

# Bringing Martian samples to Earth

August 13 2008

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New Rochelle, NY, August 13, 2008 – A critical component of NASA's Mars exploration program involves bringing planetary samples back to Earth for in-depth analysis, plans for which are detailed in the latest issue of *Astrobiology*, a peer-reviewed journal published by Mary Ann Liebert, Inc.

In the published report entitled, "Science Priorities for Mars Sample Return,"

(<http://www.liebertonline.com/doi/pdfplus/10.1089/ast.2008.0759>) the Mars Exploration Program Analysis Group (MEPAG) describes 11 scientific objectives for future missions, which could best be met through extensive analysis of martian samples using the tools and instruments available in state-of-the-art laboratories on Earth. As noted in the paper, "spacecraft instrumentation cannot perform critical measurements such as precise radiometric age dating, sophisticated stable isotopic analyses, and definitive life-detection assays."

Direct access to martian samples would enable subsampling for different types of analysis, as well as sample archiving for future studies. Unlike the situation with meteorite samples from Mars, returned samples could be collected from multiple selected sites with defined contextual information and would represent types of materials that are not present in the meteorite collection. Furthermore, the samples could be packaged and transported under conditions that approximate those found on the martian surface to maintain their integrity.

This issue of *Astrobiology* also includes a special collection of papers

that describe "Instruments for In Situ Exploration of Planets," compiled by Guest Editors Max Coleman and Frank Grunthaner, from the Jet Propulsion Laboratory, California Institute of Technology, in Pasadena.

"The papers in this collection complement each other to give a fairly comprehensive view of the achievements and issues in this area," write the editors.

Source: Mary Ann Liebert, Inc.

Citation: Bringing Martian samples to Earth (2008, August 13) retrieved 1 June 2023 from <https://phys.org/news/2008-08-martian-samples-earth.html>

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