Research Centre
School of Mechanical and Manufacturing Engineering with Fraunhofer Project Centre for Embedded Bioanalytical Systems at Dublin City University (FPC@DCU) – a joint initiative of Science Foundation Ireland and Fraunhofer-Gesellschaft.

Post title
Research Assistant in research project MxNChip

Post duration
Fixed term contract up to 11 months.

Background
Dublin City University (www.dcu.ie) is a research intensive, globally engaged, dynamic institution which has developed its own research specialists, established internationally recognized centres of excellence that have substantive collaborative links with leading universities and industrial partners. DCU is distinguished both by the quality and impact of its graduates and by its focus on the translation of knowledge into societal and economic benefit. Through its mission to transform lives and societies through education, research and innovation DCU acts as an agent of social, cultural and economic progress. DCU is Ireland’s fastest growing university and now hosts more than 17,000 students across its three academic campuses: DCU Glasnevin Campus, DCU St Patrick’s Campus and CU All hallows campus. DCU has a strong track record in attracting both Irish and European Union research funding under Horizon 2020 (and all previous Framework Programmes), Marie Curie Actions and Erasmus. We offer a dynamic and internationally-focused environment in which to advance your academic career.

Fraunhofer Project Centre for Embedded Bioanalytical Systems at Dublin City University – Ireland’s University of Enterprise (FPC@DCU) is a technology-led centre that develops next-generation life-science technologies for the benefit of people and society.

The Project
DCU has acquired funding for an exciting research project (MxNChip) to develop a proof-of-concept laboratory instrument. On successful completion of the project it is intended to secure follow-on funding with the eventual aim of establishing a university spin-out company. The project will therefore appeal to a researcher with a strong interest in commercial technology development.

Candidate Role
The research assistant will join a team focused on developing a novel PCR thermocycler and associate microfluidic chip which can greatly improve workflows in molecular biology laboratories. This position involved multi-disciplinary work across biology / biomedical engineering and will therefore suit a biologist with a passion or interest in engineering or conversely an engineer with a strong interest in biology.

Principal Duties and Responsibilities
Reporting to the MxNChip Project PI the technical duties will include but will not be limited to:

- Conduct a specified programme of research within the MxNChip Enterprise Ireland Commercialisation Fund Project under the supervision and direction of the project PI
- Implementing common molecular biology methods, particularly PCR assays, to assist the development and testing of a novel PCR thermocycler
- Contributing to the optimization of the performance of the system including material bio-compatibility testing and PCR optimization
- Following training, fabrication of microfluidic cartridges
- Assist as required in activities relating to the mechanical design, system design, implementation and integration of during the development of a PCR thermocycler that can function both with micro-titre plates and DCU’s patented MxNChip format.
- Testing the developed instrument prototype under various conditions and working in coordination to validate the performance of the system.
- Developing and maintaining relevant documentation and SOPs
- Promoting engagement with industry and other external parties in areas relevant to the project.
- Assist with the reporting of project out-comes to Enterprise Ireland
- Engage in appropriate training and professional development opportunities as recommended/required by Dublin City University

Qualifications, Skills and Experience Required:
Applicants must hold a primary degree (NFQ Level 8 and above) in a MSc or Bachelor’s Degree in Biology or Biotechnology or cognate discipline. A qualification in Mechanical / Biomedical / Mechatronic Engineering or related Engineer/ Science degree is also acceptable.

Additionally, candidates will ideally have:

- 3+ years post-degree experience
- Experience in molecular biology protocols and particularly PCR
- A passion for on-the-job learning and a willingness to contribute to multi-disciplinary aspects of the project such as microfabrication of MxNChip cartridges and contributing to instrument assembly and testing.
- Proven aptitude for hands-on work and comfortable in the laboratory environment.
- Good communication and reporting skills.
Mandatory Training
The post holder will be required to undertake the following mandatory compliance training: Orientation, Health and Safety and Intellectual Property and Data Protection training. Other training may need to be undertaken when required.