

## Special Issue

# The Mineral Alteration Patterns under High- to Low-Temperature in Geothermal Fields

### Message from the Guest Editors

The mineral alteration patterns under high- to low-temperature conditions in active and fossil geothermal fields provide challenging topics that aim to understand heat–fluid–rock interaction processes. Geothermal systems allow us to understand and quantify heat–fluid–rock interactions in different geotectonic settings. Most, if not all, of these processes occur under thermodynamic conditions out of equilibrium, involving, among other geological processes, mineral dissolution, precipitation, recrystallisation and chemical transfer. Moreover, all these geological processes occur in a short time span—only several thousand years—with strong structural control, dominated by permeability differences between various affected geological units. Under this scenario, mineral crystal chemistry in these high- to low-temperature systems is useful for constraining P-T-t-X conditions of these heat–fluid–rock processes. The improvement of accuracy and resolution of advanced analytical techniques offered a new vision of how hot fluid interacts with rocks and how hydrothermal alteration mineralogy in high- to low-geothermal systems is formed.

### Guest Editors

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*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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