



Job title	Research Fellow (Title will be 'Research Associate' where an appointment is made before PhD is completed.)	Job family and level	Research and Teaching Level 4 (Appointment will be Level 4 Career Training Grade where an appointment is made before PhD has been completed.)
School/ Department	School of Physics and Astronomy	Location	University Park Campus

Purpose of role

To undertake and disseminate research as part of the project "Quantum field theories of the dark universe", focussed on the theory, phenomenology and experimental/observational tests of models of dark matter and dark energy. Preference will be given to candidates with proven track records in applying the functional renormalization group, or in model comparison and parameter estimation. The appointee will be an integral part of a large and diverse team of researchers from the Particle Cosmology Group in the School of Physics and Astronomy, and the newly established Nottingham Centre for Gravity, hosted by the Schools of Physics and Astronomy, and Mathematical Sciences.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	To plan and conduct primary research in line with the goals of the project.	75%
2	To write up research work for publication and contribute to the dissemination of research at scientific meetings.	10%
3	To develop independent research ideas and collaborate with academic colleagues on areas of shared interest.	5%
4	To build relationships with internal and external contacts to promote knowledge exchange, build future collaborations and identify potential funding sources.	3%
5	To contribute to the dissemination of research outputs to the general public.	2%
6	To assist, where appropriate, with supervising undergraduate (BSc/MSci) and postgraduate (MSc/PhD) student projects.	2%
7	To assist with operational aspects of the research project, e.g., planning meetings and updating websites.	1%
8	To engage with the activities of the Particle Cosmology Group (and related groups), e.g., contributions to journal clubs and attendance of local seminars.	1%
9	To identify opportunities and assist in writing bids for research funding.	1%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ Proven track record in at least two of the following: dark energy, dark matter, modified theories of gravity, quantum field theory, or extensions of the Standard Model of particle physics. ▪ Excellent oral and written communication skills, including the ability to communicate complex information with clarity. ▪ Ability to build relationships and collaborate with others, both internally and externally. 	<ul style="list-style-type: none"> ▪ Proven track record in either: the functional renormalization group and asymptotic safety, or model comparison and parameter estimation.
Knowledge and experience	<ul style="list-style-type: none"> ▪ Evidence of having applied the specialist skills, approaches and techniques required for the role. 	<ul style="list-style-type: none"> ▪ Track record of academic publications in an area related to the research project at a level appropriate to career stage. ▪ Experience of developing new approaches, models, techniques or methods in the research area. ▪ Experience of public engagement. ▪ Previous success in gaining external research funding.
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ PhD (or close to obtaining a PhD) in physics or mathematics related to the project. ▪ BSc/MPhys degree (or equivalent) in a physics-related subject. 	



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.



The University is a signatory of the Declaration on Research Assessment (DORA). As such we commit to focus on the scientific content of publications (where requested or provided as part of the recruitment and selection process) as a basis for review of quality, and consideration of value and impact of research conducted, rather than any proxy measures such as Journal Impact Factor.

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 friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others

