Special Issue

Gemstone Identification and Characterization: Advances, Technologies and Analytical Challenges in the Modern Gemstone Trade

Message from the Guest Editors

The gem and gemstone trade has had an indissoluble link with the evolution of human society since the Paleolithic period. Through the millennia, humans have learned where to find higher-quality gem materials, how to drill, carve, cut and treat them, and how to create synthetic and artificial materials to obtain rarer and more beautiful and durable gemstones. In the last few decades, new and interesting sources of gemstones for the trade have been discovered, and new treatments and synthesis techniques have been developed. This Special Issue aims to present the latest research on gemstone characterization and grading and the identification of a material's origin and possible treatments; case studies and new provenances for gemstone materials will also be discussed. We particularly welcome submissions concerning high-tech applications for the identification of the gemological, geochemical and spectroscopic characteristics of gem materials and innovative new techniques (such as the use of machine learning algorithms, Artificial Intelligence, etc.).

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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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