

Biomedical Diagnostics Institute

www.bdi.ie

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 five clinical and academic partners including NUI Galway, the Royal College of Surgeons Ireland (RCSI) in Dublin, Tyndall National Institute (TNI) in University College Cork, Trinity College Dublin (TCD) and the host institution at Dublin City University (DCU), in collaboration with seven industry partners (Analog Devices, J&J Ortho-Clinical Diagnostics, Becton Dickinson, Inverness Medical Innovations, Biosurfit and Millipore). 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, which commenced in October 2010.

NUI Galway is a core partner in BDI and is working with BDI researchers and industry partners on an R&D programme developing novel integrated biodiagnostics systems, with application to breast cancer and infectious disease diagnosis. As part of our breast cancer diagnostics programme, a collaborative programme between NUI Galway's Breast Cancer Research Group based in the Clinical Science Institute (CSI), and the Molecular Diagnostics Research Group (MDRG) based at the National Centre for Biomedical Engineering Science (NCBES), we are seeking to recruit a BDI-funded Post-doctoral Research Scientist with experience in the development of molecular diagnostics assays and/or biosensors for application to circulating breast cancer biomarker detection.

POSTDOCTORAL RESEARCHER

MicroRNA Expression Profiling for Detection and Classification of Breast Cancer

Breast cancer is the commonest malignancy amongst women in the developed world, with 1.3 million new cases diagnosed and 465,000 deaths annually worldwide. Early diagnosis remains a challenge but dramatically reduces morbidity and mortality. Correlation of molecular subtypes of malignant breast cancer with circulating miRNAs suggests that specific circulating miRNA may provide diagnostic and prognostic signatures of breast cancer.

The principal objective of this study is to rapidly and sensitively detect and monitor the expression patterns of dysregulated miRNAs in the circulation of breast cancer patients, before and following therapeutic intervention. A Point of Care diagnostic platform will be developed to capture and detect specific breast-cancer-associated miRNA markers, identified by the NUI Galway Breast Cancer Group, directly from whole blood without *in-vitro* enzymatic amplification.

Candidates should have a PhD degree in molecular biology, molecular nanotechnologies, biochemistry, chemistry, or a related subject. The ideal candidate will have at least 2 years post-doctoral research experience in the application of molecular biology techniques an area of nucleic acid based diagnostics R&D. An understanding and experience of non-amplified nucleic acid molecular diagnostics/biosensor platforms and techniques is highly desirable. Strong collaborative skills are required to work as part of a highly interdisciplinary team. Excellent written and oral presentation skills are also required.

Salary: € 40,086p.a.

Contract: Full-time until March 31st 2013, from February 1st 2011, or as soon as possible thereafter.

Location: Breast Cancer Research Group, Department of Surgery, and Molecular Diagnostics Research Group, NCBES, National University of Ireland, Galway.

Informal Enquiries: Dr Nicola Miller - nicola.miller@nuigalway.ie;
Dr Eoin Clancy – eoin.clancy@nuigalway.ie

Applications: A CV including names of three referees & cover letter, should be sent to Professor Michael Kerin, Director of the Breast Cancer Research Group, Department of Surgery (michael.kerin@nuigalway.ie), and/or Professor Terry Smith, Director of the Molecular Diagnostics Research Group (terry.smith@nuigalway.ie), NUI Galway, Ireland.

Closing date: January 10th 2011

Job Description: Qualifications, Duties and Skills Required

Qualifications and Experience:

The ideal candidate will have:

- PhD degree in molecular biology, molecular nanotechnologies, biochemistry, chemistry, or a related subject
- At least 2 years post-doctoral research experience in the application of molecular biology techniques an area of nucleic acid based diagnostics R&D is highly desirable.
- Experience of non-amplified nucleic acid molecular diagnostics/biosensor platforms and techniques is highly desirable
- Strong collaborative skills are required to work as part of a highly interdisciplinary team.
- Excellent written and oral presentation skills

Duties:

- Perform the research and technical tasks of the BDI ONC 2 programme: microRNA Expression Profiling for Detection and Classification of Breast Cancer
- Be responsible for ensuring that research programme timelines are adhered to and project deliverables and milestones are achieved
- Interact on a day to day basis with other team members of the BDI programme at NUI Galway and DCU
- Interact on a day to day basis with other NUI Galway researchers involved in related molecular biosensors R&D projects
- Interact with and provide training and materials as required to other BDI researchers
- Ensuring that research programme requirements in terms of documentation of the project activities, milestones etc. are implemented
- Maintain laboratory notebooks, research records and generate technical reports and data as required by NUI Galway policies, the ONC 2 PIs, programme management team, and BDI
- Ensuring that project work is performed in line with Health and Safety and other relevant NUI Galway College policies
- Maintain confidentiality of all background IP, foreground IP, and research results emerging from the project
- Assist in the identification of and patent protection of intellectual property generated in the work-programme

Reporting on activities and delivery of programme work-plan

- Preparation and delivery of periodic reports for the ONC 2 programme PIs and management team
- Preparation of reports as required by SFI or BDI management for the project
- Presentation of the technical project data as required
- Participate in research conferences and other scientific meetings as required

Skills Required / desirable

- Experience in miRNA detection and quantification from blood, tissues, other biological samples or from cultured cells
- Experience in probe labelling chemistries for nucleic acids and/or in detection of nucleic acids in biosensor platforms
- Experience in the development and application of nucleic acid extraction methods that are compatible with microfluidics systems
- Experience in molecular diagnostics assay development
- Publication and Technical report writing and presentation skills
- Ability to work independently and as part of a research team
- Experience in training and laboratory-based supervision of students and/or other researchers
- Excellent communication and interpersonal skills
- High level of IT skills: experience in use of relevant bioinformatics software
- Good initiative, flexibility and good organisational skills
- Technical troubleshooting skills
- Report writing and presentation skills