Cambridge researchers get backing for cosmic vision

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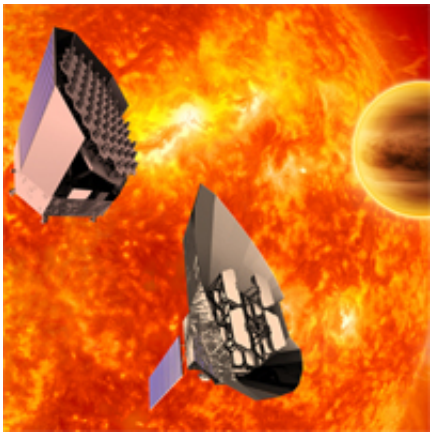

(PhysOrg.com) -- A proposal to design a spacecraft that would seek out habitable planets beyond our own solar system could become reality after receiving support from the UK Space Agency.

Researchers from the University of Cambridge's Institute of Astronomy will play a major role in the "PLATO" project, which is one of three initiatives that have together been granted £3.65 million of preparatory funding by the Agency.

Only two of the projects will ultimately see the light of day, however. The final decision about which will receive full funding rests with the European Space Agency, which will announce its decision in June 2011.

PLATO stands for "Planetary Transits and Oscillations of Stars" and was selected from more than 50 original ideas that will now go forward for detailed technical and cost assessments.

If granted full support, it will focus on seeking out new Earths far beyond our solar system, orbiting distant stars in our galaxy, the Milky Way.

The craft would be powerful enough to detect rocky planets in the "habitable zone", which is the region around a star where liquid water can exist.

Using a suite of space telescopes on board a single spacecraft, PLATO would pick up these planets as they pass in front of their stars, blocking the star light and causing a brief and tiny dimming effect.

The mission would focus on solar systems that are close enough to then be scanned by subsequent projects and ground-based telescopes for "biosignatures" that might indicate life. Biosignatures are traces of molecules or structures that it is unlikely could exist without life, such as biogenic fabrics in rocks, or atmospheric gases.

It is envisaged that the spacecraft would launch between 2017 and 2020, travelling into space on a Russian Soyuz Fregat rocket. It would cost an estimated 475 million Euros to develop. The UK and other ESA member states would be responsible for designing both the spacecraft itself and the scientific instruments on board.

The University of Cambridge is one of seven British institutions which are involved in the project. Researchers from the Institute of Astronomy will lead the development of the PLATO exoplanet processing system, finding, from the PLATO data, those stars with planets, and importantly, those stars with "Earth-like" planets. Dr. Nic Walton will also co-

ordinate the Ground System Exoplanet Analysis software for the project.

Further information about the PLATO initiative and the other projects which have received UK Space Agency funding, can be found at: www.ukspaceagency.bis.gov.uk/default.aspx

Provided by University of Cambridge