

Department of Physics

Research Assistant

£28,695 - £37,394 pa

Fixed Term Contract for 36 months



Applications are invited for one Postdoctoral Research Assistant in quantum-enhanced sensing of novel physics such as dark matter and quantum aspects of gravity. The position is based in the quantum information science group of Dr. Animesh Datta, part of a [multi-institution project](#) involving theoretical and experimental groups at Cardiff (Grote, Dooley), Birmingham (Boyer, Martynov, Miao), Glasgow (Hadfield), and Strathclyde (Reid).

The post is available for a fixed-term duration of 36 months, starting no later than May 01, 2021.

The post will develop theoretical schemes for quantum-enhanced sensing of novel physics such as dark matter (axionic or otherwise), emergent gravity, holographic noise, and the quantum aspects of gravity more generally. Particular emphasis is to be placed on the experimental feasibility of these schemes in interferometric and other setups on optical, mechanical, optomechanical or other platforms. Consequently, it will also develop methods of combating decoherence effects in these schemes, for instance by employing strategies from quantum error correction and quantum control.

The Postdoctoral Research Associate (PDRA) will work with graduate students and other PDRAs in the quantum information science group of Dr. Animesh Datta and collaborate closely with the group of Dr. Haixing Miao (Birmingham).

Applicants should possess or be very close to obtaining a doctorate in theoretical physics or mathematics and have a strong background in quantum optics, quantum optomechanics, quantum information science (ideally quantum sensing). Candidates are expected to demonstrate knowledge of areas of physics such as quantum-enhanced interferometry and familiarity with testing quantum models of gravity.

The candidate must be capable of working within a broader research team, demonstrating strong written and verbal communication skills, and maintaining a current knowledge of the quantum information literature.

The application should include a CV, list of publications, a statement of research interests, and the contact information of three referees. Shortlisted applicants will be expected to arrange for these three referees to send letters of recommendation before the interview date. Please note that it is the applicant's responsibility to ensure that the reference letters are received by that date. The post reference number should be quoted in all correspondence.

Informal inquiries can be made to [Dr. Animesh Datta](#). Further details about the research group can also be obtained at www.warwick.ac.uk/qinfo

Closing date: Shortly to be advertised officially.

Interview date: To be stated in official advertisement.