

26th IAA SYMPOSIUM ON HUMAN EXPLORATION OF THE SOLAR SYSTEM (A5)  
Human Exploration of the Moon and Cislunar Space (1)

Author: Mr. Arnault Monoyer  
Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, [arnault.monoyer@epfl.ch](mailto:arnault.monoyer@epfl.ch)

Mr. Evandros Theodosiou  
Imperial College London, United Kingdom, [th.evandros@gmail.com](mailto:th.evandros@gmail.com)  
Ms. Léonie Gasteiner  
Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, [gasteinerleonie@gmail.com](mailto:gasteinerleonie@gmail.com)  
Mrs. Florence Crozat  
France, [florence.crozat@epfl.ch](mailto:florence.crozat@epfl.ch)  
Ms. Julia Jakiela  
United Kingdom, [j.jakiela@sms.ed.ac.uk](mailto:j.jakiela@sms.ed.ac.uk)  
Ms. Katherine Mulry  
ISAE-Supaero University of Toulouse, United States, [ktb.mulry@gmail.com](mailto:ktb.mulry@gmail.com)  
Ms. Palak Patel  
Massachusetts Institute of Technology (MIT), United States, [palak@mit.edu](mailto:palak@mit.edu)  
Mrs. Clara Nogué i Ansón  
Spain, [clara.nogue98@gmail.com](mailto:clara.nogue98@gmail.com)  
Ms. Madelyn Hoying  
Massachusetts Institute of Technology (MIT), United States, [hoyingm@mit.edu](mailto:hoyingm@mit.edu)  
Mr. Loïc Lerville-Rouyer  
Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, [loic.lervillerouyer@epfl.ch](mailto:loic.lervillerouyer@epfl.ch)  
Ms. Elena López-Contreras  
Universitat Politècnica de Catalunya (UPC), Spain, [elenalcontreras@gmail.com](mailto:elenalcontreras@gmail.com)

FROM ABSTRACT TO MISSION: SELECTING AND IMPLEMENTING EXTERNAL PROJECTS  
INTO THE SIMULATED LUNAR MISSION CONDITIONS OF ASCLEPIOS III

**Abstract**

The Asclepios program was developed by a new generation of space experts during a time of increasing interest in space exploration. The program aims to simulate realistic lunar mission conditions through analogue missions, which serve as a testbed for space technologies and research aimed at solving current and future challenges in human spaceflight and space colonies. These missions offer a unique opportunity for individuals and institutions from both private and public sectors to develop and test critical instruments and techniques for spaceflight research.

Asclepios III is the current iteration of the program, following the successful completion of Asclepios I and II. Feedback from the previous missions was used to identify areas for improvement and refinement, leading to the development of Asclepios III. This year, six analogue astronauts will be isolated for 14 days in the Sasso San Gotthard Fortress in Switzerland, simulating the Lunar South Pole. The Asclepios program accepts projects from a spectrum of topics related to space exploration. This year, the main objective is Space Medicine, given the development of manned missions and advances in healthcare. Key research areas include identifying and evaluating medical risks in the lunar environment, space nutrition, life support systems, sleep quality, human behaviour in isolation, space physiology, microbiology, and

astronauts' mental health. Additionally, several experiments in the fields of engineering, environmental sciences, and space law were selected to create a diverse selection of projects.

The project selection is a two-phased approach where researchers submit an abstract and overview of the project, including its safety, ethics, cost, and schedule requirements. Once projects are selected, the Asclepius III Science Team interfaces with the Principal Investigators (PIs) throughout the mission to ensure experiment success. Each Science Officer supervises two projects and serves as a point of contact for the respective PIs, sharing the workload and ensuring each PI receives professional and adequate support. This collaboration has proven successful, demonstrating the Science Team's ability to implement the projects of external professionals into the analogue mission and ensure its success.