



Candidate Information

Position:	Research Fellow
School/Department:	Astrophysics Research Ctr
Reference:	19/107440
Closing Date:	Monday 3 June 2019
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Duration:	18 Months

JOB PURPOSE:

To undertake research focusing on Solar System minor planets within the Astrophysics Research Centre of the School of Mathematics and Physics, to develop and exploit next-generation tools for analysing and interpreting future observations and Solar System moving object detections from the Large Synoptic Survey Telescope (LSST).

MAJOR DUTIES:

1. Carry out scientific research investigations in collaboration with other members of the scientific staff to develop software pipelines and utilities for LSST Solar System science and applying these techniques to present-day LSST-precursor datasets.
2. Support field trips to observatory sites to acquire imaging and/or spectroscopic observations.
3. Analyse the acquired observational datasets.
4. Publish the results in the refereed literature.
5. Present results at relevant national and international conferences.
6. Help supervise (as necessary) and support postgraduate and undergraduate students working in this area.
7. Read academic papers, journals and textbooks to keep abreast of developments.
8. Carry out any other duties designated by a line manager and which fall within the general ambit of the post.

Planning and Organising:

1. Plan own day-to-day activity within the framework of the agreed research programme.
2. Contribute to the planning of research projects through telescope proposals and publications etc.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise with research colleagues and support staff on routine matters.
2. Make internal and external contacts to develop knowledge and understanding and form relationships that will ensure the success of the project.
3. Organise, attend and contribute to relevant meetings.

ESSENTIAL CRITERIA:

1. A PhD in astronomy, planetary science, or related field either awarded or with the applicant completing the PhD degree requirements by the time of taking the post.
2. 3 years relevant research experience.
3. Experience in the reduction, analysis, and interpretation of ground-based or space-based astronomical imaging and/or spectroscopic datasets.
4. A number of high quality refereed publications in the research field, commensurate with stage of career.
5. Ability to contribute to method improvement where required.

6. Ability to interact with research colleagues and support staff.
7. Ability to analyse and communicate effectively.
8. Demonstrable intellectual ability and critical thinking skills.
9. Must be prepared to spend considerable time away from home due to working commitments with collaborators, attending conferences and/or field trips.
10. Applications should comprise a full CV, including a complete list of publications (highlighting up to five most relevant works), and a research statement (maximum two pages in length), describing your previous research experience, skill set, and future professional plans.

DESIRABLE CRITERIA:

1. Research experience focusing on Solar System minor planets.
2. Basic knowledge of orbits and ephemerides.
3. Be fluent in python or other high-level language.
4. Have experience in database usage in either the Postgress, SQL, MongoDB, flavours.
5. Past experience working with and manipulating large astronomical datasets.
6. Research experience in planetary astronomy or related fields.
7. Experience in the reduction and analysis of photometry and/or spectroscopy of Solar System minor planets.
8. Past ground-based astronomical observing experience.