



Research Centre	School of Chemical Sciences / National Centre for Sensor Research
Post Title	Postdoctoral Researcher in Fluorescence and Super-Resolution Imaging
Level on Framework:	Level 1
Post Duration	Fixed Term Contract up to 2 Years

Dublin City University

Dublin City University 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.

The National Centre for Sensor Research (NCSR)

The National Centre for Sensor Research (NCSR) is a large, multidisciplinary research unit based in state-of-the-art facilities situated on the campus of Dublin City University. Arising from success in recent proposals we are now seeking application for the following research position in DCU.

Research Career Framework

As part of this role the researcher will be required to participate in the DCU Research Career Framework (<http://dcu.ie/hr/ResearchersFramework/index.shtml>). This framework is designed to

provide significant professional development opportunities to researchers and offer the best opportunities in terms of a wider career path.

DCU has a strong track record in attracting both Irish and European Union research funding under Horizon 2020 (and all previous Framework programmes), Marie Curie Actions and Erasmus. We offer a dynamic and internationally-focused environment in which you can advance your academic career.

Background and Role Profile

We are seeking an experienced and talented biochemist/biophysicist to contribute to a project on development of luminescent DNA recognition switches for super-resolution microscopy. The candidate will work as part of a multidisciplinary team applying confocal and super-resolution microscopy to study the uptake, distribution and optical sensing capabilities of novel luminophores in 2D and 3D cell culture. They will also contribute to bioassays of cytotoxicity and photocytotoxicity of new materials on a range of cell types.

The candidate must have a PhD in biochemistry, bioinorganic chemistry or related discipline and should have at least 1 year's postdoctoral experience with extensive experience in fluorescence microscopy including in super-resolution methods, quantitative microscopy.

Principle Duties and Responsibilities

Reporting to his/her Principal Investigator the Postdoctoral Researcher will:

- Conduct, with a very high degree of technical competence a specified programme of research and scholarship under the supervision and direction of the Principal Investigator
- Within the constraints of IP protection of the project, disseminate the outcomes of the research in which he/she is engaged including funder reporting, industrial demos and publishing in high quality peer reviewed journals of international standing.
- Assist the PI and research group in the design and development and implementation of the broader research programme.
- Support as required, the development of proposals for research funding.
- Take responsibility as requested for lab management and day-to-day advice and support of graduate research students associated with your research group.
- Mentor, assist and train as appropriate and as directed, the research graduate students and more junior postdoctoral fellows within the group.
- Contribute to reporting, site visit preparation and other administrative management work associated with your programme of research and the research group
- Contribute to undergraduate teaching, project supervision and outreach activities.
- Liaise with stakeholders such as industry and collaborators.
- Take an active engagement in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University
- Carry out administrative work associated with the programme of research as necessary

Minimum Criteria

The candidate must have a PhD in biochemistry, molecular biology, bioinorganic chemistry or related discipline where a significant portion of their PhD research and postdoctoral experience includes live cell fluorescence microscopy, and cell culture

In addition, it is desirable that the successful candidate has a subset of the following skills and experience:

- Proven experience in super resolution microscopy (preferably in STED) and quantitative fluorescence imaging is essential
- Experience in one or more of fluorescence correlation microscopy, fluorescence lifetime imaging and/or Raman imaging would be an advantage.
- Experience in quantitative bioassays, including cytotoxicity assays and in gel electrophoresis.
- Capable of working independently with a high degree of technical proficiency whilst also being a team player.
- Demonstrate initiative, be hard working, versatile and productive.
- Ability to communicate effectively and good organisational skills.

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