**Job Description**

**Job Title: Research Assistant in Quantum Formal Methods**

**Job Ref: SCT**

**Campus: Hendon**

**Grade: Grade 6**

**Salary: £31,384 - £39,664 p.a. inclusive of Outer London Weighting**

**Period: 6 months**

**Reporting To: Professor of Foundations of Computing**

**Role Summary**

The role will be held by a graduate, postgraduate or post-doctoral researcher.

**Job Purpose**

To contribute to the project “Formal Verification of Security Protocols in Coq” funded by the National Cyber Security Centre (NCSC) through the Research Institute on Verified Trustworthy Software Systems (VeTSS). Most importantly, to assist the research team in developing formal proofs of quantum security protocols using the proof assistant Coq.

**Main responsibilities:**

**Research and knowledge transfer**

* Study quantum security protocols and build informal proofs
* Develop simulation of the protocols using software tools
* Develop proofs using Coq
* Carry out individual and collaborative research relevant to the project
* Contribute to the development of software according to project requirements
* Produce research reports and deliverables related to the project
* Collaborate in preparing conference and journal articles for high quality peer-reviewed publication

**Administration**

* Undertake general administrative tasks to ensure the smooth running of the project
* Coordinate with stakeholders and end-users related to the project

**Learning and Teaching**

* To assist in any other task defined by the line manager as appropriate to the post and grade, such as teaching and student project supervision

**PERSON SPECIFICATION**

**Post Title: Research Assistant in Quantum Formal Methods**

**Knowledge, Skills and Experience**

Essential requirements

* A postgraduate degree in a relevant discipline (e.g., computer science, mathematics, engineering or physics) **or** substantial experience of constructive formal proof
* Record of success in undertaking research activity
* Experience in using initiative and creativity in research
* Experience with Coq, Isabelle or similar system
* Track record of researching, developing and/or applying formal methods, especially formal proofs and interactive theorem proving, in a formal proof assistant such as Coq.
* Ability to carry out project tasks, write project reports under time pressure
* Ability to perform collaborative activities and communicate with co-workers and stakeholders

Desirable requirements

* Evidence of research outputs of international standard
* Ability to contribute to learning and teaching

**Hours:** 35.5 hours per week, actual daily hours by arrangement

**Length of appointment:** 6 months

**Leave:** 35 days per annum plus eight Bank Holidays and seven University days taken at Christmas (pro rata for part-time staff) which may need to be taken as time off in lieu. All leave should be agreed in advance with the line manager.

**Flexibility:** Please note that given the need for flexibility in order to meet the changing requirements of the University, the duties and location of this post and the role of the post-holder may be changed after consultation. The balance of duties may vary over time and will be reviewed as part of the appraisal process.

**No Parking at Hendon campus:** There are no parking facilities for new staff joining our Hendon campus, except for Blue Badge holders. Please ensure you can commute without using a car.

Information on public transport to Hendon can be found here:

<https://www.mdx.ac.uk/get-in-touch/directions-london>

We offer an interest-free season ticket loan, interest-free motorbike loan, and bicycle and motorbike parking and changing facilities.

Flexible working applications will be considered.

The post holder should actively follow Middlesex University policies and procedures and maintain an awareness and observation of Fire and Health & Safety Regulations.

**Closing date** for receipt of applications:

Interview date:

Please return the completed application form to: **recruit1@mdx.ac.uk**

**What Happens Next?**

If you wish to discuss the job in further detail please contact Professor Raja Nagarajan by email at R.Nagarajan@mdx.ac.uk. If selected for interview, you will hear directly from the School of Science and Technology within 2--3 weeks of the closing date.