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Precious Metals vs. Base Metals: Nature and Experiment

Guest Editors:

Dr. Nadezhda Tolstykh
Sobolev Institute of Geology and Mineralogy, Siberian Branch of the Russian Academy of Sciences, Siberia, Russia

Dr. Elena F. Sinyakova
Sobolev Institute of Geology and Mineralogy, Siberian Branch of the Russian Academy of Sciences, Siberia, Russia

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Message from the Guest Editors

Dear Colleagues,

Base metals including iron, lead, copper, nickel, aluminum, and zinc are widely used in industry. They are invaluable to the global economy due to their utility and ubiquity. Precious metals include gold and silver, as well as platinum group metals (PGM) Os, Ir, Ru, Rh, Pt, and Pd. Precious metals are rare and have a high economic value, used both in industry and in jewelry production.

However, the metallogenic associations of precious metals with base metals are well known. They appear both in Cu–Ni deposits with PGM and Au, and in gold deposits of various types.

PGE and Au(Ag) differentiation in silicate magma is mainly governed by variations in oxygen and sulfur fugacity, whereas in the sulfide melt it is controlled by the distribution coefficients of elements between MSS, ISS, and sulfide liquid, causing the mineralogical and geochemical zoning observed in igneous sulfide ore bodies. The ore-geochemical zoning of gold deposits is usually formed under the influence of one- or multi-stage processes with a change in the physicochemical parameters of ore-forming systems.

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Editor-in-Chief

Prof. Dr. Leonid Dubrovinsky
Bayerisches Geoinstitut,
University Bayreuth, D-95440
Bayreuth, Germany

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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Contact Us

Minerals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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mdpi.com/journal/minerals
minerals@mdpi.com
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