Special Issue

Mineral-Water Interfaces and Interfacial Reactions with (Radioactive) Contaminants

Message from the Guest Editors

The migration of (radioactive) contaminant ions in an aqueous environment is strongly affected by their molecular reactions at the solid–water interface, including physical adsorption, ion exchange, chemisorption, surface precipitation, sorption of colloidal phases, electron transfer (oxidation state changes), coordination changes (number and/or type of ligands around the sorbed species), as well as the modification of the surface structure of the substrate (dissolution/secondary phase formation). These molecular reactions are triggered by a variety of environmental conditions, such as concentrations, pH, ionic strength, and temperature.

In this Special Issue, we seek innovative contributions that provide new kinetic and molecular insights into interfacial reactions in the geosphere. We invite research papers involving the application of various spectroscopic, microscopic, and microcalorimetric techniques combined with theoretical approaches (e.g., quantum chemistry), surface complexation, and reactive transport modelling, with the aim to provide a more profound understanding of the structures, thermodynamics, and kinetics of interface phenomena.

Guest Editors

Dr. Katharina Müller

Helmholtz-Zentrum Dresden-Rossendorf, Institute of Resource Ecology, Bautzner Landstraße 400, 01328 Dresden, Germany

Dr. Norbert Jordan

Helmholtz-Zentrum Dresden-Rossendorf, Institute of Resource Ecology, Bautzner Landstraße 400, 01328 Dresden, Germany

Deadline for manuscript submissions

closed (31 May 2023)

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

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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.

Editor-in-Chief

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

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