



## **JOB DESCRIPTION**

### **Associate Professor in Biotechnology (Bioprocess Engineering)**

**School of Biotechnology  
Faculty of Science & Health  
Permanent**

#### **Introduction**

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.

#### **School of Biotechnology**

The School of Biotechnology ([www.dcu.ie/biotechnology](http://www.dcu.ie/biotechnology)) is the academic unit that leads biological sciences, life sciences, biotechnology and bioprocess engineering education and research within the Faculty of Science & Health at Dublin City University (DCU). The School delivers both undergraduate B.Sc [Genetics and Cell Biology (GCB), Biotechnology (BT), Bioprocessing (BP), Environmental Science & Technology (EST) and Analytical Science for Biologists (AS)] and taught M.Sc postgraduate degree programmes [Biotherapeutics (MBT), Bioprocessing Engineering (MSBE), Diagnostics and Precision Medicine (MDPM)] in addition to the education and training of research MSc and PhD students under its structured PhD programme, *BioTranslate*. It is an active centre of basic, applied and multi-

disciplinary research, supporting clusters of intersecting research themes which link closely with the School's teaching programs. The School is now home to the [Microbial Bioprocessing Facility \(MBF\)](#), a facility that is equipped with fully automated bioreactors ranging in size from 3.7 L to 150 L, and a [GMP-like high potency biotherapeutic manufacturing facility](#). All Bioprocess Engineering laboratory modules are taught within this facility which is rapidly becoming the "go-to" location for bioprocess engineering teaching, industrial training in process analytical technology (PAT), industrial product development and brewing. The School and associated research centres offer core facilities and technical support in the areas of Cell and Molecular Biology, Bioprocessing, Cell Imaging, Nanobiophotonics, Analytical Characterisation and Proteomics. Research output falls into the general categories of Life Science or Industry-associated activity in the domains of Health/Ageing/Disease, Precision Health, Biodesign, Bioprocess Engineering, Environmental Science and Sustainability. They bring together a critical mass of multidisciplinary researchers that are strategically positioned to pursue national and international opportunities for research and innovation. The excellence of the School's research is reflected by funding success from many national and international sources (including direct funds from industry) and the quality of its published and other research outputs.

### **Role Profile**

The successful candidate should have a Ph.D in Bioprocessing Engineering or related discipline with an excellent track record of scholarly achievement and research leadership in the design and development of equipment and processes for the manufacturing of products (e.g., agriculture, food, feed, pharmaceuticals, nutraceuticals, chemicals, and polymers) from biological materials & treatment of waste water. The successful candidate should have a comprehensive understanding of the design and study of bioreactors (operational mode, instrumentation, and physical layout) to the creation of kinetic models including various biotechnological processes used in industry for large scale production of biological product and optimisation of yield and the quality of end product.

Prior experience must include an excellent publication track record detailing first/senior author original publications in peer-reviewed high impact journals, explicit evidence of securing independent extramural funding from National and International funding agencies and an educational background to deliver modules in the area of Bioprocessing commensurate with an Associate Professor grade.

The post-holder will make a substantial contribution to the continuous development and delivery of the School's taught undergraduate B.Sc degrees in Bioprocessing, Biotechnology and taught Masters programmes in Bioprocess Engineering and Biotherapeutics, respectively. Through excellent leadership, the post-holder will continuously develop a world-class collaborative and high-impact postgraduate research programme in Bioprocess Engineering, training future leaders, positioning the School and DCU as an international leader in Bioprocessing.

The duties of the post fall within *DCU's Academic Development and Promotions Framework* (<https://www.dcu.ie/hr/DCU-Academic-Development-Promotion-Framework.shtml>) and the principles of the *School's Academic Workload Model* with activity across the domains of teaching, research and administration and are in line with DCU's strategic plan "*Talent, Discovery and transformation: 2017-2022*".

## **Duties and Responsibilities**

### **Teaching and Learning**

The primary role of the individual will be to support the delivery of curriculum to the BSc in Bioprocessing (BP), B.Sc in Biotechnology and the M.Sc in Bioprocess Engineering (MSBE) and M.Sc in Biotherapeutics (MBT) by teaching the modules covering Transport Processes, Bioreactor Design and Operation, Downstream Processing, Bioreaction Engineering and Bioprocessing laboratory training. The appointee will be expected to support his/her on campus teaching with online materials and will in some instances be blended learning. Furthermore, the appointee will be required to adopt novel pedagogies such as Challenge Based Learning in the delivery of these modules.

### **Research:**

The individual will contribute to our strategic goal of advancing our reputation for world-class research by supporting a programme that falls within the broad theme of 'Bioprocessing', which includes activity in the domains of design and development of equipment and processes for the manufacturing of products from biological materials & treatment of waste water. In addition, the post holder will be expected to have a demonstrable independent research profile and the ability to secure grant awards from national/international funding agencies and/or industry to fund their research activities which would include the recruitment of both postgraduate students and postdoctoral research fellows; contribute to existing School and DCU-wide research initiatives and expand their collaborative network within DCU, nationally and internationally.

### **Service and Contribution to the University and Society:**

The post holder will be required to undertake administrative roles related to the activities of the School of Biotechnology and the Faculty of Science & Health as assigned by the Head of School. These roles may include but are not limited to the following: Programme Chair; School Executive member; Convenor roles (teaching, research or international), Faculty Management board, Marketing, Safety Committee, Open Days, Conference organisation, Work Placement Tutoring. Participation in courses provided by the University designed to develop skills in such areas as teaching, management and safety will also be expected.

## **Qualifications and Experience**

### **Essential Criteria:**

- Applicants must hold an honours degree in biochemical/bioprocess engineering, biotechnology or a related discipline, as well as a PhD in Chemical/Bioprocess Engineering with a track record of research in microbial bioprocessing that includes corresponding and senior/first author publications and/or significant experience of working in an industrial microbial bioprocessing environment.
- A flexible, growth mindset with a strong willingness to teach outside their specialist area.
- Familiarity with digital learning tools and strong computational skills.
- Experience in high quality university-level teaching (Level 8 and/or 9).
- Experience of module design in both theory and laboratory contexts is highly desirable.

- Have a current research profile that demonstrates independence as a Principal Investigator to date.
- Have excellent interpersonal and communication skills consistent with the highest quality of teaching and learning, together with evidence of successful teamwork and a collegial approach.
- Ensure objectives are met across the lifecycle of the project, including the developing, delivering and monitoring of academic programmes / microcredentials / specific projects.
- Provide leadership, guidance and identified points of escalation for issues and challenges.
- Provide expert advice and support to the programme / projects administration enable effective decision making and achievement of outcomes.
- Deliver strategic change with peers and senior internal staff through a combination of project and business-as-usual activity; balancing competing priorities within resources.
- Support governance and programme/project committee requirements by working closely with steering committees, programme management team and/or external institution leads.

**Desirable Criteria:**

- Prior experience in the areas of bioprocessing in industry
- Prior experience in contributing to School or university level committees/projects.
- Prior experience in contributing to School research strategy, School level boards and School based roles and workplace supervision.
- Prior experience in teaching into multiple programmes in one academic year.