Candidate Information

Position:	Research Fellow - Channel Modelling
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	24/111961
Closing Date:	Monday 1 July 2024
Salary:	£40,134 to £42,567 per annum
Anticipated Interview Date:	Wednesday 10 July 2024
Duration:	Available until 31 March 2027

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the Hub on All Spectrum Connectivity (HASC), funded by the Engineering and Physical Sciences Research Council (EPSRC). Collaborators in HASC include the University of Oxford, University of Bristol, University of Southampton, University of Strathclyde, University of Cambridge, University College London and Imperial College London.

To conduct a series of channel simulations and measurements at frequencies likely to be used by radio access technologies in future wireless systems specifically at millimetre-wave and terahertz (THz) frequencies. Building upon the measurements, develop a new generation of wireless channel models, specifically tailored to these systems.

The successful candidate will become an active member of the Centre for Wireless Innovation and the School of EEECS at QUB, assisting in the production of world leading research output.

MAJOR DUTIES:

1. Conduct a series for channel simulations and measurements within agreed target frequency bands.
2. Construct new channel models which will support millimetre-wave and THz wireless access.
3. Explore the use of AI and machine learning in channel modelling and prediction.
4. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to channel modelling, milllimetre-wave and THz communications.
5. Present regular progress reports on research to research group members or external audiences to disseminate and publicise research findings.
6. Prepare, often in consultation with the supervisor, material for publication in national and international journals and presentations at international conferences.
7. Assist grant holder in the preparation of funding proposals and applications to external bodies.
8. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget.
9. 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, or closely related discipline.
2. Research experience in wireless communications or related area.
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:
   - Experience in channel sounding / measurements
   - Data processing, statistical characterisation
   - Channel modelling
   - Algorithm development
   - Knowledge of AI and machine learning
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.