

Special Issue

Studies on Metal Leaching, Extraction and Recovery

Message from the Guest Editors

The recovery of metals from secondary sources, especially electronic waste (e-waste), is vital for advancing the circular economy. With rising demand for rare earth elements (REEs) and critical materials in smartphones, batteries, and photovoltaic panels, innovative recycling technologies are needed to reduce environmental impact and secure sustainable supply. E-waste, containing gold, silver, copper, cobalt, and lithium, poses environmental risks but offers valuable resources for reuse.

Traditional pyrometallurgical methods are energy-intensive and polluting. Hydrometallurgical approaches like leaching and solvent extraction enable selective recovery with higher purity and lower impact. Advances in deep eutectic solvents (DESs) enhance efficiency and sustainability. Research on leaching thermodynamics and kinetics is key to optimizing recovery.

This Special Issue seeks original research on eco-friendly, cost-effective technologies for metal recovery from spent batteries, smartphones, and other devices, focusing on leaching, extraction, sustainability, and circular economy principles. We look forward to your contributions.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

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.

Editor-in-Chief

Prof. Dr. Yong Zhang

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