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New boost in hunt for life on Mars

The Wellcome Trust biomedical research charity has agreed to help finance a vital piece of equipment on board Beagle 2 which will be looking for traces of life on Mars – and could lead to the development of new medical instruments.

The mission to the red planet, which has been masterminded by a team of scientists based at the Open University in Milton Keynes, will be launched in a year's time (May 23rd 2003) from Kazakhstan.

Beagle 2 will land on Mars around Christmas and during the ensuing weeks will hopefully collect enough evidence to indicate if life has ever existed there.

The Wellcome Trust is providing £2.6m to pay for the construction of a miniaturised version of a mass spectrometer and 12-oven, 31-valve gas analysis package. This highly sophisticated 'cooking kit' identifies atoms and isotopes and will determine the chemical composition of samples.

If the resulting information reveals that the element carbon has undergone biological processing this could point to some form of life once having been on Mars. The package can also detect trace gases in the atmosphere which are the tell-tale signs of current life. The funds will allow the team to explore possible medical uses and develop versions of the instrumentation for clinical applications.

Professor Colin Pillinger, head of the Planetary Space and Sciences Research Institute at the Open University, said: "One of the biggest challenges of Beagle 2 has been to compress all the paraphernalia which normally fills half a room and make it fit inside the lander."

"We've had to reduce the whole package including the mass spectrometer to something weighing around five kilos which is a bit like reducing your family saloon to a glove compartment. But while developing the idea we began to realise all the possible applications which might exist especially in medical areas where instruments need to be small, portable, robust and sterile."

"We began to think about the 'personal' mass spectrometer, a sort of mobile phone for analysts and we are delighted that the Wellcome Trust has had the vision to back this concept."

Dr. Michael Dexter, Director of Wellcome Trust said: "There could well be some medical spin-offs from the miniaturisation of the mass spectrometer that will be extremely useful, if it allows the technology to move from the lab into a range of clinical settings."

"But if biology is not unique to our planet, what we might learn from life that has arisen elsewhere could challenge some of our most basic assumptions. The finding of life beyond our stratosphere would be as spectacular and thought-provoking as Darwin's theory of evolution, which resulted from the exploits of the original Beagle."

"This is beyond blue skies research and with such a voyage of discovery many novel ideas are bound to emerge."