

**THE IMPORTANCE OF TERRESTRIAL ANALOGUE SITES FOR IN SITU PLANETARY EXPLORATION.** E.Flamini<sup>1</sup> and G.G. Ori<sup>1</sup>, <sup>1</sup> International Research School of Planetary Sciences , Viale Pindaro, 42 65127 Pescara , Italy e-mail [enrico.flamini@unich.it](mailto:enrico.flamini@unich.it)

**Introduction:** Exploration missions in recent decades have clearly highlighted how high-resolution, hyperspectral imagery enables an otherwise impossible understanding of planetary geology[1], [2] . Now we are moving towards a multi-sensor analysis, with data both from orbit and in situ, capable of providing accurate geological interpretation and the identification of useful and accessible resources. Indeed, for both the Moon and Mars the transition from the scientific recognition of a structure to the realization of a human mission requires a resource-focused approach. The transition from terrestrial to planetary geology was difficult, but today the efforts are paying off [3] , [4] . The comparative study of terrestrial analogues has shown that it can provide a solid basis for robotic and human missions and above all an essential geological tool for the recognition and understanding of the evolution of the surface and the geological phenomena involved. Finally, the descent systems, landers and rovers, and the in situ analysis instruments need to be tested, extensively, in environments as similar as possible to those in which they will operate. These landing systems will have to be increasingly precise with the use of sky cranes for medium-small loads or autonomous landing systems based on surface recognition. We intend to propose the panorama of similar sites qualified for the Moon and Mars together with a consideration on the value and prospects both in a strictly scientific field and in the more general context of the many aspects concerning the exploration and future recognition and exploitation of space resources .

**References:**

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