

Biomedical Diagnostics Institute

www.bdi.ie

Based at Dublin City University (DCU), the Biomedical Diagnostics Institute (www.bdi.ie) was established in 2005 through a Science Foundation Ireland Centre for Science, Engineering & Technology (CSET) award, in addition to significant industry funding. The BDI carries out cutting-edge research focused on the development of next-generation biomedical diagnostic devices measuring indicators of disease. Our world-class research team currently includes seven industry partners (Analog Devices, J&J Ortho-Clinical Diagnostics, Becton Dickinson, Inverness Medical Innovations, Biosurfit and Millipore), and five clinical and academic partners including the Royal College of Surgeons Ireland (RCSI) in Dublin, the National Centre for Biomedical Engineering Science (NCBES) at NUI Galway, Tyndall National Institute (TNI) in University College Cork, Trinity College Dublin (TCD) and the host institution at Dublin City University (DCU). Having recently secured an additional €19.1M from Science Foundation Ireland, and associated funding from our industry partners, we are now seeking applications from suitably qualified research staff to participate in our suite of exciting new research programmes commencing October 2010.

Postdoctoral Researcher
Lab-on-a-chip diagnostic platform using plasmonic enhancement of fluorescence based on metallic gratings

Summary:

The project focuses on exploiting the optical properties of metallic gratings for improved sensitivity and limit of detection of fluorescence-based bioassays. The main physical principle involves the interaction of the surface plasmon resonance (SPR) modes with the fluorescent dye molecule to enhance the fluorescence detected in the assay, thus achieving improved assay performance. The optical platform will be integrated with the necessary microfluidics in a polymer lab-on-a-chip format. The work will be carried out within the BDI as part of a pipeline project that focuses on strategies for signal amplification and enhanced detection in optical diagnostic devices. A large suite of characterisation techniques and state-of-the-art facilities will be available to the successful candidate.

Requirements:

The candidate will have a Ph.D. in a physics- or engineering-related discipline with a good knowledge of optics and an emphasis on plasmonics. Experience in nano-fabrication techniques and optical modelling capabilities are required. Knowledge of fluorescence-based biosensing and experience with microfluidic design are also desirable. In addition, candidates should demonstrate a proven capacity to be productive researchers. A self-starting attitude, good presentation skills, and the ability to interact with a highly interdisciplinary team and our tightly linked industrial partners are essential.

Location: The work will be carried out in the BDI laboratories at Dublin City University.

Salary: SFI postdoc salary scale points 1-4: PD €37,750-€41,181, depending on level of experience

Contract: Full time for one year from Nov 1st 2011 to Oct 31st 2012

Enquiries: Prof. Colette McDonagh: email colette.mcdonagh@dcu.ie

Applications: CV including two referees & cover letter, by email to Colette McDonagh

Closing date: Friday Sept 2nd 2011