NASA: Discovery of Methane Gas on Mars Could Signal Microbial Life

By Amanda Scott
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The U.S. space agency, NASA, says large quantities of methane gas have been detected on Mars, hinting at the possibility of biological or geological activity on the Red Planet.

A team of scientists with the National Aeronautics and Space Administration, or NASA, announced Thursday that the presence of methane gas on Mars is a major discovery.

Astrobiologist Sushil Atreya says there are two possibilities as to why methane exists on Mars.

"Either it's geology, in which case it's the reaction between water and rock, or it's biology, in which case the microbes are producing the methane," Atreya said.

Methane was first detected on Mars in 2003 by scientists using Earth-based telescopes. Scientists say that one plume of Martian methane contained nearly 19,000 tons of the gas.

NASA's Michael Mumma says methane is quickly destroyed in the Martian atmosphere, so the detection of plumes of methane is significant.

"Mars is active. Now whether or not its because of geology, or biology, or both, we don't know," he said.

Scientists say they have detected seasonal variations of methane emissions over the planet's northern hemisphere.

Physicist Geronimo Villanueva of Catholic University here in Washington says the gas plumes were emitted during the
northern Martian spring and summer.

"One of the most important, striking, things about the discovery is that the regions where we see methane are regions that have a lot of rich history," Villanueva said. "For example, these regions show evidence that waters once flowed over them, and this is very important because if the water is still available below the surface, some activity - geology, biology - could be using them."

Scientists have debated whether reports of methane deposits on Mars were real. But now, Geologist Lisa Pratt says scientists have the evidence needed to consider the possibility of life on the Red Planet.

"It's time, it's prudent that we begin to explore Mars, looking for the possibility of a life form that's exhaling methane," she said.

But Pratt says that at most, that life form could be a very thin, nearly invisible film of microbes deep underground.

Scientists say NASA's launch of the Mars Science Laboratory in 2011 could provide more detailed analysis on the presence of methane on the planet.