



**POST: Technicians (Ref: BDI-TN)**

**LOCATION: Biomedical Diagnostics Institute, DCU**

**NATURE: Full-time Temporary (1 year contract)**

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The Biomedical Diagnostics Institute (BDI) was established in October 2005 at Dublin City University, through an award of €16.5M from Science Foundation Ireland (SFI) under its Centres for Science, Engineering and Technology (CSET) programme, in addition to a €6.5M contribution from industry partners.

The BDI will carry out cutting-edge research programmes focussed on the development of next-generation biomedical diagnostic devices. These devices, which will directly affect the quality of people's lives, will be used in Point of Care applications as well as for self-test, home use. The availability of innovative diagnostic devices measuring indicators of chronic disease (e.g. cancer, cardiovascular disease) will allow for life-threatening events to be detected long before a critical stage is reached.

Realisation of our vision requires substantial breakthroughs in the fundamental science and technology underpinning diagnostic devices. In order to meet this ambitious challenge, we are currently assembling a team of world-class research scientists to partner with cutting-edge research teams from our industry partners (Analog Devices, Ámic, Enfer, Hospira, Becton Dickinson & Inverness Medical Innovations) and collaborating institutions (The Royal College of Surgeons Ireland (RCSI) in Dublin, the National Centre for Biomedical Engineering Science (NCBES) at NUI, Galway, and the Tyndall National Institute (TNI) in Cork). The combined team will carry out a coordinated research programme over a 5-year period that began on October 1, 2005. The BDI team will be based primarily in DCU, with some researchers located in our collaborating institutions.

A recruitment process has been initiated for research and administrative positions within the BDI, and applications are now invited for Technician positions to provide support to the Institute's various research programmes. Technicians will be based in state-of-the art laboratory facilities comprising custom-designed laboratories and a range of specialist support units situated on the campus of Dublin City University.

#### **REQUIREMENTS:**

Applicants must hold a minimum qualification at National Certificate or preferably at National Diploma level, or equivalent, in a relevant discipline.

The working environment will be project-based to facilitate teams of scientists. The Technician positions will cover a variety of projects and skills – see below for a list of the BDI's core research programmes. A candidate's ability to take ownership of different aspects of multiple projects is a critical skill. Previous experience in a multidisciplinary research facility or dynamic university environment would be a distinct advantage. Excellent communication and organisational skills are desirable.

Technician positions would be expected to provide technical support for the following core research programmes of the BDI:

- **Biomolecular Recognition**

*Project overview:* To develop novel antibody and nucleic acid-based assays and to incorporate them into biochip platforms

*Expertise involved:* Antibody production/engineering and immunoassay development / Nucleic acid-based analysis / Immobilisation and surface chemistry of biomolecules

- **Functional Diagnostics in Platelet Biology**

*Project overview:* To develop novel physiologically relevant assays of platelet function

*Expertise involved:* Cell biology of platelet function & thrombosis / Molecular Protein chemistry / Rheology

- **Transduction Science**

*Project overview:* To develop sensitive and selective detection strategies for proteins and DNA through combinations of current and light detection.

*Expertise involved:* Electrochemiluminescent materials especially luminescent polymers / Interfacial characterisation techniques – Raman and scanning probe microscopy / Electrochemical/luminescent bioassay development

- **Signal Amplification Science**

*Project overview:* To develop substantial sensitivity enhancements in a range of optical biochip systems, with the emphasis on fluorescence-based platforms.

*Expertise involved:* Metal-enhanced fluorescence – Plasmonics / Optoelectronic readout instrumentation for biochips / High-brightness nanoparticle labels

- **Microfluidic Platforms**

*Project overview:* To develop advanced microfluidic platforms for diagnostic applications.

*Expertise involved:* Microfluidics and microfabrication / Integrated detection techniques / Cell biology

## **DUTIES & RESPONSIBILITIES:**

The successful candidates will be required to carry out a range of duties in support of a variety of research programmes which include, but are not limited to the following:

- To assist research staff and postgraduate students in the performance of scientific procedures, and to carry out those procedures in full, where appropriate.
- To ensure compliance with all legislative and regulatory requirements in the laboratory and its environment, and ensure that appropriate standard operating procedures are in place in relation to same.
- To design, in collaboration with research staff and postgraduate students, new experimental systems.
- To develop laboratory support facilities and systems to facilitate the research programme(s).
- To install and carry out routine maintenance of experimental apparatus and equipment.
- To ensure that laboratories, materials and equipment are kept clean, tidy and in good order.
- To order and take delivery of materials and equipment and monitor stock levels, as appropriate.

- To undertake such other duties as the Principal Investigator or his/her representative may assign.

Technicians will report directly to the relevant Principal Investigator or his/her nominee

**SALARY:**

€30,626 – €50,137 (LSI)

**CLOSING DATE:** 25<sup>th</sup> November 2005

**For informal discussions contact Prof Brian MacCraith ([brian.maccraith@dcu.ie](mailto:brian.maccraith@dcu.ie)), tel: 700 5299.**