



**Research Centre**

**Post title**

**Post duration**

School of Biotechnology

Research Assistant in Translational Oncology

11 Months Fixed Term Contract

### **Dublin City University**

Dublin City University (DCU) is a leading innovative European University. It is proud to be one of the world's leading Young Universities and is among the world's top 2% globally. DCU is known as Ireland's University of Impact, with a mission to 'transform lives and societies' and focuses on addressing global challenges in collaboration with key national and international partners and stakeholders.

DCU has over 20,000 students in five faculties spread across three academic campuses in the Glasnevin-Drumcondra area of North Dublin. Thanks to its innovative approach to teaching and learning, the University offers a 'transformative student experience' that helps to develop highly sought-after graduates. DCU is currently No. 1 in Ireland for Graduate Employment Rate, and for graduate income (CSO).

DCU is a research-intensive University and is home to a number of SFI-funded Research Centres. The University participates in a range of European and international research partnerships. DCU is also the leading Irish university in the area of technology transfer as reflected by licensing of intellectual property.

As a 'People First' institution, DCU is committed to Equality, Diversity and Inclusion - a University that helps staff and students to thrive. The University is a leader in terms of its work to increase access to education, and is placed in the world's Top 10 for reducing inequalities in the Times Higher Education Impact Rankings.

### **Background & Role**

A Research Assistant position is available in the School of 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 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 Research Assistant 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 Dr. Alex Eustace.

#### **Minimum Criteria**

Individuals must have a Primary Degree in Biological Sciences or other relevant discipline with relevant laboratory experience and an understanding of the translational oncology.

#### **Desirable Criteria**

- Must be highly motivated and passionate about cancer research
- Evidence of strong technical skills in molecular cloning (cDNA cloning and lentiviral vectors), CRISPR transfections, and RNAi techniques (siRNA and shRNA)
- Evidence of strong mammalian cell culture experience
- Demonstrable 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
- Individuals should also have excellent data analysis and organizational skills

- Demonstrable experience of statistical software for pre-clinical and patient data analysis
- Track record of problem solving experience in a research laboratory environment.
- Excellent communication and interpersonal skills and a track record of successfully working as part of a team.