Topical Collection

Bioleaching

Message from the Collection Editors

Since the discovery of bioleaching microorganisms and their role in metal extraction in the 1940s, a number of approaches have been developed to enhance microbially catalysed solubilisation of metals. These include reactor/tank, vat, lagoon, heap, dump, in place or in situ leaching techniques. Bioleaching has enabled the transformation of uneconomic resources to reserves, and thus helped to alleviate the challenges related to continually declining ore grades. Commercial biomining applications have mainly targeted copper, gold, uranium, nickel, cobalt and zinc sulfides. More recently, the possibilities of bioleaching oxide ores and extracting other commodities such as rare earth elements and phosphorus have also been explored. Progress in characterising microbial strains and communities has increased our understanding of the microbial catalysts, and facilitated the optimisation of bioleaching processes. For this topical collection, we invite contributions on various aspects of bioleaching, including but not limited to bioleaching methods, mechanisms, microorganisms, and applications to extract various commodities from ores, concentrates as well as waste materials.

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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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