



an Open Access Journal by MDPI

Advances in Multicomponent Alloy Design, Simulation and Properties

Guest Editors:

Prof. Dr. Mehmet Egilmez

Department of Physics, American University of Sharjah, Sharjah, United Arab Emirates

Dr. Wael Abuzaid

Department of Mechanical Engineering, American University of Sharjah, Sharjah, United Arab Emirates

Deadline for manuscript submissions:

20 October 2024

Message from the Guest Editors

Dear Colleagues,

Materials with versatile electronic, magnetic, and mechanical functionalities in extreme environments are in high demand; hence, the discovery of new materials and/or combinations of existing materials is essential. Conventional alloys generally relying on the presence of a single principal element and various minor constituents have been pushed toward their functional limits. Nearly two decades ago, new groups of materials, known as high-entropy alloys (HEA) and medium-entropy alloys, were introduced. The utilization of a large percentage of multiple principal constituent elements created unique alloying and composition optimization processes, in which materials with functionalities surpassing existing alloys could be realized.

This Special Issue will bring together recent experimental and theoretical developments in the field of multicomponent alloys, including, but not limited to, alloy design and the electrical and magnetic, mechanical, and electrochemical properties of these alloys in bulk, single-crystal, and thin-film form.



mdpi.com/si/186770

Special Issue



an Open Access Journal by MDPI

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

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.

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

Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)