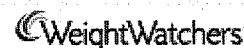


[Sign in](#) · [Register](#)Go to: 

Learn how to eat the foods you're already eating, and lose weight doing it.

[LEARN MORE](#)[Read today's paper](#) · [Jobs](#)Search: Guardian Unlimited Web**Guardian**Unlimited **The Guardian**[Home](#) [UK](#) [Business](#) [Audio](#) [Podcasts](#) [The Wrap](#) [News blog](#) [Talk](#) [Search](#)
[The Guardian](#) [World](#) [News guide](#) [Arts](#) [Special reports](#) [Columnists](#) [Technology](#) [Help](#) [Quiz](#)**Space mission to photograph Apollo landing sites****Tim Radford, science editor**
Monday July 18, 2005
[The Guardian](#)

US scientists are planning a 240,000-mile trip down memory lane - a tour of inspection of all the Apollo landing sites on the moon.

Search this site

In 2008 a powerful camera aboard a new spacecraft called the Lunar Reconnaissance Orbiter (LRO) will photograph the moon's surface in fine detail - fine enough to pick out the Apollo 17 moon buggy abandoned 33 years ago, along with lunar landing platforms and other relics.

The camera will have a resolution of half a metre. So a moon buggy three metres long and two metres wide should show up clearly.

"I would say the rovers will look angular and distinct," said Mark Robinson, of Northwestern University in Evanston, Illinois, one of the scientists behind the project. "Even the rover's tracks might be detectable."

Six spacecraft landed on the moon between July 1969 and December 1972, and 12 astronauts walked on the moon. The LRO mission is the first step in a return to the moon - but it should also settle a conspiracy theory that has exasperated Nasa chiefs for 30 years: the claim that the moon landings were faked. Space-based images of human hardware at the landing sites should put paid to that one.

Nostalgia is not the driving force. Researchers will compare images taken in 2008 and those taken by the Apollo teams three decades ago and look for evidence of fresh craters. From these, they could calculate the frequency of meteorite strikes on the moon. The orbiter will also search for craters that might be in permanent shadow - and therefore potential reservoirs of primeval ice that could provide water for a human settlement on the moon.

A second instrument on the LRO will be a high-precision laser altimeter that will map the surface with exquisite precision, pinning the elevation of lunar crater rims and the higher peaks to an accuracy of one metre.

LRO was one of a series of missions that competed for Nasa backing.

"The ones that won out were not the ones that answer big science questions," said Manuel Grande of Britain's Rutherford Appleton Laboratory, and one of the scientists behind Smart 1, a European mission now orbiting the moon. "They were the ones specifically tailored to putting people on the surface and bringing them back. Everything on that payload is designed to answer questions about a human return, rather than the big science questions about where the moon came from."

The European Space Agency also has long-term plans to land on the moon, but so far only with robots. The Americans see a human base on the moon as a dress rehearsal for a manned mission to Mars. The Europeans hope to solve some of the great puzzles about the moon's formation. Did the Earth and the

In this section[Police arrest paedophile suspect in Thailand](#)[Husband jailed for dumping wife in French lake in 1999](#)

moon come from the same object? What did the early solar system look like? Was there some cataclysmic event 4bn years ago that paved over the surfaces of the inner solar system? The answers could be locked in the moon's soils. Apollo astronauts returned with huge quantities of rock, but all of it from the flat "seas" of the moon that provided safe landing sites. Soil samples from craters or ridges might tell a different story.

"They are interested in sending people to the moon," Prof Grande said. "All of us are space nuts, so that's great. But it doesn't answer science questions."

He sees robots as the answer: "There is a crying need to go to the surface and analyse lunar material in situ - or bring it back. Remote sensing will not provide the answer."

Special report

[Space exploration](#)

Interactive guides

[Space exploration: interactive guides](#)

Net notes

12.04.2001: [Yuri Gagarin](#)

22.03.2001: [Mir space station](#)

Useful links

[The Planetary Society](#)

[Nasa Watch \(not a Nasa site\)](#)

[Space.com](#)

[Houston Space Chronicle](#)

[Encyclopedia Astronautica](#)

[Nasa homepage](#)

[Welcome to the Nasa Web](#)

[Nasa Human Spaceflight \(shuttle homepage\)](#)

[Kennedy Space Center](#)

[Galileo: journey to Jupiter](#)

[Nasa's Mars Exploration Rover Mission](#)

[European Space Agency](#)


[United Nations Office for Outer Space Affairs](#)

[British National Space Centre](#)

[Search for Extraterrestrial Intelligence \(SETI\)](#)

[Printable version](#) | [Send it to a friend](#) | [Save story](#)

Daily sections 

Weekly sections 



[Privacy policy](#) | [Terms & conditions](#) | [Advertising guide](#) | [A-Z index](#) | [About this site](#)
[Join our dating site today](#)

Guardian Unlimited © Guardian News and Media Limited 2007