



Chemical-Physical Properties of Minerals and Minerogenesis in Supergene Environment

Guest Editor:

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submissions:

closed (30 April 2019)

Message from the Guest Editor

The processes involving minerals in supergene environments are those occurring at or near the Earth's surface. In these environments, lithosphere, atmosphere, hydrosphere, and biosphere continuously interact with each other, triggering reactions that lead to the weathering of preexisting minerals and to the genesis of authigenic phases. The theoretical or practical understanding of these processes, the determination of the minerals involved and of their chemical-physical properties are of paramount importance, not only for the fundamentals of mineralogy, but also for their significant implications for environment, ecosystems, and human health protection, agriculture and food security, supergene metal deposit prospection and even for the conservation of cultural heritage.

This Special Issue aims to collect articles focusing on minerals, mineral properties, and mineral reactions occurring at Earth's outer layer due to the interactions among lithosphere, air, water, and biota. Interdisciplinary, cross-disciplinary, and multidisciplinary studies are welcome.





Editor-in-Chief

Prof. Dr. Paul Sylvester

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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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The Concentration of Asbestos Fibers in Bulk Samples and Its Variation with Grain Size

by Gaia M. Militello , Elisa Sanguineti , Adrián Yus González , Federico Mantovani and Laura Gaggero
Minerals 2019, 9(9), 539; <https://doi.org/10.3390/min9090539> - 06 Sep 2019

Abstract The aim of this work was to establish whether asbestos fibers homogeneously occur in the different fractions ground from naturally occurring asbestos lithotypes, and to calculate the contribution of fibers from each fraction to the overall concentration in the sample. Serpentine, metabasalt, calc-schist, [...] [Read more](#).

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Potentially Toxic Elements in Ultramafic Soils: A Study from Metamorphic Ophiolites of the Voltri Massif (Western Alps, Italy)

by Pietro Marescotti , Paola Comodi , Laura Crispini , Lara Gigli , Azzurra Zucchini and Silvia Fornasaro
Minerals 2019, 9(8), 502; <https://doi.org/10.3390/min9080502> - 20 Aug 2019

Abstract Ultramafic soils are characterized by severe edaphic conditions induced by a low content of essential nutrients, an adverse Ca/Mg ratio, a low water-holding capacity, and high contents of geogenic potentially toxic elements (PTEs), in particular Cr, Ni, and Co. These metals commonly exceed [...] [Read more](#).

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The Use of Heavy Minerals in the Investigation of Barrier-Lagoon Coasts Development in Dapeng Peninsula, China

by Jing Feng and Wei Wang
Minerals 2019, 9(6), 347; <https://doi.org/10.3390/min9060347> - 05 Jun 2019

Abstract Typical barrier-lagoon systems are developed at Dongchong and Xichong on the southern coast of the Dapeng Peninsula of Guangdong, China. This paper studies the evolution of the barrier coasts of the peninsula, using the examples of the Dongchong and Xichong Bays. The Holocene [...] [Read more](#).

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Origin of Smectite in Salinized Soil of Junggar Basin in Xinjiang of China

by Haixia Xie , Shuai He , Chuanqin Huang and Wenfeng Tan
Minerals 2019, 9(2), 100; <https://doi.org/10.3390/min9020100> - 10 Feb 2019

Abstract In this paper, salinized soils with different degrees of salinity are sampled in Junggar Basin of Xinjiang of China. The X-ray diffraction, transmission electron microscopy, and inductively coupled plasma mass spectrometry are employed to investigate the morphology and distribution characteristics of smectite in [...] [Read more](#).

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Crystallization Behaviour of Iron-Hydroxide Sulphates by Aging under Ambient Temperature Conditions

by Amalia Jiménez , Ana Hernández and Manuel Prieto
Minerals 2019, 9(1), 27; <https://doi.org/10.3390/min9010027> - 05 Jan 2019

Abstract The crystallization behaviour of jarosite and schwertmannite has been studied by precipitation-aging experiments performed using different parent-solution concentrations at acidic conditions and ambient temperature. Schwertmannite exhibits low crystallinity and is the only mineral identified during low-concentration (LC) experiments. However, in high-concentration (HC) experiments, [...] [Read more](#).

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