



## Utilization of Industrial By-Products—Recovery of Rare Earth Elements

Guest Editor:

**Prof. Dr. Maria Ochsenkuhn-Petropoulou**

School of Chemical Engineering,  
National Technical University  
Athens, Department of Chemical  
Sciences, Laboratory of Inorganic  
and Analytical Chemistry, Iroon  
Polytechniou 9, Zographou  
Campus, 15780 Athens, Greece

Deadline for manuscript  
submissions:

**closed (30 November 2021)**

### Message from the Guest Editor

Dear Colleagues,

An industrial by-product is a production residue from an industrial process that is not a waste, with a minor net realizable value (NRV) when compared with the main products. As economically exploitable minerals containing REEs are very scarce, the available stockpiles have decreased and the recovery of REEs from their deposits is difficult due to the coexistence of radioactive elements; therefore, it is necessary to investigate the potential to recover REEs from different industrial byproducts. These industrial streams contain relatively low concentrations of REEs in comparison to primary ores, but large volumes are available, and therefore they could become economically attractive secondary sources of REEs. This Special Issue aims to publish papers dealing with the recovery of REEs from different industrial-by products.

This SI is cooperating with the conference ERES2020. Selected papers (extended abstracts) from the conference, will be invited to contribute to the special issue with 20% discount. All submitted papers to this special issue will undergo a separate review process according to the journal's practice.





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, Grosspeteranlage 5  
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)