



Candidate Information

Position:	Research Fellow
School/Department:	Centre for Wireless Innovation
Reference:	23/110805
Closing Date:	Monday 17 April 2023
Salary:	£36,333- £38,474 per annum
Anticipated Interview Date:	Thursday 27 April or Wednesday 3 May 2023
Duration:	21 months or until 28 February 2025, whichever is sooner

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the £12m project "Realising Enabling Architectures and Solutions for Open Networks (REASON)", funded by the Department of Digital, Culture, Media and Sport (DCMS).

To develop novel signal processing solutions for cell-free massive MIMO/XL-MIMO systems and 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. Develop scalable signal processing solutions for cell-free massive MIMO and extra large-scale MIMO augmented by RIS. These solutions will target: channel estimation; power control; user grouping; and resource allocation.
2. Study the potential integration of THz communications within the proposed solutions.
3. Evaluate the performance of the proposed solutions in MATLAB and/or Python.
4. Develop and plan an area of personal research and expertise and/or undertake research under supervision within a specific research project or as a member of a research team.
5. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to the proposed research topic.
6. Present regular progress reports on research to research group members or to external audiences to disseminate and publicise research findings.
7. Prepare, often in consultation with the supervisor, material for publication in national and international journals and presentations at international conferences.
8. Assist grant holder in the preparation of funding proposals and applications to external bodies.
9. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget.
10. 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 the academic staff.

ESSENTIAL CRITERIA:

1. Have, or be about to obtain, a PhD in Electronics, Electrical Engineering, or closely related discipline.
2. At least 3 years research experience in communication theory, communications signal processing or related area.
3. Evidence of strong publication record commensurate with stage of career.
4. Demonstrable ability to:
 - contribute to research management and administrative processes.
 - contribute to the School's outreach programme by links with industry, community groups etc.
5. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
6. Strong communication skills with a demonstrable ability to communicate complex information clearly.
7. Proven ability to build contacts and participate in internal and external networks.
8. Ability to travel and present at project meetings, and international conferences.

DESIRABLE CRITERIA:

1. Able to demonstrate:
 - Strong background in communication theory
 - Experience with MIMO communications, cell-free massive MIMO or intelligent metasurfaces.
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.