

## PhD/Doctoral Studentship - Post-post Quantum Cryptography

Fri, 2017-02-10 13:01 - [Georgia Mortzou](#) [1] **At:** Royal Holloway, University of London  
**Deadline:** 12 March, 2017

### Location

Royal Holloway, University of London Egham United Kingdom  
51° 25' 46.74" N, 0° 32' 47.364" W  
See map: [Google Maps](#) [2]

A fully funded PhD/Doctoral Studentship is available at the Information Security Group of Royal Holloway (University of London) in the area of post-quantum cryptography.

The studentship is funded in part by the EPSRC Quantum Communications Hub and in part by Royal Holloway and is subject to EPSRC's eligibility criteria (see [www.epsrc.ac.uk/skills/students/help/eligibility](http://www.epsrc.ac.uk/skills/students/help/eligibility)) [3]. The funding will be for a period of 3 years and covers costs of university fees plus a stipend of £16,553 per annum (corresponding to the National Minimum Stipend plus London Allowance).

The ongoing development of quantum-computing technology poses a threat to the security of some widely used cryptographic schemes.

Post-quantum cryptography responds to this threat by designing and analyzing schemes that are immune to attacks by an adversary assumed to be in possession of a quantum computer. The more recent field of post-post quantum cryptography assumes in addition that the adversary has full access to a quantum implementation of the encryption and/or decryption device, which implies that the adversary would be able to carry out a quantum superposition attack. This project will address some of the many open questions in post-post quantum cryptography.

Possible directions for research include the development of formal security models and the cryptanalysis of a variety of cryptographic schemes under quantum superposition attacks. Another potential direction is the analysis of an in-between scenario where the adversary has full quantum-computing capabilities but only limited quantum access to the device, which is gaining importance with the increasing miniaturization of components.

For more information and to apply, please visit: <http://www.jobs.ac.uk/job/AXD936/phd-doctoral-studentship-post-post-quantum-cryptography/>

- [PhD](#) [4]

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