

Special Issue

Advances in Mineral Beneficiation Methods

Message from the Guest Editors

The exhaustion of easy-to-treat and high-grade ores has led to the reliance and beneficiation of complex low-grade resources for their valuable minerals. In some cases, urban mining has been considered as an alternative to augment the supply of extraction of minerals. With gangue minerals forming the bulk of such complex low-grade primary ores and secondary resources, preconcentration strategies have been employed to reject the significant fraction of such wastes. These processes exploit the differences in the physical (i.e., magnetic, specific gravity, electrical, and size) and physicochemical properties of valuable and gangue minerals. Preconcentration of valuable minerals through physical beneficiation strategies such as magnetic, gravity, electrostatic, desliming, and froth flotation promotes enhanced value recovery whilst decreasing reagents and energy consumption during downstream extraction processes. These preconcentration strategies are in continuous adaptation for different ores and downstream process requirements. However, slimes and unliberated value minerals present real problems during preconcentration processes.

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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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