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FINANCIAL TIMES

# INSIDE TRACK: Quakes help hunt for Martian life

By Fiona Harvey
Financial Times; Jun 06, 2002

The recent discovery of frozen oceans of water just below the rocky surface of Mars has sparked speculation that simple forms of life may exist, or have existed, on the planet. Instruments being developed in the UK will help search for evidence of life.

Researchers at Imperial College in London have begun work on devices that will detect earthquake activity during a planned European mission to explore Mars in 2007.

By monitoring the vibrations of earthquakes, the Imperial team hopes to identify the distinctive "signature" of liquid water as it vibrates. If some of the water on Mars is liquid, it could hold life.

The sensors, to be placed at several points on the planet's surface, will be the first to measure the vibrations of earthquakes deep inside the planet. They will be capable of detecting reservoirs of liquid water.

Each microseismometer consists of a central rectangular weight attached by springs to a surrounding frame, all micromachined from a single two-centimetre square piece of silicon.

Imperial's experiment is part of Europe's NetLander mission, which will send four modules to the surface of Mars, each landing near the planet's equator, and each equipped with instruments to explore the planet's structure and weather.

Imperial sensors in each of the four modules will form a network allowing earthquake vibrations to be triangulated.

The discovery of ice close to the Martian surface opens the way for manned missions, since astronauts would not have to carry water. Such missions are perhaps two decades away. *Imperial College, London; tel: 020 7589 5111; www.ic.ac.uk*