Special Issue

Advanced Application of Surface Mineralogy in Enhancing Processing Efficiency and Mitigating Environmental Impact

Message from the Guest Editors

Nowadays, minerals are among the most relevant materials for society. They are the source of most technologies we use daily. Considering the large tonnages involved, the variability of mineral composition and specific extraction technologies dictate process efficiencies and the associated environmental impacts, which need mitigation. Conventional knowledge of elemental composition is insufficient to fully understand these processes. More information from advanced measurements of mineral surfaces and interfaces is required. Whatever the targeted process is—tailoring reagent schemes for flotation; identifying refractory phases to improve leaching; selecting mineral mixtures for permeable reactive barriers—detailed knowledge of mineral surfaces and interfaces is crucial. Research with emphasis on environmental issues, encompassing characterisation of mineral surfaces through advanced techniques for forecasting or improving process efficiencies—such as mitigating acid rock drainage; reducing metal leaching potential; surface modifications for improved dewatering and water recovery; and increasing geotechnical stability—is encouraged.

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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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