

Analysing numerical simulations of a Mars global climate model

Code: 19/32

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:

We use a leading Mars global climate model (MGCM) to simulate the weather and climate of the planet that includes an upgraded martian water cycle with microphysics. The water cycle depends on multiple parameters which have not been fully explored since the recent upgrade to the water cycle package in the model. This project will explore the parameter space linked to the MGCM water cycle and determine the parameters that best match the water cycle observed by the Mars Global Surveyor satellite. A candidate will analyse multiple MGCM simulations exploring the parameter space and provide a report on the best parameters to reproduce the actual martian water cycle. Prior knowledge of atmospheric science is not necessary.

Applicant Specification:

Project holder responsibilities:

1. Learn to analyse and plot output from the MGCM
2. Produce statistics on the accuracy of the simulated martian water cycle
3. Document results

The project offers the applicant:

- The chance to work with other researchers in planetary science
- Development of skills in programming and running codes in python
- Opportunities to develop good analytical skills

Minimum Requirements:

- Studying for a degree in Physics/Maths/Computing or related numerate field
- Some knowledge of computer programming, for example Python
- Able to plan individual workload

Further details:

8 weeks fixed term contract to be agreed with successful candidate but nominally with a start date 1st July, 2019 to attend the SPIN Induction day at the Satellite Applications Catapult, and completion before 20th September for the Showcase the following week. Salary rate is £22,659 per Annum gross.

Closing Date for Applications: 5pm on Friday 31 May

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.