

Experimental PhD project in quantum digital signatures and quantum amplifiers

Fri, 2017-02-10 12:41 - [Georgia Mortzou](#) [1] **At:** Heriot Watt University
Deadline: 31 July, 2017

Location

School of Engineering & Physical Sciences, Heriot Watt University Edinburgh United Kingdom
55° 57' 11.7072" N, 3° 11' 17.7612" W
See map: [Google Maps](#) [2]

A PhD studentship, supported by EPSRC funding through Heriot-Watt University, is available to work on advanced quantum communications as part of the Quantum Communications Hub , while being based at Heriot-Watt's campus in Edinburgh.

The student will work on an experimental project under the supervision of Professor Gerald Buller, based at Heriot-Watt's quantum communications experimental group (<http://www.single-photon.com> [3]). The PhD will involve experiments on quantum digital signatures, a new quantum communications protocol pioneered by Heriot-Watt in recent years. The group has conducted quantum digital signature experiments over significant lengths of optical fibre in both laboratory and installed settings and is now examining the possibility of applications using satellite communication systems. Consequently, some knowledge of free-space and/or optical fibre photonics would be beneficial. There are also opportunities to conduct additional work in related areas, such as coherent state amplifiers and 100 GHz optical code scrambling seeded using quantum encryption keys. The student will be involved in a wide range of research activities associated with the Quantum Communications Hub and gain invaluable experience and training in the fast-growing area of highly secure communications. The work will be primarily experimental, including operation of both the data-handling and quantum-optical aspects of major trials and demonstrations.

For more information, and to apply, please check this [link](#) [4].

- [PhD](#) [5]

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