NASA has selected Mark S. Robinson, research associate professor of geological sciences in Northwestern University’s Weinberg College of Arts and Sciences, as one of six scientists to provide instrumentation and associated exploration/science measurement investigations for the Lunar Reconnaissance Orbiter (LRO), the first spacecraft to be built as part of the Vision for Space Exploration.

Scheduled to launch in the fall of 2008 as part of NASA’s Robotic Lunar Exploration Program, the LRO mission will deliver a powerful orbiter to the vicinity of the moon to obtain measurements necessary to characterize future robotic and human landing sites. It also will identify potential lunar resources and document aspects of the lunar radiation environment relevant to human biological responses.

“I am very excited that NASA has selected to fly our imaging instrument on LRO and that our team will be part of NASA’s new lunar exploration program,” said Robinson, who has worked on imaging for other missions such as NEAR (Near Earth Asteroid Rendezvous), Clementine and MESSENGER.

The Lunar Reconnaissance Orbiter Camera (LROC) consists of one wide-angle camera and two narrow-angle cameras that will help NASA determine the best and safest landing sites for a future human return to the moon. The wide-angle camera will enable mapping of rock types on the surface and lighting conditions near the poles, at moderate resolution, while the narrow-angle cameras will return extremely high-resolution images to map out landing hazards and help plan astronaut excursions.

“LROC can image the surface at a scale of 50 centimeters per pixel,” said Robinson. “That resolution is high enough to identify Apollo-era equipment such as the Lunar Rover, the Lunar Module descent stage, and science experiment packages still sitting on the lunar surface.”

As principal investigator, Robinson heads a team that includes scientists from Northwestern, Brown University, Cornell University, Malin Space Science Systems (MSSS), the University of Arizona and Washington University. The Lunar Reconnaissance Orbiter Camera will be built by MSSS, and the LROC Science Operations Center will be located at Northwestern.

“The instruments selected for LRO represent an ideal example of a dual-use payload in which exploration relevance and potential scientific impact are jointly maximized,” said NASA’s Chief Scientist, James B. Garvin. “I am confident LRO will discover a ‘new moon’ for us, and in doing so shape our human exploration agenda for our nearest planetary neighbor for decades to come.”

Source: Northwestern University
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