Special Issue

Diagenetic and Paleoenvironmental Significance of Clay Minerals

Message from the Guest Editors

Clay minerals, fine-grained silicate minerals with a layered structure, play a crucial role in sedimentary rocks and provide valuable insights into provenance and sediment transport, weathering and diagenetic processes, paleoenvironmental conditions, and even biological mediation. Detrital clay minerals, generated by weathering, are transported and deposited, becoming susceptible to a series of diagenetic processes that imprint physical and chemical changes in sedimentary environments. On the other hand, authigenic clay minerals form in situ through various processes, such as soil formation, sedimentary diagenesis, metamorphic and hydrothermal processes, or direct precipitation from saturated solutions. Thus, the significance of clay minerals in diagenetic and paleoenvironmental contexts is multifaceted, reflecting their sensitivity to physical and chemical changes in sedimentary environments and their role in recording geological processes. This Special Issue aims to publish papers that provide advances and a comprehensive overview of the mineralogy, geochemistry, and applications of clay minerals as proxies for paleoenvironmental and diagenetic processes.

Guest Editors

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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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