

SPACE EXPLORATION SYMPOSIUM (A3)  
Mars Exploration – missions current and future (3A)

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ASTROBIOLOGY AND GEOCHEMISTRY FROM MARS TERRESTRIAL ANALOGUES: FIELD  
MEASUREMENTS AND ANALYSIS OF RETURNED SAMPLES**Abstract**

We conducted a series of field research campaigns (ILEWG EuroMoon-Mars campaigns 2009 to 2013) in the extreme environment of the Utah desert and other terrestrial Mars analogues relevant to habitability and astrobiology. We discuss results relevant to the preparation of future lander and sample return missions. We deployed at Mars Desert Research station, Utah, a suite of instruments and techniques including sample collection, context imaging from remote to local and microscale, drilling, spectrometers and life sensors. We analyzed returned samples in the laboratory using diverse techniques. A protocol was developed for sterile sampling, contamination issues, and the diagnostics of biodiversity. We discuss the relation between mineral composition, organics, environments, microbiology. We compare measurements from 2009-2014 and most recent 2014-2015 campaigns.

References [1-11] in Foing, Stoker Ehrenfreund (Editors, 2011) "Field Research in Moon/Mars Analogue Environments", Special Issue of International Journal of Astrobiology, IJA 2011, 10, vol. 3. 137-305

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