Special Issue

Biomineralization and Biominerals: Lessons from Mineral-Producing Organisms, 2nd Edition

Message from the Guest Editors

Living organisms have gone through an evolution, over 3.8 Gyr, to use inorganic matrices to fashion a diverse range of highly organized biological minerals that are ideal for biological functions. As with all these biominerals, the structural design elements are composed of biopolymers, such as collagen, chitin, silk, keratin, and proteoglycans, and are hierarchically assembled in parallel to form microfibrils, fibrils, or fibres, depending upon the particular system involved. The properties of biominerals are far superior compared to human-made materials, and the current understanding of their formation is far from complete. It is indeed necessary to learn from nature. The structural lessons gained from the study of these biocomposites could thus provide important design insights into the fabrication of tough layered inorganic–organic hybrid materials/morphologies that could always have fresh surfaces to do specific jobs.

Therefore, you are invited to submit manuscripts that focus on biomineralization and biomineral characterization as well as biomimetic design and that will be highly beneficial to society.

Guest Editors

Dr. Oluwatoosin Agbaje

School of Natural Sciences, Macquarie University, Sydney, NSW 2109, Australia

Dr. Olev Vinn

Department of Geology, University of Tartu, 50411 Tartu, Estonia

Deadline for manuscript submissions

closed (28 February 2025)

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
minerals@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Leonid Dubrovinsky
Bayerisches Geoinstitut, University Bayreuth, D-95440 Bayreuth, Germany

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