

Special Issue

Geochronological Methods Applied to the Exploration of Tectonic and Geological Processes

Message from the Guest Editor

In 1905, Ernest Rutherford demonstrated that radioactivity follows an exponential decay and promptly recognized its potential as a natural clock for determining the age of uranium-containing rocks. A few decades later, A. Holmes of Imperial College (as well as geochemist E.K. Gerling of the Russian Academy of Sciences working independently) separated minerals, particularly zircon, known to contain uranium and provided preliminary estimates of the Earth's age. Their estimates were somewhat above 3 billion years, about 1.5 billion years short of the more accurate modern estimate of 4.54 billion years. A. Nier, G. Patterson, W. Libby, B. Boltwood, and others advanced the pioneering work of their predecessors, extending beyond the U-Pb decay series and establishing the science of determining the age of geological materials as a distinct discipline within geology: geochronology. With the increased distribution of mass spectrometers in academia during the late 1950s and 1960s, geochronology emerged as a fully developed field, complete with dedicated faculty positions and specialized graduate programs.

Guest Editor

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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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