



# Virtual reality Moon Landscape

## Developing a virtual reality Moon-like environment

<b>Laboratory:</b>	eSpace
<b>Number of students:</b>	1 (Master)
<b>Section:</b>	IN, SC
<b>Status:</b>	Available (Spring 2021)



### Description of the project

Asclepios aims at organizing an analogue space mission. Therefore, by design, it will take place on earth, where a lot of parameters are different than on other celestial bodies, making it less realistic. This can be an issue for example when the goal is to simulate an EVA and analyze how astronauts would react under pressure, to repair impaired critical infrastructures such as solar panels, etc. Results obtained in such unrealistic environments cannot be extrapolated to real space missions, which lowers the benefits of the mission.

Therefore, this project aims at enhancing the "immersive" aspect of the mission, by allowing the analogue astronauts to evolve in a moon-like environment during their EVAs using virtual reality.

### Description of the student's work and missions:

The student's project consists in:

- (1) recreating a moon-like environment, using topological data from the site of the mission and textures used by NASA;
- (2) simulating events the astronaut would take part in.

In order to conduct this project, the student will have to be proficient in C and C Sharp. Knowing Matlab and Python is a plus. The student will also have to be autonomous and be able to work in teams.

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