

Special Issue

Geochemical Exploration for Critical Mineral Resources

Message from the Guest Editors

Critical mineral resources are vital for economic growth, improving the life quality, and the overall functioning of modern society. Explorative geochemistry is tool in prospecting for critical minerals. It has played a pivotal role in the exploration of critical mineral resources.

Degree of exploration continues to increase, geochemical exploration faces increasing challenges. Ore bodies are buried at increasing depths, presenting complex geological situations, and a number of emerging critical minerals are coming to the attention of the industry. We must develop methods that are indicative of critical mineral resources. Our Special Issue will cover a broad range of relevant topics of interest: 1. Dispersion mechanisms of ore-forming and pathfinder elements in the covered or weathered terrains; 2. Near-surface geochemical exploration techniques and application; 3. New exploration methods for vectoring toward concealed mineral deposits; 4. Mineral exploration using indicator mineral geochemistry; 5. Advances in hydro- and bio-isotope geochemistry applied to mineral exploration; 6. Geochemical exploration for low-carbon energy mineral resources (such as Li, REE, U).

Guest Editors

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Deadline for manuscript submissions

closed (30 June 2024)



Minerals

an Open Access Journal
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Impact Factor 2.2
CiteScore 4.4



mdpi.com/si/152332

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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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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).