



## Job Description

### Research Centre

School of Electronic Engineering / NCPST

### Post title

Postdoctoral Researcher in  
Material science and applications

### Level on Framework

Level 1

### Post duration

Fixed Term Contract up to 18 Months

## Overview

Dublin City University [www.DCU.ie](http://www.DCU.ie) 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 and Transformation', it is committed to the development of talent, and the discovery and translation of knowledge that advances society and the economy. DCU is the Sunday Times Irish University of the Year 2021.

The University is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. It currently has more than 18,000 students 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 creating a transformative student experience, and its positive social and economic impact. This exceptional commitment on the part of its staff and students has led to DCU's ranking among the top 2% of universities globally. It also consistently features in the world's Top 100 Young Universities (currently in QS Top 70 Under 50, Times Higher Top 150 Under 100).

DCU is placed 84th in the world, in the Times Higher Education University Impact Rankings – measuring higher education institutions' contributions towards the UN Sustainable Development Goals. Over the past decade, DCU has also been the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

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 Electronic Engineering is seeking to appoint a Postdoctoral Researcher to carry out research on an Enterprise Ireland funded project in material science and applications. The candidate will have an opportunity to work closely with our industry partners.

The project seeks a highly motivated postdoctoral researcher to undertake cutting edge research in the areas of thin films growth, characterization, surface engineering and sensor development. The successful candidate will work in a commercialization project to develop an engineered material based wearable sensor prototype for healthcare application. The project aims to develop the materials system, investigate the properties and fabricate a sensor prototype device and characterize it. During the course of the project, the candidate will liaise with a multidisciplinary team of engineers and commercialization experts to make the device ready for customer trials.

### **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
- 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
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Contribute to the engagement on intellectual property activities in partnership with the Office of Technology Transfer
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University
- Assist in identifying and developing future research and funding initiatives
- Supervise and assist undergraduate students working in this area with their research
- Carry out administrative work associated with the programme of research as necessary

### **Minimum Criteria**

Applicants should have a PhD in Material Science or Physics or Chemistry or related discipline, with some experience at postdoctoral level would be an advantage.

In addition, it is desirable that the candidate has experience in:

- Working in the area of thin film deposition, functionalization and characterization using a range of spectroscopic, optoelectronic and morphological techniques and knowledge in sensor fabrication and characterization.
- Thin film/nanomaterial growth and processing
- Physical vapour deposition and spin coating
- Surface functionalization
- Characterization techniques like XRD, FTIR, SEM, Absorption, Photoluminescence, I-V analysis, Raman etc.
- Sensor fabrication/testing
- Knowledge in wearable sensors would be an advantage
- Interest to work with commercialization project
- Excellent team working, presentation and academic article writing
- Report writing, time management and working to deadlines
- Interest or previous experience in commercialization projects or processes will be an advantage.

**Mandatory Training**

The post holder will be required to undertake the following mandatory compliance training: Orientation, Health and Safety and Intellectual Property and Data Protection training. Other training may need to be undertaken when required.

**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