

Project 18/23 - Small Satellite and Future Constellations SPINtern

Nanosatellite imager implementation

Project Description

Building upon the success of cube satellites, a pocketQube is a form factor of satellite measuring approximately 5x5x5cm for a single unit. Whilst the reduction in size of electronics has enabled the construction of all primary satellite systems at this scale, many payloads still have higher power and larger volume requirements than can be realistically supplied by a satellite of this size. This project will therefore focus on the development of a bespoke imaging payload that matches these requirements. Due to the power and volume constraints, as well as the need for access to raw pixel data for earth observation purposes, a microcontroller or FPGA based solution will need to be developed to interface directly with a CMOS or CCD style image sensor.

Applicant Specification

The applicant should have prior experience of software development for microcontrollers or other low level targets, or general experience with low level or timing critical programming. They will be required to perform basic assembly of prototyping circuits, use debugging tools to investigate faults and document their research in a clear and informative manner.

Minimum Requirements

Programming experience will be required to implement any algorithmic charge controllers, as well as familiarity with basic circuit bread boarding, prototyping and the use of test equipment to measure relevant values.

Closing Date

Monday 14 May

Interviews

Week commencing 21 May

Further Details

8 weeks fixed term contract to be agreed with successful candidate but nominally with a start date around 18 June which is also the SPIN Induction day at Harwell. Salary is £1,500 per calendar month.

Apply on the website: <https://sa.catapult.org.uk/people/space-placements-industry-spin/>