



Candidate Information

Position:	Research Fellow in Security of Future Networks
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	25/112452
Closing Date:	Monday 31 March 2025
Salary:	£39,922 per annum
Anticipated Interview Date:	Wednesday 16 April 2025
Duration:	25 months

JOB PURPOSE:

The postdoctoral fellow will contribute to the ongoing activities of the NSS group within the Centre for Secure Information Technologies on developing, implementing, and demonstrating secure, programmable next-generation networks. In particular, the postdoctoral fellow will take a lead role in investigating novel methods to address the cyber security of future flexible and programmable communication networks (6G/Satellite/Space-air-ground integrated networks).

This is a unique opportunity to contribute to secure next generation communication networks and work at one of the leading institutions in the UK in cyber security, the Centre for Secure Information Technologies – Queen's University Belfast, collaborating with academic and industry partners.

MAJOR DUTIES:

1. Undertake research investigating the security of programmable network technologies in spaceair-ground integrated networks (SAGINs).
2. Design, develop and refine methods for securing SAGINs taking account of programmable networking technologies and the application of machine learning for network security.
3. Carry out in-depth analyses, experimental tests, and critical evaluations of the proposed methods on physical or emulated network testbeds.
4. Produce high-quality research outputs e.g., publications in top-tier journals, software artefacts etc.
5. Present and promote research milestones and outputs internally and externally at national or international events.
6. Assist in the preparation of funding proposals and applications to external bodies.
7. Carry out occasional educational supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Undertake supplementary duties relevant to the success of the research and CSIT including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Have (or be about to obtain) a PhD in Computer Science or a relevant field.
2. A solid research record in an area related to cyber security and programmable networking.
3. A strong publication record, commensurate with stage of career.
4. Demonstrable competency in network programming (e.g., hands-on experience with P4, bmv2 and Mininet or OpenFlow SDN) or network security systems design (e.g., software implementation of intrusion detection systems).
5. Evidence of strong analytical and problem-solving skills.
6. Proven ability to communicate complex information effectively in oral and written format.
7. Ability to assess and organise resources.

DESIRABLE CRITERIA:

1. Experience in successful research with external partners (e.g. joint research publications or deliverables).

2. Competency in applied machine learning (e.g., skills in designing and implementing ML models in Keras, PyTorch or Tensorflow for practical use cases).
3. Experience in funding proposal writing.
4. Interest in cyber security skills development with Schools, community groups etc.