

Dublin Institute of Technology is inviting applications for the DIT Fiosraigh PhD Scholarship Programme 2010. The Irish word Fiosraigh, which means to explore or inquire, underlines the purpose of this scholarship programme which is to promote the exploration and application of knowledge as part of DIT research strategy. The Fiosraigh Scholarships are awarded on a competitive basis to prospective students planning to undertake full-time PhD study.

The **DIT Photonics Research Centre (PRC)** is located in the School of Electronic and Communications Engineering at the Dublin Institute of Technology. It involves several faculty members, senior and post-doctoral researchers and doctoral graduate students, undertaking research in areas such as optical sensing, smart sensors and structures, liquid crystals, waveguide and fiber modelling, integrated photonic devices, fiber edge filters, FBG sensors and interrogation systems etc. The centre has a wide range of experience, a strong publication track record and is supported by well equipped facilities. Further information is available at [www.prc.dit.ie](http://www.prc.dit.ie).

We are seeking to select potential high qualified candidates who may apply for a Fiosraigh Scholarship to undertake a PhD at the PRC.

#### **Research Area:**

This project will focus on investigating methods to implement a high sensitivity fiber optic acoustic sensor for application in traffic noise measurement and underwater acoustic wave detection. The research will involve the further development of multimode interference theory for fiber based multimode interference structures and the experimental use of such structures to implement a novel fiber optic acoustic sensor. Several types of multimode fiber and Singlemode-Multimode-Singlemode fiber structures will be investigated, together with the development of associated theoretical foundations, supported by simulation. Novel methods will need to be developed to allow such multimode fiber sensors to be used for noise measurement and underwater acoustic wave detection and different types of sensor will be investigated and compared in order to develop the best approach to acoustic sensing, in terms of sensitivity and ease of implementation.

Successful candidates will be known as a “*Dublin Institute of Technology Fiosraigh Scholar*” and will be paid a stipend of €16,000 in addition to payment of their fees and €2000 for project costs. Funding is available up to a maximum of 4 years, and will be paid annually, based upon successful completion of an annual assessment.

#### **Requirements:**

Academically strong candidates are sought who have a Masters Degree or a very good primary degree in Applied Physics or Optics or a closely related discipline, with a minimum honours grade of 2-I or higher. Candidates should also have had demonstrated exposure to optoelectronics, optical fiber communications or optical sensing in their degree.

#### **Applications:**

**In the first instance, please send an up-to-date CV by email to Prof. Gerald Farrell.** *The email subject line should start with the words “Fiosraigh Application”*

**Closing date of applications: 29 Aug. 2010.**

**Email: [gerald.farrell@dit.ie](mailto:gerald.farrell@dit.ie)**