

Special Issue

The Microbiology of Biomining: Microbial Communities, Consortia and Species Involved in Mineral Processing

Message from the Guest Editors

Biomining, traditionally the use of microorganisms for the extraction of metals from sulphide minerals, is undoubtedly a robust, economic, and environmentally friendly alternative to traditional extractive technologies. However, this green biotechnology is facing new challenges as shallow, more accessible deposits are failing and worldwide concern for the accumulation of contaminated wastes, the generation of acid mine drainage that contaminates soils and water bodies even kilometres away and the use of fresh water is increasing, making regulations stricter, to mention only some major issues. This context presents challenges to the scientific community working on biomining at two levels that go hand in hand: one is the need to find and unconventional metal deposits and make them exploitable, and other is associated with the microbial species, being able to work on them, which is the focus of this Special Issue. In this Special Issue, we will be dealing with the most recent advances in the characterisation and uses of microbial communities, artificial consortia, and isolated species capable of mineral processing in the described new era of biomining.

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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