

Landing Curiosity like a hole in one

STELLENBOSCH — Landing the Curiosity rover accurately on Mars was akin to a champion golfer scoring a 10 000 km hole-in-one, a South African scientist working at Nasa's Jet Propulsion Laboratory (JPL) said yesterday.

Speaking at his alma mater, Stellenbosch University, JPL associate director for project formulation and strategy Jakob van Zyl told his audience that touching down on a precise spot on the Red Planet was a very difficult procedure.

"To put it in context, it would be a little bit like asking Ernie Els to tee off here in Cape Town, and hit a golf ball into the cup at St Andrew's in Scotland.

"And to make life more difficult, he doesn't know what the weather is like in Scotland. And if that isn't enough ... the cup is moving at 100 000km/h," he explained.

The three-ton craft carrying the robot Curiosity rover entered the thin Martian atmosphere last month at a speed of 41 000km/h.

"And we're supposed to stop in seven minutes," Van Zyl said, to laughter from his audience.

Curiosity touched down in Gale



**Jakob van Zyl,
Nasa Jet Propulsion
Laboratory**

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Crater on the surface of Mars on August 6. The last stage of its landing saw the rover lowered seven metres on cables by means of a revolutionary "sky crane".

Van Zyl said the six-wheel rover was about the size of a Mini Cooper and could negotiate its way over half-metre obstacles.

He said some of the photos of the Martian surface it had sent back "reminds me of Namibia, where I grew up".

Curiosity's mission was to climb a six-kilometre high mountain,

dubbed Mount Sharp. Photographs of the mountain show it is made up of layer upon layer of apparently stratified rock.

"It represents millions of years of Martian history and we will be driving up the mountain ... to analyse the rocks. The lowest rocks are the oldest, and the top rocks the youngest," he said.

Van Zyl said there had been a question on how Curiosity would get up Mount Sharp, given that its radio isotope-driven engine generated only 110 watts.

However, the torque the engine delivered to each individual wheel on the rover was greater than a V8 engine on a Ford truck.

"So that's how we're going to climb up that mountain: slowly and deliberately."

Van Zyl said that among the aims of the mission was to find signs of past life, which he stressed would be "an enormous discovery".

Responding to questions, he said the Curiosity was not looking for life on Mars, but for signs of past life. Another puzzle was what had happened to Mars' once-full atmosphere. — Sapa.