

Project: 18/16 Characterising astronomical detector using Android phone

Company: The Open University

Supervisor: Jesper Skottfelt

Location: 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:

When characterising detectors used for astronomy and other scientific purposes, it is often useful to be able to project full scenes onto the detector, in order to verify how it deals with real scientific data under various circumstances.

Our idea is to use the AMOLED screen on an Android phone as a scene projector. The project therefore has two parts:

- Creating an Android app, or using other software, to control single pixels on the AMOLED screen.
- The design, manufacturing and testing of an optical setup that allows the light from the AMOLED screen to be projected onto a detector.

The intern can work on either, or both, parts of the project depending on their area of interest and expertise, and will gain insights into the design, operation and characterisation of different types of detector technologies.

Applicant Specification:

- Experience with Android app or Android OS development
- Programming skills in Python or Matlab

or

- Experience in optical and mechanical engineering



- CAD design and 3D printing

Preferred Additional Requirements:

General experience in data analysis and working in a laboratory environment would be desirable.

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date around 25 June 2018. Salary is £1,500 per calendar month.

Closing Date for Applications: 04 April 2018

Applications will be through the online form attaching a CV, before the closing date. They will be checked for eligibility and forwarded to the employer.