

The Miami Herald

Posted on Fri, Sep. 09, 2011

A long mission to 'Mars' for Colombian man

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BOGOTA — After kicking Martian dust off his boots, and turning his back on the Gusev crater, Diego Urbina climbed back into the landing module to begin the long, lonely ride back to earth — sort of.

Urbina is one of six men on a 520-day mission to the Red Planet that never leaves Moscow. The program is designed to simulate a trip to Mars to evaluate the effects of prolonged isolation, limited communication and cramped living quarters on the human body and psyche.

Born in Bogotá to a Colombian father and Italian mother, the 28-year-old Urbina has not breathed fresh air, seen the sky or talked to his loved ones since he was locked in the simulator June 3, 2010. He's slated to "land" back on earth Nov. 5.

The crew slipped beyond radio contact a month into the trip. Since then, their only link to the outside world has been text messages relayed through mission control. It takes 20 minutes for a message to travel from their capsule to earth.

In a letter from simulated deep space, Urbina told The Miami Herald that despite sharing cramped living quarters and facing a battery of tests and experiments, monotony and feelings of isolation are prevalent. One of the movies that resonates most with the crew is Stanley Kubrick's classic, 2001: A Space Odyssey. "The film and book come pretty close to describing the loneliness of life in space," Urbina wrote.

The experiment in galactic isolation comes as the United States' role in manned space-flight is in doubt. Since the space shuttle program shutdown in July, U.S. astronauts have no way of getting to the International Space Station, except by hitching rides with the Russian space program.

A manned mission to Mars seems like a distant dream. But the European Space Agency — which is running the Mars500 experiment with the Russian Federal Space Agency and the Russian Institute for Biomedical Problems — said this simulation is key to making that trip a reality.

"When preparing for long-duration space missions beyond the six months range currently undertaken by Expedition Crews on the International Space Station, the medical and psychological aspects become an issue of major importance," the European Space Agency wrote. "The purpose of the Mars500 study is to gather data, knowledge and experience to help prepare one day for a real mission to Mars. Obviously there will be no effect of weightlessness, but the study will help determine key psychological and physiological effects of being in such an enclosed environment for such an extended period of time."

The European Space Agency (ESA) has run isolation tests before, putting crews in off-shore deep diving chambers for 60 days. In the 1960s, the Russian Institute for Biomedical Problems isolated a crew for a full year.

But a trip to Mars and back is estimated to take 520 to 700 days, which made Mars500 necessary.

Urbina beat out 300 other candidates for the two ESA slots in the isolation chamber. The other crewmembers are from Russia, France and China.

Inside the windowless structure, the men share a 236 square-foot “habitable module.” They each have their own cubicle with a bed, a desk and shelves.

In between running experiments, exercising and maintaining the station, the men sometimes unwind by watching films or reading books. Newer films are cherished “because they make me feel, for some reason, like I am part of humankind and doing the same thing as people that go out on a Friday to the movies,” Urbina wrote. The Oscar-winning film *The Social Network* was good, he said. “It made me want to use Facebook, which we can’t because there is no Internet!”

Despite the limited communication, Urbina has attracted nearly 3,000 followers to his Twitter account (@diegou). With the help of earthbound assistants who input his messages, Urbina answers readers’ questions in Spanish, English and Italian.

“It becomes pretty evident that links with the earth and with reality are very important,” he wrote. Also, “you need to have various concrete, long- and short-term objectives that help you feel accomplished.”

The highlight of Urbina’s trip came Feb. 14, when he was one of three crew members who got to don a bulky spacesuit and set foot on “Mars”— a 4,000-cubic-foot room filled with sand and rocks.

“Three of us went to a surface and did some “Marswalks” without communicating with earth,” he wrote. “With half the crew on the surface, half the crew in Martian orbit, and your nearest support several minutes of communication delay away from you [because of the limited speed of light], it is challenging and it shakes up the monotony in a radical way.”

Back in Bogotá, Urbina’s earthbound family is also feeling the isolation. They haven’t had a conversation with him since he stepped through the hatch at the Moscow research station, said his sister Irene Urbina.

The emails that do arrive are always sent through ground control and are often delayed, she said.

“The whole family recently got together for my graduation and we missed him so much,” said Irene, 22, who recently earned a degree in orthodontics. “But we are so proud of him. He has accomplished so much since he finished his studies.”

Urbina has a degree in electronics engineering from the Politecnico di Torino in Italy and a master’s degree in space studies from the International Space University in France.

Before joining the Mars500 project, he was doing research on the growth of tropical plants and spacesuit constraints at the Mars Desert Research Station in Utah. He has also been the ground support for experiments taking place at the International Space Station.

Urbina said he returns to Colombia every chance he gets and uses the trips to talk to school children about space travel.

This South American nation has no space program, but Colombians can be found throughout the industry. George Zamka, an astronaut of Colombian descent, was the commander of the space shuttle Endeavour in 2010. And Colombia’s Institute of Astrobiology is one of the few international organizations that works in partnership with NASA. The institute looks for terrestrial life-forms that live in extreme conditions that mimic Mars — like arsenic-laced rivers and in the mouths of volcanoes.

Being away from earth has given Urbina a new perspective on what’s important. He says he misses his family and bumping into strangers.

Talking about the most “underrated” things on earth, Urbina runs through a list: “The blue sky (not that anyone dislikes it, but it’s there all the time) and talking to people on the street. Maybe some TV in moderation is not THAT ‘evil’ either!”

When Urbina emerges from the isolation chamber, he hopes to keep working in space engineering and operations and help put humans on Mars (“This time for real!”).

And he hopes that his trying absence from earth might inspire others to embrace the universe.

“My dream is that the future astronaut that will go to Mars one day (which will maybe happen a few decades from now) will have been following this mission!” he wrote. “Being known as the generation [that] got it done wouldn’t be bad!”

To follow Urbina and the rest of the Mars500 crew visit: www.esa.int/esaMI/Mars500/