



## PostDoc Job Opportunity



	First Name	Last Name	email	Institute	Address
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### Brief summary of research group / centre activity

The primary research activities of my group are: the design, characterisation and applications of lasers and semiconductor optical amplifiers for telecommunications; and Terahertz signal generation and waveguiding.

### Description of postdoctoral project on offer:

The focus of this project is to examine the integration of a passively mode-locked quantum dash semiconductor laser (QD-MLL) in a novel fibre-based sensing system. QD-MLLs are a reliable source of short pulses (less than 2-ps) at a high repetition rate (40 GHz). An important feature of such lasers is the presence of a well-defined, highly coherent comb of wavelengths. When such laser radiation interacts with a fiber Bragg grating, only a specific wavelength will be reflected. Any change in the experimental conditions, temperature and/or pressure for instance, experienced by the fibre grating will produce a pulse change which can be monitored. Due to the fast repetition rate, fast phenomena can be detected. In the first part of this project, a study of the simulation of a fibre sensor with a MLL will be carried out, in the second part the physical implementation of the sensor will be achieved.

### Please indicate the core skills or disciplines that are required for this position:

Opto-electronics, nanomaterials, optical telecommunications