Imperial College London

DEPARTMENT OF EARTH SCIENCE AND ENGINEERING

Life Detection at Jupiter's Icy Moon Europa

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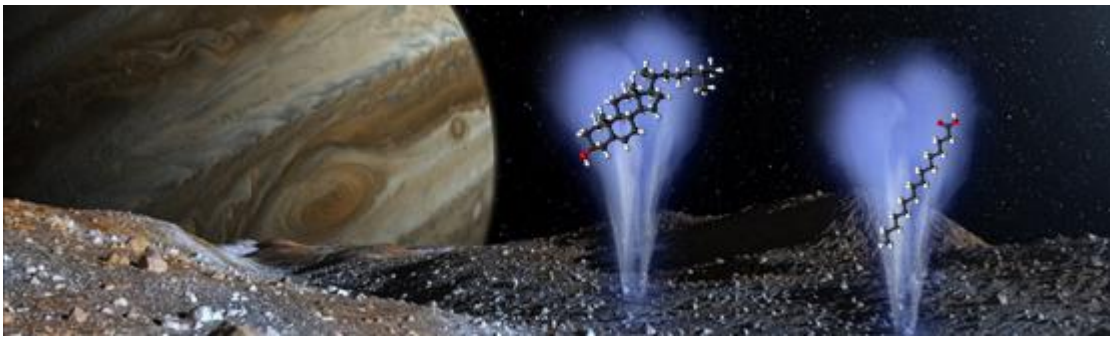

Europa is a priority for solar system exploration because of its potential sub surface ocean. The Europan ocean may be habitable and could host life. Sublimation, meteorite impacts and erupting water plumes all release material from the surface and subsurface to form an atmosphere around the icy moon. The NASA Europa Clipper Mission (https://europa.nasa.gov/) will orbit Jupiter, taking repeated measurements as it passes through the Europan atmosphere.

For the Europa mission, NASA has selected a high-resolution and high sensitivity mass spectrometer capable of measuring gases, ices, and organic molecules. The research project will investigate how mass spectrometry-type measurements of Europa's atmosphere and plumes can determine whether life could exist in the European ocean. The PhD project will support the instrument team and the mission to Europa.

The research will generate data using equipment in the Imperial College Organic Geochemistry Laboratories. Full training will be provided. The project would suit a candidate with enthusiasm for geochemistry, astrobiology and space missions with a background in Earth Science, Chemistry, Planetary Science or a subject with similar skills.

- For more information contact: Professor Mark Sephton (m.a.sephton@imperial.ac.uk).
- Details of how to apply are at: https://www.imperial.ac.uk/study/pg/apply/how-to-apply/.
- Funding details can be found at: https://www.imperial.ac.uk/study/pg/fees-and-funding/scholarships/.