



**Postdoctoral Researcher**  
**School of Mechanical and Manufacturing Engineering**  
**Faculty of Engineering and Computing**  
**7 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.

**The Project**

The NewSkin project ([newskin-oitb.eu](http://newskin-oitb.eu)) is a Pan-European collaboration of 35 academic and industry partners. The project aims to create an Open Innovation Test Bed (OITB) to provide the Innovation Ecosystem (IE) with the necessary technologies, resources and services to uptake efficient and cost-effective innovative processes to manufacture nano-enabled industrial and consumer products as well as the necessary testing capabilities to demonstrate the features of nano-enhanced goods.

## **Role Profile**

This position is a 7-month position for a post-doctoral researcher recruited on a fixed term contract basis. The researcher will be responsible for the selection suitable set of case studies from the suite of NewSkin applications with the goal of translating improvements in function and mechanical properties of product coatings into measurable end-user benefits. This will be achieved by conducting life cycle assessments, and where appropriate Levelised Cost of Energy (LCoE) analysis of selected product systems. The researcher will also be responsible for upgrading and operation of a cavitation testbed for centrifugal pumps. The researcher will contribute to the design of nano-textured surfaces which will suppress the inception cavitation and test these nano-textured surfaces to evaluate their performance. They will then conduct life cycle assessment on these surfaces. Furthermore, the researchers will also engage with industry partners through the newskin-oitb.eu Open Call process.

## **Principal Duties and Responsibilities**

The specific duties of this post include but are not limited to:

- Coordinate data exchange with relevant project partners.
- Develop partner-specific data acquisition templates.
- Develop LCA and LCoE models for selected systems.
- Operate and acquire data from a cavitation testbed.
- Upgrade the cavitation testbed.
- Contribute to the design of micro-structures for cavitation suppression on centrifugal pumps.
- Carry out documentation and reports for project deliverables in a timely manner.
- Attend project meetings and workshops.
- Submit final report.
- Publish study findings in a relevant peer-reviewed journal.

## **Qualifications, Skills and Experience Required**

Candidates must have a PhD in a relevant discipline.

In addition to the above, it is desirable that the candidate possess a subset of the following skills.

- Experience or training in conducting life cycle assessment.
- Familiar with GaBi software or other LCA software packages.
- Excellent written and oral proficiency in English (essential).
- Excellent written and verbal communication and interpersonal skills.
- Proven ability to prioritise workload and work to strict deadlines.
- Ability to work independently.
- Strong problem-solving abilities.

**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.

### **Essential Training**

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

**Dublin City University is an equal opportunities employer.**

**In line with the Employment Equality Acts 1998 – 2015, the University is committed to equality of treatment for all those who engage with its recruitment, selection and appointment processes.**

**The University's Athena SWAN Bronze Award signifies the University's commitment to promoting gender equality and addressing any gender pay gaps. Information on a range of university policies aimed at creating a supportive and flexible work environment are available in the [DCU Policy Starter Packs](#)**