



ÖSTERREICHISCHES WELTRAUM FORUM
AUSTRIAN SPACE FORUM

PRESS INFO AUSTRIAN SPACE FORUM MARS ANALOG MISSIONS





1. The Austrian Space Forum

The Austrian Space Forum is one of the world's leading institutions conducting Mars analog missions, thus paving the way for the future human exploration of the Red Planet. Experts from a broad variety of disciplines as well as the spaceflight sector constitute the core of the OeWF's continued endeavors that on a regular basis include national and international institutions from science and industry to work at the cutting edge of scientific research. On doing so the Austrian Space Forum is using its excellent contacts to opinion leaders, politics, and media to further and internationally propagate Austrian top-level research. The Austrian Space Forum also contributes significantly to inspiring and educating young people in the sectors of science, technology and engineering. The OeWF offers internships to students and pupils, its experts supervise scientific papers on a regular basis.

2. Mars Analog Missions

LEAD ORGANIZATION

Austrian Space Forum (OeWF)

PARTICIPANTS

International research organizations and scientists

ABOUT MARS ANALOG MISSIONS:

The Austrian Space Forum (OeWF) in partnership with international research organizations regularly conducts four-week Mars simulations to prepare for future human explorations of the red planet. These missions take place in locations that offer analogs to the Martian surface, as did the Arabian desert in Oman in 2018 or the Dachstein ice-caves in Austria in 2012. Directed by a Mission Support Center in Austria, a small field crew conducts experiments preparing for future human Mars missions in the fields of engineering, planetary surface operations, astrobiology, geophysics/geology, life sciences and other.

All human activities on the simulated Martian surface are conducted by the OeWF's Analog Astronauts.



INTENT OF THE MISSIONS:

“The purpose of a Mars simulation on Earth is to prepare for future crewed missions on the Red Planet. During our simulations we test procedures and equipment to identify problems and potential for improvement. To perform the experiments, the OeWF is one of the five research groups worldwide to develop the prototype spacesuit “Aouda” which is worn by OeWF’s Analog-Astronauts during its mission. We see ourselves as the ship-builders for future human Mars exploration”, says Dr. Gernot Grömer, Administrative Director of the Austrian Space Forum and head of the expeditions.

OBJECTIVES

- Study and test (under Mars analog conditions) equipment, procedures and workflows that could be used on future manned missions.
- Provide a platform to test and evaluate life detection or geophysical techniques, rover mobility on Mars analog terrain and situational awareness of remote support teams
 - Studying the test site as a model region for Martian deserts and extreme life within
 - Serve as an outreach platform to enhance visibility and raise interest in planetary sciences

SCIENCE AND TECHNOLOGY

The science and technology deployed for the Mars mission simulations consist of a number of experiments proposed by numerous international research entities. In an extensive peer review process, the most promising instruments and workflows are selected. The experiments focus on geosciences, engineering, planetary surface operations, human factors and life sciences, including astrobiology.

Mission operation aspects, space suits and robotic systems, as well as flight planning and remote science support workflows pertinent to complex missions including delayed communication are also covered.



ANALOG ASTRONAUTS

The OeWF's analog astronauts are carefully selected and trained to execute most of the science field activities. They also act as a public face and represent the mission as STEM-Ambassadors for media and educational activities.

The analog astronauts train to conduct spaceflight-simulation in Mars-like regions on earth, testing and evaluating procedures as well as human factors and workflows pertinent to human mars exploration.

They conduct experiments in field campaigns in an international and interdisciplinary environment, typically lasting from a few days up to one month. Analog astronauts contribute to the development of space suit simulators and many other relevant instruments and equipment.



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