

# Biosecurity on Mars

By Haritina Mogosanu, Team Support Officer



The Martian (Utah desert) landscape.

**A**s a result of my life-long interest in astronomy and spaceflight, the Romanian Space Agency selected me in September last year to be second in command of the Crew 98 RoMars at the Mars Desert Research Station. (For those of you who don't know me, I am originally from Romania).

The station is a facility in Utah that simulates living on the Red Planet. It belongs to the non-government organisation Mars Society. We stayed for two weeks at the start of January 2011.

To encourage awareness of Mars exploration and to get the science done that future explorers will need, the Mars Society has established two facilities. One is on Devon Island, above the Arctic Circle. The other is in Utah, about 20 hours of flying from Wellington. Teams submit research proposals to the Mars Society for permission to live and work in the facility. In my case, I was interested in finding out about the biosecurity risks of terraforming Mars. Terraforming involves introducing species from Earth to Mars so as to create a liveable world for humans. What if people establish colonies at the same time as they initiate the ecopoiesis (creating a biosphere) process? Could our bacteria and waste endanger that process? And above all, what is the list of regulated organisms we would be taking with us to Mars?

Until very recently, space agencies were talking vaguely about the future colonisation of Mars as not happening for hundreds of years. After the success of the Mars 500 expedition\* and probably under the pressure that other nations would get there first, NASA and the European Space Agency recently announced plans to be there in person in 30 years. That gives us enough time to prepare a thorough risk analysis on terraforming and a set of standards that they could take on board.

And in order to achieve that, we will have to go back to the simulator and study some more. This is why I will be leading KiwiMars 2012, the first Kiwi expedition to Mars (Desert Research Station). ■

\*Mars-500 is an experiment that simulates a manned flight to Mars. The experiment's facility is located at the Russian Academy of Sciences' Institute of Biomedical Problems (IBMP) in Moscow.



The Mars Desert Research Station in Utah – Hari's home for two weeks in January.



Hari searches for life forms in her full spacesuit.

Hari on Mars with her MAF biosecurity hat.

To find out more about the Mars research programme, go to [www.spacefoundation.org.nz](http://www.spacefoundation.org.nz).