Special Issue

Critical Mineral Exploration: Innovations, Challenges and Future Directions

Message from the Guest Editor

We are pleased to invite you to contribute to a Special Issue of Minerals, dedicated to “Critical Mineral Exploration: Innovations, Challenges and Future Directions”.

This Special Issue aims to bring together leading researchers and industry experts to share insights into the latest advancements in mineral exploration, including but not limited to:

- Novel geophysical, geochemical, and remote sensing techniques, including hyperspectral remote sensing, drone-based geophysics, fiber-optic seismic sensing, and automated core scanning.
- Advances in AI and machine learning applications for mineral exploration using predictive modeling and data integration for mineral prospecting and deep learning for geophysical inversions that improve subsurface modeling and target identification.
- Geochemical and geological frameworks for critical mineral deposits such as systematic mineral exploration approaches that improve our understanding of crustal architectures that control the location of mineral deposits.
- Sustainable and environmentally responsible exploration practices.

Guest Editor

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Deadline for manuscript submissions

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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.

Editor-in-Chief

Prof. Dr. Leonid Dubrovinsky
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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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