Special Issue

Biomining: Integrated Approaches for Waste Treatment and Metallurgical Resource Recovery

Message from the Guest Editors

This Special Issue welcomes submissions of original research, opinions, and review manuscripts encompassing a broad range of topics within the biomining domain, including, but not limited to:

- Investigations into the diversity, genetics, and metabolic pathways of microorganisms involved in biomining, focusing on their roles in bioleaching and bioprecipitation processes.
- Detailed studies on the biochemical and molecular mechanisms through which microorganisms solubilize and extract metals from ores and waste materials.
- Bioprocess optimization of operational parameters (pH, temperature, nutrient supply, etc.) to enhance the efficiency and scalability of biomining processes.
- Evaluations of the environmental footprint of biomining compared to conventional metallurgical methods.
- Case studies and experimental research on the application of biomining for the treatment of industrial waste, e-waste, and contaminated soils, highlighting successful implementations and potential challenges.
- Innovative approaches for the biorecovery and recycling of valuable metals and materials from waste streams, emphasizing the economic and environmental benefits of closed-loop systems.

Guest Editors

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Deadline for manuscript submissions

closed (20 April 2025)

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About the Journal

Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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Journal Rank:

JCR - Q2 (Mining and Mineral Processing) / CiteScore - Q1 (Geology)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.2 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).

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