



JOB DESCRIPTION

Research Centre	School of Biotechnology
Post title	Postdoctoral Researcher in Bioprocess Engineering
Level on Framework	Level 1
Post duration	11-month fixed-term contract (with the possibility of 12-month extension)

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

The School of Biotechnology at Dublin City University invites applications for a postdoctoral researcher role in Microbial Bioprocess Engineering to work on a collaborative project valorising waste-streams using Lactic Acid Bacteria towards the development of compositable biopolymers. The position is available from April 2022, for 11-months with a possible extension of a further 12-months.

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 working with the Schools of Physical Sciences, Chemical Science, and Nursing, Psychotherapy and Community Health in Dublin City University.

Principal Duties and Responsibilities

Reporting to his/her 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 including: waste-valorisation, substrate hydrolysis, bioprocess design, fed-batch development, Design of Experiments (DoE), Process Analytical Tools (PAT) 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 assisting the Principal Investigator in tendering for equipment and instruments required for the project

Minimum Criteria

Applicants should have a PhD in the following fields: Bioprocess Engineering, Chemical Engineering, or Microbial Biotechnology. Experience in development of microbial-based bioprocesses at bench-scale is essential. Applicants 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 successful individual will have excellent microbial on-the-bench skills.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates knowledge of Bioprocess Engineering, bioprocess development and fed-batch cultures with 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 national funding bodies) and the ability to contribute to grant applications and project funding reviews.

Communicating Research – Demonstrates the ability to communicate their research with their peers, the wider research community, and review panels.

Managing & Leadership skills - Demonstrates the potential to manage and deliver on a research project including the supervision of undergraduate and postgraduate students.