

Mars explorer says we'll find life on other planets within 10 years

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Peter Smith, principal investigator of NASA's Phoenix Mars Mission, predicts that we'll find life outside Earth within 10 years. Credit: Photo by Kathy F. Atkinson/University of Delaware

Within 10 years, we'll find life outside Earth -- that's the prediction of Peter Smith, the University of Arizona professor who led NASA's Phoenix Mars Mission.

While Smith is not predicting we'll encounter the six-legged apes that appeared on Mars in the [science fiction](#) books by Edgar Rice Burroughs

that captured his imagination as a youngster, he does think we'll find microscopic organisms there.

And ultimately, whether it happens this century or a thousand years from now, we're going to be sending humans to the Red Planet, according to Smith.

Smith held the audience spellbound in his lecture, "Journey of the Phoenix," on April 16 at the University of Delaware, as he shared images taken by the Phoenix Mars Lander, which touched down in the Martian arctic on May 25, 2008.

The mission was a collaboration of numerous agencies and academic institutions, including the University of Arizona's Science Operations Center, NASA's [Jet Propulsion Laboratory](#) in Pasadena, Calif., and Lockheed Martin Space Systems in Denver, along with scientific institutes in Canada, Denmark, Finland, Germany, and Switzerland.

When the spacecraft launched from Cape Canaveral in August 2007, Smith said its nine solid rockets left a vapor trail that was a good omen -- the pattern of a Phoenix bird.

Landing on the Red Planet was the next marvel, with the spacecraft entering Mars' atmosphere at 13,000 miles per hour, withstanding heat up to 2,600 degrees, and then dropping by parachute onto the planet's surface. Then the lander's solar arrays needed to open to begin generating power and the rest of its tools needed to function as planned, among them a robotic arm for digging, a weather station, a series of ovens, a microscope, and cameras.

For the next five months, the stationary probe, controlled by Smith and his crew from the University of Arizona's Science Operations Center, focused on digging and analyzing [soil samples](#) from an area about the

size of a couch on the very cold, dry, volcanic planet where, according to Smith, there has been no rain for at least 100,000 years.

Mars' closest corollary on Earth is the Dry Valleys of Antarctica, Smith said. Although no life was discovered on Mars by Phoenix, tiny organisms inhabit the soils of Antarctica's Dry Valleys, including a predatory nematode about a sixteenth of an inch long.

"Martian soil is really sticky and clumpy," Smith said noting that the probe would get a scoop of soil to pour into its ovens for chemistry experiments, but it would take four days of shaking to get the soil through the screens.

As the weather on Mars started to get cloudy and snowy, the solar power for the spacecraft dwindled, and on Nov. 2, 2008, the [Phoenix Mars lander](#) entered the "Sleeping Beauty" mode.

By the end of its mission, the Phoenix Mars Mission confirmed the presence of frozen water just below the planet's surface, found minerals that form in liquid water, identified nutrients in the soil that could sustain microbes, and observed snow in the atmosphere. The lander also took lots of photos -- more than 25,000 of them -- ranging from grand landscapes to the tiniest of images using the first atomic force microscope ever used outside Earth.

Smith said the next mission to Mars will include a large rover the size of a MINI-Cooper, with big tires, that would last at least five years and land near an area of high interest, such as the edge of a canyon.

"We're ardently searching for evidence of life on our closest planet," Smith said.

"I think it's coming, I really do," Smith noted. "At some point, we'll turn

over a rock, and by gosh there it is."

The evening before, Smith was awarded the American Geographical Society's Cullum Geographical Medal at UD. The awards ceremony and Smith's lecture were among the culminating activities of the University of Delaware's William S. Carlson International Polar Year Events, celebrating UD's president from 1946-1950 who was a polar explorer and the world's fourth International Polar Year.

Source: University of Delaware ([news](#) : [web](#))

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