

Candidate Information

Position:	Research Fellow
School/Department:	Centre for Secure Information Technologies
Reference:	23/110638
Closing Date:	Monday 27 February 2023
Salary:	£35,333 - £37,474 per annum
Anticipated Interview Date:	Monday 20 March 2023
Duration:	Fixed Term for 30 months

JOB PURPOSE:

To conduct research into semiconductor security and specifically into the application of advanced machine learning techniques for use in hardware Trojan detection. This project will be hosted by the Centre for Secure Information Technology (CSIT): <https://www.qub.ac.uk/ecit/CSIT/> at Queen's University Belfast.

MAJOR DUTIES:

1. Conduct research into semiconductor security, the application of machine learning and deep learning techniques in Hardware Trojan detection and to collaboratively work on security verification in Electronic Design Automation (EDA) Tools.
2. Actively contribute to the general planning and delivery of the overall research project activities.
3. Present progress reports on research to the UK research community via the Research Institute in Secure Hardware and Embedded Systems (RISE: <https://www.ukrise.org/>), to CSIT industry advisory board members or to external audiences to disseminate and publicise research findings.
4. Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
5. Assist in the preparation of funding proposals and applications to external bodies.
6. Carry out routine administrative tasks associated with the research project. This might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
7. Carry out occasional undergraduate/postgraduate student 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.
8. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
9. Any other duties that may reasonably be requested by the programme supervisor.

ESSENTIAL CRITERIA:

1. 2:1 Honours degree in Electrical and Electronic Engineering/Computer Science/Mathematics (or related discipline).
2. Have, or be about to obtain, a PhD in a relevant subject.
3. At least 3 years' relevant research experience in FPGA/ASIC/Embedded systems design.
4. Evidence of a strong publication record commensurate with career stage and experience.
5. Demonstrable ability to contribute to broader management and administrative processes.
6. Demonstrable ability to contribute to the School's outreach programme by establishing links with industry, community groups, etc.
7. Evidence of sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
8. Good written and verbal communication skills.
9. Ability to communicate complex information clearly.
10. Ability to innovate and rapidly contribute to research projects.
11. Willingness to visit collaborative partners and to attend meetings and conferences nationally and internationally as requested.

DESIRABLE CRITERIA:

1. Expertise in Hardware Trojan design and/or detection.
2. Ability to build contacts and participate in internal and external networks.
3. Experience of collaborative research or working in a team is desirable.