Postdoctoral Researcher / Research Fellow in Photonic Systems

School of Electronic Engineering

Fixed Term Contract up to 48 Months

Role Overview

The School of Electronic Engineering is seeking to appoint a highly motivated Postdoctoral Researcher to undertake leading edge research in the domain of high speed optical communication systems. The successful applicant will join a multidisciplinary team to work in liaison with current researchers on the development of high capacity photonics systems for applications such as data centre interconnects, wireless optical transmission systems and coherent optical communications.

Duties and Responsibilities

The duties and responsibilities attaching to the post include but are not restricted to the following:

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator. The programme of research will involve investigating the use of novel optical sources including fast tuneable lasers and optical frequency combs for a number of applications including:
  - high capacity optical switching fabrics for future data centre interconnects,
  - fast reconfigurable optical networks employing advanced modulation formats,
  - high capacity WDM optical transmission systems employing frequency combs for fibre and wireless communication systems.

- Assist in identifying and developing future research and funding initiatives.
- Engage in the dissemination of the results of the research in which they are engaged with the support of and under the supervision of the Principal Investigator.
- Assist with the supervision of PhD students, researchers, internship students, and project students working in the area of photonic systems.
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University.
- Engage in teaching and teaching support as assigned by the Head of School under the direction of the Principal Investigator.
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators.
- Carry out administrative work associated with the programme of research as necessary.
**Qualifications and Experience:**

Applicants should have a PhD in Physics or Electronic Engineering.

In addition, it is desirable that the candidate has relevant postdoctoral experience in the following areas:

- Reconfigurable optical networks
- Coherent optical communication systems
- Optoelectronics devices including optical frequency combs and fast tuneable lasers
- Digital Signal Processing for coherent optical systems
- Experimental test-beds for photonic systems

**Mandatory Training:**

The post holder will be required to undertake the following mandatory compliance training: Orientation, Health and Safety and Data Protection (GDPR). Other training may need to be undertaken when required.

**Competencies:**

The post holder will be required to have the following competencies:

**Discipline knowledge and Research skills** – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.

**Understanding the Research Environment** – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications.

**Communicating Research** – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students.

**Managing & Leadership skills** - Demonstrates the potential to manage a research project including the supervision of undergraduate students.