

WOMEN WORKING ON MARS: MALLORY LEFLAND

Hi, I'm Mallory. I work as a fault protection engineer for MSL, and my job is to test the different fault responses that are internal to the rover, so in case the rover senses any type of danger or harm, within its software or its hardware, it's able to recognize what is happening and then respond to it and keep itself safe.

See, right now, this rover – Maggie – it's on the ground, it's on Earth, and we can see it every day and we can keep it safe and we do a good job of that. But Curiosity on Mars – it's far away and we only talk to it a few times during the day. So in between those times, we needed to develop a system so that it could keep itself safe and then wait until the team on the ground could assess the situation and then send commands up to Mars to get it back to doing science.

In this job, you face a lot of different challenges whenever you run a test and something happens that you didn't expect – which happens quite a lot.

So it definitely takes a team to solve these problems. Every time I get into one of these situations where I need to figure out a certain test case issue, I've never solved it on my own. It's such a complicated vehicle, and you have experts in all these different areas, so it's important to get the certain experts that you want in a room, and most of the time it takes three or four people with different expertise to look at one problem and say, "Ah – all of these things happened together to make this happen." And I think the people who work on Curiosity are amazing, and they're all very good at getting together and figuring out problems.

So I first got interested in science and math in school – it was kind of the subjects I always gravitated towards, and when it came time for looking at colleges, engineering just seemed like the best fit. It put science and math together, and I really enjoyed it.

I wasn't very sure what type of engineering I wanted to do, but I had always loved airplanes as a kid, so I just went into aerospace engineering and I loved it, and it gave me the opportunity to come out to NASA's Jet Propulsion Laboratory and I am so thrilled to be out here working.