



## Recovery of Critical Metals and Materials from Residues

Guest Editor:

**Prof. Dr. Fernando Castro**

Department of Mechanical  
Engineering, Universidade do  
Minho, 4800-058 Guimarães,  
Portugal

Deadline for manuscript  
submissions:

**closed (20 May 2024)**

### Message from the Guest Editor

Dear Colleagues,

In 2020, the European Commission defined a list of critical raw materials, including 30 materials that are considered critical for sustainable and economic reasons. Most of these critical materials are metals, but some of them are minerals or compounds, such as phosphates, fluorspar, borates, and also coke and rubber. Several types of residues may contain some of these critical materials in their composition, making them potential ores for their recovery.

This Special Issue aims to address research on processes for the recovery of critical metals and materials from residues and related streams. This includes residues from industry, from animal-derived byproducts, and from municipal wastes, in both solid and liquid forms. Research may also consider activities related to the characterization of residues, when devoted to developing extraction processes. It may also address the economic and environmental evaluation of processes with the goal of recovering critical raw materials from residues.





an Open Access Journal by MDPI

## 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

## 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.

## 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), Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q2 (*Metallurgy and Metallurgical Engineering*) / CiteScore - Q1 (Metals and Alloys)

## Contact Us

---

Metals Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/metals](http://mdpi.com/journal/metals)  
[metals@mdpi.com](mailto:metals@mdpi.com)  
[X@Metals\\_MDPI](https://twitter.com/Metals_MDPI)