Job Description

Job title	Research Associate
Department/School	Department of Physics
Job family	Education and Research
Grade	7
Reporting to	Dr Josh Nunn, Dr Peter Mosley
Responsible for	There may be a requirement for day to day supervision of doctoral or undergraduate students
Location	University of Bath premises

Background and context
This post is associated with the EPSRC-funded *Networked Quantum Information Technologies (NQIT)* Hub, part of the UK Quantum Technology programme. The successful candidate will work towards the goals of the Photonics work package.

Job purpose
To provide subject-specific research expertise and undertake specific research work with Dr Josh Nunn and Dr Peter Mosley and their research teams towards the goals of the NQIT project.

Main duties and responsibilities	
1	Conduct individual and collaborative research in theoretical nonlinear quantum optics. Participate in regular discussions with project partners. Generate, collect and analyse existing data related to the project using quantitative techniques.
2	Write up results of research and contribute to the publication of results in high-quality peer-reviewed academic literature.
3	Disseminate results through activities such as • research visits to collaborators • conference presentations • public engagement activities
4	Participate in group meetings and prepare and deliver presentations to project team, internal and external stakeholders or funders.
5	Assist with the supervision of postgraduate students and undergraduate project students and the assessment of student knowledge.
6	Continually update knowledge and understanding in quantum optics and photonics to inform research activity.
7	Identify sources of funding and assist in preparing bids to funding bodies. Develop ability to secure own funding e.g. travel grants.
8	Contribute to the development of research objectives and proposals for own or joint research projects, with assistance of a mentor, if required.
9	Disseminate knowledge of research advances to inform departmental teaching.
	You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance.

Person Specification

Criteria	Essential	Desirable
Qualifications		
A PhD degree in subject area of direct relevance for the project, or equivalent significant relevant experience and professional qualification	√	
Experience/Knowledge		
Experience of theoretical quantum optics; in particular, specialist knowledge of parametric scattering processes, nonlinear photonics in coupled systems, and the development of numerical modelling techniques for guided-wave structures	√	
Demonstrated significant depth and breadth of specialist knowledge enabling rapid contribution to research programme and to the development of research activities	√	
Demonstrated awareness of latest developments in the field of quantum optics and photonic quantum technology	√	
Demonstrated potential to publish in high quality, peer reviewed journals	√	
Skills		
Ability to conduct individual research work and to disseminate results	√	
Ability to organise and prioritise own workload to meet required deadlines	√	
Ability to write research reports and to effectively disseminate outcomes	√	
Excellent oral, interpersonal and written communication skills	√	
Proficiency in appropriate techniques for analytic and numerical calculations	√	
Proficiency in IT skills	√	

Attributes		
Commitment to working within professional and ethical codes of conduct	√	
Innovation and developing creative solutions	√	
Commitment to excellence in research	√	
Enthusiasm and self-motivation	√	
Tenacity – working to achieve own and team objectives and to overcome obstacles	√	
Ability to be an effective team worker	√	
Commitment to safe working practices	√	