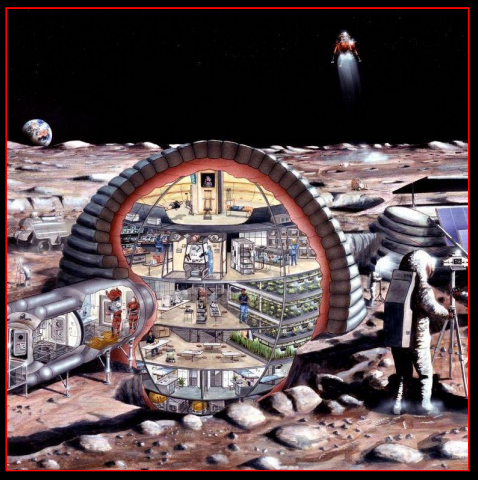
Occupational hazards and risks in a lunar space base II

The goal of this project is to assess the occupational hazards and risks regarding the operation of a measurement tower on another celestial body.



Laboratory:	**GSCP**
Number of students:	**1 (Bachelor or Master)**
Section:	**PH, CGC, EL, MT, GM, GC, SIE, SV**
Status:	**Available (Fall 2021)**

Description of the project

Assessing occupational hazards and associated risks in order to define risk management procedures in remote and isolated locations such as a lunar base is essential to ensure the sustainability of space missions. Indeed, several elements may put astronauts' life in jeopardy, from the experiments conducted during their stay - which might be dangerous for the crew or the habitat (e.g. the use of toxic chemical) - to issues related to the human factor - e.g. errors committed by an astronaut working under high pressure.

Using the framework established during the Spring 2021 semester, this project aims at identifying the potential risks and hazards associated with the installation and operation of a measurement tower on another celestial body,, and to establish risk management procedures to mitigate them.

Description of the student work and mission

- **Mapping of the different sources of hazards:** Working with the students building the tower, the goal would be to identify the different sources of hazards associated with installing and operating the tower on the Moon or Mars
- **Linking risks and hazards:** Defining the risks associated with the identified hazards; Assessing the significance of potential damage and the likelihood of occurrence.
- **Risk management recommendations:** Defining risk management procedures that could mitigate those risks should they occur
- **Simulation:** Using the Asclepios II mission to assess the efficiency of the mapping and of the recommendations (e.g. by creating a scenario).

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