

Research Centre Post title

Level on Framework Post duration School of Biotechnology Postdoctoral Researcher in Bioprocess Engineering Level 1 9-Month 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.

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

The School of Biotechnology at Dublin City University invites applications for a postdoctoral researcher role in Microbial Bioprocess Engineering. This commercialisation based role involves the development of a biorefinery in Ireland, transforming waste-streams into sustainable, commercial food products and high-value food ingredients. The position is available from October 2023.

The goal of the project is bioprocess development, optimisation and scale-up, including both Up-Stream and Down-Stream development towards the production of high-quality Lactic Acid Bacteria-based food ingredients. 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 significant collaboration with multiple industry stakeholders.

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 scale-up and commercial 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

- Individuals should have a PhD in one of the following fields: Bioprocess Engineering, Chemical Engineering, or Microbial Biotechnology.
- Experience in bench-scale microbial bioprocessing and down-stream processing techniques.
- Evidence of publication of research articles in the field of bioprocessing/microbial biotechnology engineering is also essential
- Excellent communication, interpersonal and organisational skills.

Desirable Criteria:

- Technical skills in handling single and/or mixed bacterial cultures, microbial fermentation, process design and experience with scale-up.
- Experience in process techno-economic evaluation and/or lifecycle assessment.
- Demonstrate experience of statistical software for mathematical modelling and process
- Optimisation

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