indexed in PubMed



materials



About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. Materials provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)