



JOB DESCRIPTION

Research Centre	National Institute for Cellular Biotechnology
Post title	Postdoctoral Researcher Molecular Biology
Level on Framework	Level 1
Post duration	Fixed Term Contract up to 24 Months

Dublin City University

Dublin City University www.DCU.ie is a young, ambitious and vibrant University, with a mission 'to transform lives and societies through education, research, innovation and engagement'. Known as Ireland's 'University of Enterprise and Transformation', it is committed to the development of talent, and the discovery and translation of knowledge that advances society and the economy. DCU is the Sunday Times Irish University of the Year 2021.

The University is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. It currently has more than 18,000 students enrolled across five faculties – Science and Health, DCU Business School, Computing and Engineering, Humanities and Social Sciences and DCU Institute of Education. DCU is committed to excellence across all its activities. This is demonstrated by its world-class research initiatives, its cutting-edge approach to teaching and learning, its focus on creating a transformative student experience, and its positive social and economic impact. This exceptional commitment on the part of its staff and students has led to DCU's ranking among the top 2% of universities globally. It also consistently features in the world's Top 100 Young Universities (currently in QS Top 70 Under 50, Times Higher Top 150 Under 100).

DCU is placed 84th in the world, in the Times Higher Education University Impact Rankings – measuring higher education institutions' contributions towards the UN Sustainable Development Goals. Over the past decade, DCU has also been the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path.

Background & Role

A postdoctoral position is available in the National Institute for Cellular Biotechnology at Dublin City University (DCU) to undertake research on the following project: "The impact of mutations in PI3K/AKT pathway gene loci on response to PI3K inhibitors". This postdoctoral position is funded through a Health Research Board Emerging investigator award.

PI3K-inhibitors demonstrate clinical efficacy in the treatment of breast cancer. Oncogenic missense mutations in the PIK3CA gene are the most obvious potential prognostic and therapeutic markers of PI3K-inhibitor sensitivity. However, many patients who don't have a PIK3CA missense mutation also respond to PI3Kinhibitors.

Supporting this, data generated by our lab, as well as published clinical trial results, suggest that an extended cohort of patients who are PIK3CA wild-type could benefit from PI3K-inhibitors. We therefore hypothesise that both coding and non-coding 'regulatory' mutations in the gene loci of members of the PI3K/AKT-pathway, influence how BCs respond to PI3K inhibitors. Therefore, the key question this proposal will address is "*what is the extended cohort of gene mutations in patients with PIK3CA wild-type tumours that predict responsiveness to PI3K-inhibitors*".

At the end of this project we will have identified the most oncogenic mutations affecting the PI3K/AKT-pathway and discovered the most synergistic combination of drugs that can be used to effectively treat breast cancers with these mutations.

The project will be supervised by Dr. Alex Eustace who is an Assistant Professor in the School of Biotechnology, Dublin City University.

Principal Duties and Responsibilities

The Postdoctoral Researcher will be required to fulfil the following:

- Carry out all experimental objectives as specified in the project.
- Document all experimental data, analyses and protocols.
- Report/present regularly at group meetings.
- Attend relevant meetings, seminars and conferences.
- Contribute to manuscript preparation and patent applications relevant to the project.
- Complete a detailed report upon completion of the project.
- Undertake standard laboratory management tasks.
- Monitor and report on project budget expenditure.
- Support and interact with the existing Eustace Group in the NICB.
- Undertake other tasks as defined by the Dr. Alex Eustace.

Minimum Criteria

Applicants must have a Ph.D. in Molecular Biology with relevant experience and an understanding of the translational oncology.

In addition, it is desirable that the candidate:

- Is highly motivated and passionate about cancer research
- Has evidence of strong technical skills in molecular cloning (cDNA cloning and lentiviral vectors) and RNAi techniques (siRNA and shRNA) as evidenced by peer reviewed original research publication
- Demonstrates a track record of strong research experience in the development and application of cellular assays using multiple platforms and in the analysis of biological samples including patient specimens
- Has a significant publication record of relevance to the project, have excellent data analysis, communication and organizational skills
- Demonstrates experience of statistical software for pre-clinical and patient data analysis
- Has experience in supervision and mentoring of undergraduate and postgraduate students
- Has a track record of problem solving experience in a research laboratory environment.
- Has experience of participation in successful inter-disciplinary research programmes.
- Has excellent communication and social skills.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline

Understanding the Research Environment – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications

Communicating Research – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students

Managing & Leadership skills - Demonstrates the potential to manage a research project including the supervision of undergraduate students

Essential Training

The post holder will be required to undertake the following essential compliance training: Orientation, Health and Safety and Intellectual Property and Data Protection training. Other training may need to be undertaken when required.