



UNIVERSITY OF LEEDS

**Research Fellow in Quantum Communications
School of Electronic and Electrical Engineering**



Salary: Grade 7 (£32,004 – £38,183 p.a.)

Reference: ENGEE1050

Closing date: 3 January 2017

Fixed term for 2 years (with possible extension)

Research Fellow in Quantum Communications

Institute of Microwaves and Photonics

Are you an experienced and ambitious researcher looking for your next challenge? Do you have a background in quantum communications? Do you want to further your career in one of the UK's leading research intensive Universities?

Quantum key distribution (QKD) provides unbreakable, future-proof security against the vulnerabilities of most cryptosystems currently in operation. QKD has been implemented mostly over dedicated channels and between two parties. Before current communication vulnerabilities are exploited, it is essential to facilitate the use of QKD technology for any two users at any distance, via a network. This project addresses the theoretical analysis of quantum communications networks, including the UK Quantum Network, at access and metro levels. Another key aspect is the theoretical development of future generations of quantum networks via quantum repeaters.

You will work closely with [Dr M Razavi](#), at the intersection of quantum information science and optical communications. You will also collaborate with partner researchers in the [National Hub for Quantum Communications Technologies](#).

What does the role entail?

As a postdoctoral fellow, you will

- Execute world-class research focussed on QKD networks and Quantum Communications Hub activities;
- Identify areas for research and extend the research portfolio of the research group;
- Develop initiative, creativity and judgement in applying appropriate approaches to research activities;
- Attend meetings as required to discuss the project, and contribute to joint discussions with the wider research group;
- Ensure good day-to-day progress of work, and maintain good records;
- Write up results for publication in leading international journals, and attend suitable conferences for their dissemination;
- Interact with, and provide assistance to, other staff in the research group and the Hub;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;



- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow you will have:

- A PhD (or an expectation that a PhD will be awarded soon) in Physics, Engineering, or a related discipline;
- A track record in research which has led to publications in international refereed journals;
- Research experience with at least one of these areas: QKD protocols and their security analysis; Quantum Repeaters; Optical communications networks and basics of quantum optics;
- Experience with numerical/symbolic maths software such as MATLAB or Maple;
- Ability to work effectively and responsibly without close supervision, including the planning and execution of research tasks;
- Ability to work well both as part of a team with a good track record of collaboration, and individually;
- Good time management and planning skills, with the ability to meet tight deadlines and work effectively under pressure;
- Excellent written and verbal communication skills including presentation skills;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience of contributing to student supervision and training (both undergraduate and postgraduate).



How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information. Applications should be submitted by 23.59 (UK time) on the **3 January 2017**.

Contact information

To explore the post further or for any queries you may have, please contact:

[Dr Mohsen Razavi](#), Associate Professor

Tel: +44 (0) 113 343 9406

Email: m.razavi@leeds.ac.uk

Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the [Faculty of Engineering](#) and the [School of Electronic and Electrical Engineering](#)

Working at Leeds

You can find out more about our generous benefits package and more about what it is like to work at the University and live in the Leeds area in our [Working at Leeds](#) section.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found in our [Accessibility](#) section or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

A criminal record check is not required for this position, however, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be accordance with our [Criminal Records policy](#). You can find out more about required checks and declarations in our [Criminal Records information](#).

