

**Research Centre:** School of Chemical Sciences / National Centre for Sensor Research (NCSR)  
**Post title:** Postdoctoral Researcher in Formulation and Analysis of Screen Printed Inks.  
**Level on Framework:** Level 1  
**Post duration:** Fixed Term 9 month contract

### **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 to advance your academic career.

### **Overview**

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.

### **Background and Role**

We are seeking an enthusiastic scientist with experience in screen-printing technology for the fabrication of electrochemical sensors. This technology underpins miniaturized, sensitive and portable commercial electrochemical devices. Enterprise Ireland funding has recently been awarded to the NCSR to develop a suite of ink formulations for use in these disposable electrochemical sensors for production at scale. This project intends to deliver new conducting ink formulations that are compatible with current state of the art fabrication techniques used for the large scale fabrication of electrochemical sensors.

As part of the funded team, the Post-Doctoral Fellow will prepare and characterise new and existing reference electrode ink formulations suitable for scale-up. Target formulations will typically comprise organic solvents, conducting materials, polymers and additives, and ink properties that will be characterised include physical properties (rheology, particle size, etc.) and chemical composition. Examples of techniques that will be used for the chemical characterisation of inks include NMR, mass spectrometry, chromatographic methods and vibrational spectroscopy.

***The duration of this role will be for 9 months in the first instance.***

### **Principal Duties and Responsibilities**

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

- Conduct a specified programme of research on ink formulation and characterization for screen-printed electrochemical sensor fabrication.
- Deliver research outputs and provide input into reports as required according to project management schedules.
- Attend and present results at project technical progress meetings.
- Liaise with both internal and external stakeholders including industrial and academic partners.
- Disseminate the outcomes of the research in which he/she is engaged including publishing in high quality peer reviewed journals of international standing where appropriate.
- Support the PI and research group in the design and development and implementation of the broader research programme.
- Support if required, the development of proposals for research funding.
- Take responsibility as requested for 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, funder/partner visits and other administrative management work associated with your programme of research and the research group.
- Contribute to teaching and outreach activities of the group.
- 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.

### **Minimum Criteria**

Candidates must have a primary degree and PhD in Chemistry or Chemical Engineering of which Material Sciences was a significant component. A good knowledge in one or more of the following areas is sought: ink/coating formulation chemistry, polymer chemistry, and/or screen-printing. A strong focus on the chemical evaluation of formulations would be important. Demonstrated experience in formulating inks is preferable but not a pre-requisite. Applicants should be capable of working independently with a high degree of technical competence whilst also being a team player, he/she must demonstrate initiative, be hard working, versatile and productive. S/he should have good communication and organisational skills.

**Salary:** \*€35,488 - €46, 255

***\*Appointments will be commensurate with qualifications and experience, and will be made on the appropriate point of the salary scales, in line with current Government pay policy***

**Closing date:** 26<sup>th</sup> May 2017

Candidates will be assessed on the following competencies:

**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 and in collaboration with industry partners.

**Understanding the Research Environment** – Demonstrates an awareness of the research environment (for example funding bodies and key industry players) and the ability to contribute to grant applications

**Communicating Research** – Demonstrates the ability to communicate their research with their peers, with industry partners, and with 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 and to meet industry partner expectations regarding project turn-around times.

**Informal enquiries to:**

Dr. Aoife Morrin [Aoife.Morrin@dcu.ie](mailto:Aoife.Morrin@dcu.ie) +353 (0)1 7006730

Prof. Robert Forster [Robert.Forster@dcu.ie](mailto:Robert.Forster@dcu.ie) +353 (0)1 7005943

*Please do not send applications to this email address, instead apply as described below.*

**Application Procedure** To apply for this role, applications should include a CV and covering letter and be submitted with the application form to the Human Resources Department as outlined below. Application forms are available from the DCU Current Vacancies (open Competitions) website at <http://dcu.ie/hr/vacancies/current.shtml> and also from the Human Resources Department, Dublin City University, Dublin 9. Tel: +353 (0) 1 7005149.

Applications should be submitted by email to [hr.applications@dcu.ie](mailto:hr.applications@dcu.ie) or by Fax: +353 (0)1 7005500 or by post to the Human Resources Department, Dublin City University, Dublin 9. Human Resources Department, Dublin City University, Dublin 9. Tel: +353 1 700 5149; Fax: +353 1 700 5500 Email: [hr.applications@dcu.ie](mailto:hr.applications@dcu.ie) Dublin City University is an equal opportunities employer.

**Please clearly state the role that you are applying for in your application and email subject line: Job Ref 548 Postdoctoral Researcher in Formulation and Analysis of Screen Printed Inks..**

*This Research is co-funded by the European Regional Development Fund (ERDF) under Ireland's European Structural and Investment Funds Programmes 2014-2020.*

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