Unique mass spectrometer to explore Mars

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A group of U.S. biomedical scientists has won a $750,000 NASA grant to design a mini mass spectrometer to aid in the search for life on Mars.

The Johns Hopkins Medical School scientists will design a prototype that can fit on a Mars Rover and search for the chemicals of life as the machine crawls over Mars' surface.

Pharmacologist and molecular scientist Professor Robert Cotter says the team, including specialists from Johns Hopkins' Applied Physics Laboratory and the University of California-Santa Barbara, will help in designing the instrument to probe Mars core samples for evidence of proteins or genetic information-carrying nucleic acids in a mission scheduled to launch in 2013.

"What a mass spectrometer can identify are chemical signatures of life or the building blocks of life that may have at some point existed on the Red Planet," said Cotter, who developed the basic design concept for the low-voltage ion trap mass spectrometer that will be used in the mission.