Research Centre	Insight SFI Research Centre for Data Analytics
Post title	Postdoctoral Researcher in Ultrasensitive Nitrogen Sensor Development
Level on Framework	Level 1
Post duration	10 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.

Insight SFI Research Centre for Data Analytics

The Insight SFI Research Centre for Data Analytics (http://www.Insight-centre.org) is an SFI funded Research Centre which brings together researchers from University College Dublin, NUI Galway, University College Cork, and Dublin City University, as well as other partner institutions, Trinity College Dublin (TCD), University of Limerick (UL), Maynooth University (MU) and Tyndall

National Institute. It creates a critical mass of more than 400 researchers from Ireland's leading ICT clusters to carry out research on a new generation of data analytics technologies in a number of key application domain areas, such as Health and Human Performance, Smart Communities, Internet of Things, Enterprise and Services and Sustainability and Operations.

The €150m Centre is funded by Science Foundation Ireland and a wide range of industry and European Union partners. Insight's research focus encompasses a broad range of data analytics technologies from machine learning, decision analytics and social network analysis to linked data, recommender systems and the sensor web. Together, with more than 220 partner companies, Insight researchers are solving critical challenges in the areas of Connected Health and the Discovery Economy.

The Role

The Adaptive Sensors Group (ASG) is a large, multidisciplinary research unit hosted by the National Centre for Sensor Research (www.NCSR.ie), in state-of-the-art facilities situated on the campus of Dublin City University. Core funding for the ASG is provided by Science Foundation Ireland through the INSIGHT Centre (https://www.insight-centre.org/insight-at-dcu). The post is supported by NSF, DfE and SFI via the US-Ireland R&D partnership programme and is in collaboration with Queens University (NI) and Rensselaer Polytechnic Institute (US). The postdoctoral researcher will be an active member of a multidisciplinary research team assisting in the development of an ultrasensitive nitrogen sensor using for real-time monitoring of water quality. The successful candidate will play a substantial role in the new material development, design and fabrication (3D Printing) and validation of the sensing unit as well as support in their performance evaluation through field deployments.

Principal Duties and Responsibilities

Specific duties include:
- Play a substantial role in supporting the engineering effort of the ASG.
- Ensure that the project objectives are delivered, specifically, the delivery, characterisation and field deployment of functioning prototype instruments with new microfluidics units for monitoring nutrients and other important molecular markers of water quality.
- Work closely with pilot trial partners to install and maintain the operation of deployed platforms and to ensure data from deployments is remotely accessible via web databases in an appropriate format for their needs.
- Participate in meetings with the interested parties (e.g. end-users, external industry and academic partners) and assist in promoting the technology being brought to market (e.g. conferences and tradeshows).
- Attend, and contribute to, group meetings.
- Maintain an up-to-date profile on the group website.

Additional Responsibilities include:
- Managing laboratory facilities, performing measurements, updating equipment, developing procedures for operation and safety, supporting undergraduate/graduate research and fielding questions regarding procedures.

- The successful candidate will also participate in guiding students in measurements and analysis of their data as well as helping to draft proposals, reports, and research papers.

Qualifications, Skills and Experience Required

The candidates should have PhD in Analytical Chemistry experience/Environmental Chemistry/Sensor Development or related discipline. A strong interested in innovative sensing technology development. Some experience in environmental monitoring deployments and GIS mapping would be an advantage.

Skills
- Excellent written and oral proficiency in English (essential).
- Excellent written and verbal communication and interpersonal skills.
- Proven ability to prioritize workload and work to strict deadlines.
- Ability to work in a team and to take responsibility to contribute to the overall success of the team.
- 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, Data Protection (GDPR) and all Cyber Security Awareness Training. Other training may need to be undertaken when required.

In addition to inhouse training provided by DCU under the DCU Research Career Framework, extensive training is also provided by SFI in the areas of Design Thinking, Evidence Based entrepreneurship and Communications skills.

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.