

Special Issue

Application of Nanomaterials in Mineral Processing

Message from the Guest Editors

One of the greatest challenges in mineral processing is "selectively" improving its efficiency. Nanotechnology offers tools to selectively recover valuable species in different types of minerals. This is possible using nanometric-scale materials, nanoparticles, nanoadsorbents, nanomaterials, etc., to directly impact areas of mineral processing such as the optimization of flotation processes, selective separation, the catalysis of leaching reactions, and wastewater treatment and tailing management to recover species of interest from mining waste. By applying nanomaterials, it will be possible to transform the mining industry, applying specialized knowledge to the utilization of nanotechnology and promoting more sustainable and efficient processes. This Special Issue aims to present the latest advances in the application of nanomaterials to mineral processing in various areas, with original scientific research related to this objective. The Special Issue focuses on the following topics: 1) nanomaterials; 2) concentration and separation processes of valuable species; and 3) tailing management and environmental remediation.

Guest Editors

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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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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).