

SPACE OPERATIONS SYMPOSIUM (B6)
Human Spaceflight Operations (1)

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ANALOG SIMULTATION OF A MISSION TO MARS - A CASE STUDY IN POLAND

Abstract

Mars is a potential destination for robotic and human exploration as we expand our presence in the solar system. The Space Exploration Project Group (SEPG) of the Space Generation Advisory Council (SGAC) shall conduct a Mars Analog Simulation in Poland in September 2016. This mission will provide an opportunity for students and young professionals to produce scientifically valuable data, which could later help people working on an actual mission to Mars.

The Analog Mission, taking place in an isolated habitat in Poland, evaluates the joint human and robotic surface operations under simulated Martian conditions. SEPG shall conduct a full analog mission, simulating the features of a real space mission to Mars. The mission does not cover the launching, in-flight, and landing phases, but rather concentrates on surface operations only. There are five primary objectives: 1) to evaluate the performance of astronauts conducting geological work, 2) applications of technologies to support the human activities, 3) controlled investigations and experiments in psychology and human factors, 4) studies of plant growth on Martian soil simulants, and 5) other studies, including related astronomical, legal, political, physical and other issues.

Here we would like to present the planning and preparation of such an analogue mission conducted by volunteers, including all the involved aspects and efforts, as well as give an overview on the expected outcomes.

This mission will add additional data and perspective to the debate on a human mission to Mars, as well as provide significant scientific outcomes for a potential factual mission to Mars.