Candidate Information

Position: Research Fellow Hardware Security
School/Department: School of Electronics, Electrical Engineering and Computer Science
Reference: 24/112339
Closing Date: Monday 27 January 2025
Salary: £39,922 per annum
Anticipated Interview Date: Thursday, 6 February 2025
Duration: Fixed Term, 12 months

JOB PURPOSE:

To conduct research into intrinsic physical unclonable function (PUF) designs for resource-constrained devices, such as approximate computing-based applications. This research is an EPSRC New Investigator Award funded project to develop secure intrinsic PUF designs on a RISC-V platform. The successful candidate will be based at the Centre of Secure Information Technology (CSIT) (https://www.qub.ac.uk/research-centres/csit/) - at the Institute of Electronics Communication and Information Technologies (ECIT), Queen's University Belfast. The post is a critical role, and as such, successful applicants will have responsibilities in independent research, supervision, planning, collaborations, and outreach.

MAJOR DUTIES:

1. Conduct research into intrinsic PUF designs for approximate processors; conduct a security and performance analysis of the proposed designs and evaluate their entropy.
2. Actively contribute to the general planning and delivery of the overall research project activities.
3. Present progress reports on research to project partners, CSIT industry advisory board members or to external audiences to disseminate and publicise research findings.
4. Assist grant holder in the preparation of funding proposals and applications to external bodies.
5. 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.
6. 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.
7. Read academic papers, journals, and textbooks to keep abreast of developments in own specialism and related disciplines.
8. 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. Recent relevant research experience in hardware security, embedded systems design, hardware design and/or hardware/software co-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 and to contribute to the School's outreach programme by links with industry, community groups etc.
6. Evidence of breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
7. Good written and verbal communication skills.
8. Ability to communicate complex information clearly.
9. Ability to innovate and rapidly contribute to research projects.
10. Willingness to visit collaborative partners and to attend meetings and conferences nationally and internationally as requested.

DESIRABLE CRITERIA:

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

ADDITIONAL INFORMATION:

Informal queries may be directed to Dr Ciara Rafferty, c.m.rafferty@qub.ac.uk