Special Issue

Mineralogy and Geochemistry of Mars: Everything You Need to Know about the Red Planet

Message from the Guest Editors

Mars research has entered an exciting new era focused on sample return but has also been prospering through a golden age of exploration. As we continue to prepare for some of the most precious samples to return to Earth within the next decade, it is important to take some time and reflect on what we already know about the red planet. Through rover and orbital observations, we have geochemical and mineralogical data that have revealed a rich geological history of Mars. This Special Issue is set to review some of the major geochemical and mineralogical accomplishments of researching Mars over the years. It will highlight how in situ and remote sensing observations have been used to reconstruct the ancient history of Mars and how this can provide a reference frame for future exploration. The Special Issue is organized as follows: Section 1: Igneous processes and global observations. Section 2: Sedimentary history of Martian landscapes. Section 3: Preparing for the future of Mars Sample Return. We hope this Special Issue will be a resource for the community for years to come, and we appreciate your consideration.

Guest Editors

Dr. Michael T. Thorpe

Dr. Maëva Millan

Dr. Lucie Riu

Deadline for manuscript submissions

closed (23 May 2025)

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Minerals
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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Journal Rank:

JCR - Q2 (Mining and Mineral Processing) / CiteScore - Q1 (Geology)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.2 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

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