



JOB DESCRIPTION

Research Centre	NCSR/School of Chemical Sciences
Post title	Postdoctoral Researcher – Super-resolution and Fluorescence Microscopy
Level on Framework	Level 1
Post duration	Fixed Term Contract – 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.

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 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.

We are seeking an experienced and talented scientist with expertise in microscopy 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 fluorescence, FLIM 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 a life science field, such as cell biology, biochemistry, biophysics or a related discipline with extensive experience in fluorescence microscopy including and ideally at least 1 years' experience working in super-resolution methods, (preferably STED), quantitative microscopy and/or FLIM methods.

Principal 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, 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 including funder reporting, industrial demos and publishing in high quality peer reviewed journals of international standing.
- Support the PI and research group in the design and development and implementation of the broader research programme.
- Assist in identifying and developing proposals future research and funding initiatives for the research team
- Take responsibility as directed by PI, for lab management and day-to-day advice and support of graduate research students associated with your research group.
- Supervise, 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 the programme of research and the research group
- Contribute to undergraduate teaching, project supervision and outreach activities as directed by the PI.
- Liaise with stakeholders such as industry and collaborators.
- Engage 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, including record keeping, data archiving and report writing for funding agencies.
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Minimum Criteria

Applicants should have a PhD in biochemistry, molecular biology, biophysics or related discipline where a significant portion of their PhD research and postdoctoral experience includes live cell fluorescence microscopy, and cell culture. Experience in super resolution microscopy (preferably in STED) and quantitative fluorescence imaging is expected and experience in one or more of fluorescence correlation microscopy, fluorescence lifetime imaging and/or Raman imaging would also be an advantage.

The ideal candidate should also:

- Have experience in quantitative bioassays, including cytotoxicity assays and in gel electrophoresis.
- Be capable of working independently with a high degree of technical competence whilst also being a team player, they must demonstrate initiative, be hard working, versatile and productive.
- Have good communication and organisational skills.

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