Special Issue

Bioprocessing of Mine and Metallurgical Wastes

Message from the Guest Editor

The mining and metallurgical treatment of ores are characterized by the formation of their various wastes. For instance, the beneficiation of ores yields formation tailings, whereas the roasting of sulfide concentrates produces smelter slag and dust. The oxidation of sulfide minerals has been shown to contribute to the formation of acidic groundwater containing heavy metals and other toxic elements. The bio-oxidation of sulfide ores and high-grade concentrates for the recovery of gold, copper, nickel, cobalt, and other metals has a global spread. Biotechnology is the most promising approach for processing mine and metallurgical waste. This Special Issue will focus on new methods and processes for the utilization, recycling, or disposal of many types of mine and metallurgical wastes using (micro)organisms (bacteria, archaea, fungi, and their communities). This includes but is not limited to topics such as the bioleaching of metals, the bio-oxidation of sulfide wastes, dust and slag treatment, low-grade ores as a source for biohydrometallurgy, and acid mine drainage bioprocessing.

Guest Editor

Dr. Maxim Muravyov

Winogradsky Institute of Microbiology, Federal Research Centre "Fundamentals of Biotechnology" of the Russian Academy of Sciences, 119071 Moscow, Russia

Deadline for manuscript submissions

closed (16 July 2021)

Minerals

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.4

mdpi.com/si/51768

Minerals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
minerals@mdpi.com

mdpi.com/journal/minerals

Minerals

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.4

mdpi.com/journal/minerals

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
Bayerisches Geoinstitut, University Bayreuth, D-95440 Bayreuth, Germany

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), GeoRef, CaPlus / SciFinder, Inspec, Astrophysics Data System, AGRIS, and other databases.

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).

MDPI