Paper ID: 88400
student

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Interactive Presentations - IAF SPACE EXPLORATION SYMPOSIUM (IP)

Author: Ms. Dulce Mayre Lora Sandoval
Facultad de Ingeniería-UNAM, Mexico

IMPORTANCE OF THE RELATION BETWEEN ENGINEERING AND GEOLOGY IN THE DESIGN OF SPACE EXPLORATION MISSIONS

Abstract

In the course of space exploration development, multiple disciplines have come together to solve problems related to the design of competent space missions that not only lead us to know other worlds through images, but also with the incorporation of instruments that allow us to analyze collected samples that are carefully selected by a scientific team, all of this requires very solid knowledge of various disciplines, including geology. Of course those missions cannot be achieved without the engineers that design and built the tools to explore Mars or the Moon, but how well do they understand the scientific requierements and implications that you need to considered to get better scientific results.

It's essential to build a close relation between engineering and geology when planning exploration missions and to start teaching the engineers in those projects the basics of geology like: identification of areas of scientific interest, why it's relevant to collect a sample in a certain location and which method or methods are needed to be used so they can have a better understanding on why certain instruments are vital for the rover in order to do certain analysis that are more complex and what needs to be considered in the sample analysis to get better results or delevop new protocols or tools for the rover to use.

We will explore the relevance of geology in martian exploration, the opinion of experts in the field, the importance of considering the integration of professionals related to geology in the development teams of nations that are trying to integrate to the space sector and discuss the elements for training of its engineers in geology.