# Special Issue

## Structure and Properties of Refractory Medium/High-Entropy Alloys

### Message from the Guest Editors

There is an urgent need for high-performance structural materials to withstand extreme conditions, as current materials fall short in meeting the advanced requirements of high-temperature applications. These applications span sectors such as ballistic impact resistance, aircraft engine components, and aerospace technologies. Research focuses on developing materials with superior mechanical strength, wear resistance, irradiation tolerance, and corrosion resistance under harsh environments.

Refractory Medium/High-Entropy Alloys have emerged as promising candidates due to their resistance to high-temperature damage. Studies show that certain MEAs and RHEAs combine high strength, toughness, and resistance to corrosion, irradiation, and extreme temperatures. Their performance can be enhanced with advanced fabrication techniques, such as additive manufacturing, 3D printing, and laser-plasma-driven routes.

This Special Issue will explore RHEAs and RMEAs for extreme environments involving high temperatures, pressures, corrosion, wear, impact, and irradiation. We invite research papers and reviews to accelerate the industrial application of these materials.

### Guest Editors

Dr. Muhammad Abubaker Khan
School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China

Dr. Jamieson Brechtl
Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA

### Deadline for manuscript submissions

closed (25 May 2025)

**Metals**

**an Open Access Journal by MDPI**

**Impact Factor 2.5**
**CiteScore 5.3**

mdpi.com/si/217027

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

mdpi.com/journal/metals

# Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/journal/metals

# About the Journal

## Message from the Editorial Board

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.

## Editors-in-Chief

Prof. Dr. Hugo F. Lopez
Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

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

## Author Benefits

**High Visibility:**

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

**Journal Rank:**

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

**Rapid Publication:**

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

MDPI