Candidate Information

Position: Research Fellow
School/Department: School of Electronics, Electrical Engineering and Computer Science
Reference: 26/113293
Closing Date: Monday 4 May 2026
Salary: £41,519 per annum
Anticipated Interview Date: Wednesday 13 May 2026
Duration: 6 Months

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the TITAN Hub, funded by the Engineering and Physical Sciences Research Council (EPSRC). Collaborators in this project include the University of Cambridge and Tyndall National Institute.

To develop proactive, AI-driven approach for access technology selection in next-generation 6G wireless systems. Lead the design of a novel hybrid AI model, applying advanced machine learning and modelling for complex systems to predict channel quality dynamically. Explore the use of the JOINER infrastructure to help collect and synthesise data required to train and validate AI models.

The successful candidate will become an active member of the Centre for Wireless Innovation and the School of Electronics, Electrical Engineering and Computer Science (EEECS) at Queen's University Belfast QUB, assisting in the production of world leading research output.

MAJOR DUTIES:

1. Drive the design and implementation of novel hybrid models by leveraging extensive AI and machine learning capabilities, including deep learning, neural networks, and extreme learning machines, to accurately predict short-, medium-, and long-term channel quality across different access technologies, while developing robust strategies for handling imbalanced data.
2. Apply advanced multi-objective optimisation techniques, specifically incorporating co-evolutionary algorithms, to translate predictive AI models into a proactive Multi-Access Technology Selection (MATS) algorithm, critically evaluating its performance for network resilience, latency, and energy efficiency.
3. Collaborate with project partners to integrate algorithms into the JOINER infrastructure and partner measurement campaigns across diverse frequency bands.
4. Present regular progress reports on research to research group members or external audiences to disseminate and publicise research findings.
5. Prepare, often in consultation with the supervisor, material for publication in national and international journals and presentations at international conferences.
6. Assist grant holder in the preparation of funding proposals and applications to external bodies.
7. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget.
8. Carry out occasional undergraduate (final year, MEng) project supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.

ESSENTIAL CRITERIA:

1. Have, or be about to obtain, a PhD in Electronics, Electrical Engineering, Computer Science, Physics or closely related discipline.
2. Specific, relevant research experience to include:
   • Research experience in techniques including multiobjective optimisation, co-evolutionary algorithms.
   • Extensive AI and machine learning capabilities including extreme learning machines, handling imbalanced data, deep learning and neural networks.

3. Evidence of strong publication record commensurate with stage of career.
4. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
5. Strong communication skills with a demonstrable ability to communicate complex information clearly.
6. Proven ability to build contacts and participate in internal and external networks.
7. Ability to travel and present at project meetings, and international conferences.

DESIRABLE CRITERIA:

1. Able to demonstrate:
   • Wireless Sensing and/or spectrum modelling
   • Algorithm development
2. Experience in EU or RCUK projects, in particular in project task management and reporting through periodic deliverables.
3. Experience in producing timely technical documentation on research projects (deliverables, reports).
4. Experience with presentations of research outputs in conferences, workshops, or seminars.

ADDITIONAL INFORMATION:

Please note this post will require the successful candidate to have immediate availability to start asap.