

My life on Mars: engineering student experiences life on the red planet

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As NASA's Curiosity rover scours the surface of Mars and beams pictures of the stark and desolate landscape back to Earth, we've begun to paint a picture of what living on the red planet might actually be like.

In this month's [Physics World](#), Ashley Dale, a PhD student at the University of Bristol, brings this image to life by giving his account of the two weeks he spent living in the Utah desert as part of a simulated Mars mission.

Comparing his surroundings to a "Monet landscape", Dale recalls expeditions across the "paprika-coloured" desert on an all-terrain quad bike and living out of a Habitat Module – a two-floored, silo-shaped capsule small enough to fit on top of the main [rocket booster](#) of a [launch vehicle](#).

Accompanying Dale on his mission were a journalist, a geologist, an [astrobiologist](#), an aerospace engineer and an industrial designer. They all lived out of the same Habitat Module, which included six compact bedrooms (each little more than 1 m by 3 m), a communal area, kitchen, toilet, shower, computer stations and a number of labs for the crew to work in.

Each year, around 10 of these six-person crews spend two weeks at the Mars Desert Research Station, which is operated by the Mars Society as part of a research project looking into such topics as the design features of habitat modules, psychological tests of crew members, assessment of

crew-selection procedures and even tests to determine the best kinds of food for Mars explorers.

In the article, Dale recalls a close encounter with a "Martian" (which turned out to be a desert mouse), being flung off his quad bike into a ditch, conversations about science policy around the dinner table, and watching sci-fi films to relax at night.

Of course, each of the crew members had specific tasks to complete during the mission. Dale was involved in a project to assess the functionality of a small, remote-controlled rover carrying a wireless video camera, which was used as a scout to explore hard-to-reach places.

Other members of the crew studied how space suits limited their ability to perform tasks such as collecting samples and isolating organisms – something that would be very important on a real [Mars](#) mission. Every evening, each member of the crew completed surveys about the food and their psychological states.

On the first evening, the station's engineering co-ordinator, John Barainca, exited the Habitat Module after giving the crew a full tour. Dale recalls the exact words Barainca said as he turned and stood there in the -12°C moonlight.

Dale writes: "'You know, guys,' he said, reflectively, 'we all have one thing in common: we're all nuts.' And with that, he sealed the exterior airlock door behind him. Our two-week simulation had begun."

More information: physicsworld.com/

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