



Applications are invited from suitably qualified candidates for the following position:

Research Centre	School of Biotechnology, Faculty of Science and Health
Post title	Postdoctoral Researcher in Bioprocess Engineering
Level on Framework	Level 1
Post duration	Up to 11-month fixed-term contract

Dublin City University

Dublin City University (DCU) 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’, DCU is a values-based institution, committed to the delivery of impact for the public good. DCU was named Sunday Times Irish University of the Year 2021.

DCU is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. More than 18,000 students are 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 delivering a transformative student experience, and its positive social and economic impact. The university continues to develop innovative programmes in collaboration with industry, such as the DCU Futures suite of degrees, which are designed to equip graduates with the skills and knowledge required in a rapidly evolving economy.

DCU’s pursuit of excellence has led to its current ranking among the top 2% of universities globally. It is also one of the world’s Top Young Universities (QS Top 100 Under 50, Times Higher Top 150 Under 100). In the Times Higher Education University Impact Rankings 2021, DCU ranked 23rd in the world for its approach to widening participation in higher education and its ongoing commitment to eradicating poverty, while it ranks 38th globally for its work in reducing inequality and 89th globally for gender equality.

The university is ranked 23rd in the world and first in Ireland for its graduate employment rate, according to the 2020 QS Graduate Employability Rankings. Over the past decade, DCU has been the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

Background & Role

Grain-4-Lab is a €2.4 million funded sustainability project, part of the SFI Future Innovator Prize Programme (<https://grain4lab.ie/>). The aim of the project is to reduce the reliance on fossil-fuel based single-use plastics in research laboratories, by providing a more sustainable and functionally equivalent alternative. In Grain-4-Lab we take waste products from the brewing and distilling industry and aim to produce a high quality bioplastic alternative.

We are a highly multi-disciplinary team which includes researchers from the fields of bioprocessing, materials science, polymer synthesis, societal change and scientific outreach. Grain-4-Lab operates in close collaboration with an international network of companies and collaborators to develop, test and trial their bioplastic solution. The project was recently featured on Irish national news channel RTE (<https://www.rte.ie/news/ireland/2022/1005/1327355-dcu-scientists/>).

The School of Biotechnology at Dublin City University invites applications for a postdoctoral researcher role in Microbial Bioprocess Engineering to work on the Grain-4-Lab project, valorising waste-streams using Lactic Acid Bacteria towards the development of compositable biopolymers. The position is available from December 2022 with the possibility of an extension dependant on funding available and ongoing requirements for the project.

The goal of this specific project is bioprocess development & optimisations, both Up-Stream and Down-Stream towards the production of high-quality Lactic Acid from waste feedstocks. Extensive bench-scale development & optimisation using Process Analytical Tools will be required along with pilot and production scale testing. This is an excellent opportunity for researchers looking to focus on commercialisation and industrial related research. The work will be undertaken in Microbial Bioprocessing Facility (School of Biotechnology) but the project will involve collaboration with the Schools of Physical Sciences, Chemical Science, and Nursing, Psychotherapy and Community Health in Dublin City University.

Principal Duties and Responsibilities

Reporting to their Principal Investigator the Postdoctoral Researcher will:

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator, with a specific focus on the development of a microbial bioprocess and down-stream purification methods including: waste-valorisation, fed-batch development, Design of Experiments (DoE), microfiltration, UF/DF and chromatography.
- Engage in the dissemination of the results of the research in which he/she is engaged with the support of and under the supervision of the Principal Investigator, with a specific focus on completing funding reports and preparing presentations and material for funding reviews
- Supervise and assist undergraduate and postgraduate students working in this area with their research
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Carry out administrative work associated with the programme of research as necessary, including supporting the Principal Investigator in tendering for equipment and instruments required for the project

Minimum Criteria

Essential:

- Individuals should have a PhD in one of the following fields: Bioprocess Engineering, Chemical Engineering, or Microbial Biotechnology.

Desirable:

- Experience in bench-scale microbial bioprocessing and down-stream processing techniques advantageous.

- Individuals should be able to demonstrate their ability to work in multidisciplinary and high collaborative projects.
- Evidence of publication of research articles in the field of bioprocessing/microbial biotechnology/chemical engineering is also essential.
- In addition, it is desirable that the candidates have excellent microbial on-the-bench skills.

Essential Training

The postholder will be required to undertake the following mandatory compliance training: Orientation, Health & Safety and Data Protection (GDPR). Other training may need to be undertaken when required.