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## Martian analog in Himalayan region Ladakh - report from the Spaceward bound India 2025

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The mission was to explore a Mars-like environment in the valley of Tso Kar, one of the highest-altitude salt lakes, located at an elevation of 4,500 metres above sea level. This unique astrobiological area perfectly simulates conditions on the Red Planet. The team's main tasks were six path finder experiments included searching for and collecting samples of extremophilic organisms from the soil surface and hydrothermal hot springs. Air, water and soil samples were analysed. The team examined the Puga hot spring and Tso Kar Lake for their potential as sites for astrobiological research. Additionally, valuable data was collected on how the human circulatory system adapts to high-altitude conditions and low oxygen levels. This presentation reveals the potential of future collaborations in Ladakh region, especially in the astrobiological aspect for future Martian missions.

**Primary author:** KOŁODZIEJCZYK, Agata (Faculty of Space Technologies, AGH University of Kraków)

**Presenter:** KOŁODZIEJCZYK, Agata (Faculty of Space Technologies, AGH University of Kraków)

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