Special Issue

Separation and Flotation of Non-Ferrous Metal Minerals

Message from the Guest Editors

The efficient separation and recovery of non-ferrous metal minerals are critical for sustainable resource utilization. Froth flotation remains one of the most widely used techniques for mineral beneficiation, yet challenges persist in terms of optimizing selectivity, reagent efficiency, and environmental sustainability. This Special Issue will highlight cutting-edge research on the fundamental and applied aspects of non-ferrous metal minerals separation and flotation. Topics of interest include, but are not limited to, the following:

- **Fundamental studies** on mineral–reagent interactions, surface chemistry, and bubble–particle attachment mechanisms;
- **Novel flotation reagents** (collectors, depressants, frothers) and their environmental impact;
- **Advanced separation techniques**, including hybrid flotation–gravity methods, electrochemical flotation, and bioflotation;
- **Process optimization** through machine learning, AI-driven control systems, and real-time monitoring;
- **Sustainable practices**, such as water recycling, tailing management, and low-carbon flotation processes.

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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

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