

Searching for chemistry occurring on comets

Code: 20/11

Company: The Open University

Location: The Open University, Milton Keynes

Company Description:

The Open University is an internationally recognised research leader in planetary and space sciences and the development of space instrumentation. Covering a wide range of disciplines from astrobiology to electrical engineering, geochemistry to quantum physics; and technologies from electronic imaging to remote sensing, mass spectroscopy to novel sensors; Open University researchers are often found in key roles in international space science missions such as Rosetta, ExoMars, Euclid, JUICE and Athena; with much of the activities performed in collaboration with Space Agencies, Universities and companies around the World. This research also informs our world-leading teaching in the Physical Sciences, Engineering and Earth and Environmental Sciences

Project Description:

Comets are thought to be pristine material from the formation of the solar system and contain a reservoir of organic molecules formed in space. A priority of the Rosetta mission to comet 67P/Churyumov-Gerasimenko was to analyse the organic molecules, measuring their composition and abundance. During the Philae landing in November 2014, The Open University's Ptolemy instrument analysed the surface material and detected oxygen-rich hydrocarbons, such as alcohols, aldehydes and carboxylic acids. The spacecraft ROSINA instrument measured the coma for over 2 years as the comet travelled from 3.5 AU to perihelion and back. The aim of the project is to develop software to search the ROSINA database for targeted organic molecules and measure their changes in abundance when the comet is at low and high activity. Are comets a repository of pre-solar organics or are they chemical factories that may have seeded the early Earth with complex organic molecules?

Project might lead to a more detailed collaboration with the ROSINA team at University of Bern.

Minimum Requirements:

Practical experience programming and relevant STEM study.

Preferred Additional Requirements:

Chemistry an advantage (A-level), but not essential.

Further details:

8 weeks fixed term contract to be agreed with successful candidate. The gross salary will be approximately £1800 per calendar month. Net take-home pay, after tax and national insurance deductions, will be approximately £1500 per month.

Closing Date for Applications: 5pm Tuesday 24 March

Applications should be made through the online form attaching a CV, before the closing date. Please note that elements of the form left incomplete will be deemed to render the application ineligible. They will be checked for eligibility and forwarded to the employer.