Special Issue

Exploring Novel Interactions Between Microbes and Minerals

Message from the Guest Editor

Minerals are defined as inorganic, crystalline solids that form in many natural environments as a result of abiotic geochemical processes. Yet, for a wide variety of surface and near-surface environments on Earth, mineral formation occurs as a combination of both abiotic and biotic processes. Minerals provide energetically favorable substrates for microbes to establish communities in the form of biofilms or microbial mats; their metabolic processes, along with the cycling of decaying organic matter, result in cation and metal exchange between the microbes and minerals. This exchange induces changes to the chemical environment, which results in the formation of secondary minerals, such as clays, Fe-oxides/hydroxides, carbonates, or sulfates, on the original mineral substrates through bioweathering or on microbial materials through biomineralization.

Guest Editor

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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)

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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).

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