Special Issue

Bauxite: Mineralogy, Geochemistry and Potential Industrial Application

Message from the Guest Editors

Bauxite is the main ore of alumina used to produce aluminum, and it is employed in diverse industrial applications depending on its grade. The geochemistry of bauxites is also important as it can aid in the prediction of environmental issues related to mining. Therefore, bauxite's geochemical and mineral composition are critical for understanding its economic significance, guiding industrial processes, evaluating its environmental impact, and elucidating past geological processes. This Special Issue welcomes the submission of articles that highlight innovative scientific approaches to the characterization of bauxite and that present discussions of its mineralogical, geochemical, textural and structural properties; this is in order to enhance the efficiency of bauxite processing and refinement, as well as encourage the application of sustainable and novel practices for bauxite recovery and the re-utilization of bauxite residues. Finally, the potential industrial applications of bauxite and its residues beyond alumina and aluminum production will be explored, including applications in the cement, chemical and refractory industry.

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).

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