University of Nottingham
UK | CHINA | MALAYSIA

Role profile

Job title	Research Fellow (or Associate)	Job family and level	Research and Teaching Level 4 (or Level 4 career training grade where an appointment is made before completion of PhD)
School/ Department	School of Physics & Astronomy	Location	University Park Campus

Purpose of role

This is a postdoctoral research position to lead the analysis of new XRISM observations of cluster cores that were awarded to PI Russell in Cycles 1 and 2. Built and operated jointly by JAXA and NASA, with participation from ESA, XRISM's incredible spectral resolution now allows us to map the dynamics of cluster atmospheres. Using these new XRISM datasets, the successful candidate will demonstrate if and how black hole feedback efficiently heats hot atmospheres around massive galaxies. They will work with Dr Helen Russell within the Nottingham Astronomy Group, as well as collaborators in Europe, Chile and across North America.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	**Analyse X-ray observations** ▪ To take a leading role in the research project described above under the guidance of academic staff in the Nottingham Astronomy Group	60 %
2	**Communicate research results** ▪ To write up this research work for publication in scientific journals ▪ To contribute to dissemination at national/international conferences	15 %
3	**Apply for observing time** ▪ To plan, assess feasibility and write observing proposals for key facilities	15 %
4	**Work as part of a team and wider collaboration** ▪ To build relationships with both internal and external collaborators to exchange information, develop collaborative projects and identify potential opportunities for future collaboration ▪ To co-supervise undergraduate and/or postgraduate student projects as appropriate	10 %

Person specification

	Essential	Desirable
Skills	▪ Able to code in high-level programming languages, such as Python ▪ Able to analyse complex data, critically evaluate results and generate new insights ▪ Able to identify problems independently and work efficiently to meet deadlines ▪ Excellent oral and written communications skills, including the ability to communicate complex information with clarity ▪ Able to build relationships and work with internal and external collaborators both online and in-person	▪ Able to work independently on project objectives ▪ Able to work efficiently on Unix systems
Knowledge and experience	▪ Proven sustained research track record in astrophysics ▪ Experience in the analysis of X-ray observations	▪ Experience in the analysis of X-ray observations with high spectral resolution OR X-ray observations of galaxy clusters ▪ Knowledge of galaxy clusters from an observational perspective
Qualifications, certification and training (relevant to role)	▪ BSc/MPhys degree (or equivalent) in a physics related subject ▪ PhD (or equivalent) in astrophysics or a closely related subject. Applicants in the process of PhD submission will be considered.	

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
Taking ownership	Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
Forward thinking	Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
Professional pride	Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
Always inclusive	Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others