Research Centre  Adaptive Sensors Group, Insight Centre for Data Analytics, National Centre for Sensor Research (NCSR)

Post title  Postdoctoral Researcher, Wearable Chemical Sensing Platforms for Real-Time Sweat Analysis

Level on the Framework  Level 1

Post duration  Fixed Term up to 3 Years

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.

Overview
The Adaptive Sensors Group (ASG, see www.dcu.ie/chemistry/asg/) is a large, multidisciplinary research unit hosted by the National Centre for Sensor Research (NCSR), 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), supplemented by significant project based income provided by Enterprise Ireland, the Marine Institute, The EPA, EU-FP7, and Industry partners.

The successful candidate will be required to develop effective ways to integrate soft polymer photoactuators into microfluidics systems, in order to create new approaches for efficient control of fluid movement within microchannels focusing mainly on light as the control stimulus. This activity will form part of a larger effort, through a recently funded EU H2020 project ‘HOLIFAB’ (PILOTS-04-2017) which is a concerted effort to deliver more effective technologies for microfluidics manufacturing. Coordinated by Fluigent SA (France), the consortium partners are Cikautxo S.Coop (Sapin), Micro-Resist technology MBH (Germany), Scupteo and microLIQUID (France), EV Group GMBH (Austria), CNRS (France), TELLABs (Ireland), Tech2Market (Poland) and DCU.

Research will address ways to optimise the response characteristics of the photofluidic system, including on/off response time, stability, life-time, repeatability and compatibility with various flow media. Major responsibilities will encompass;
• Optimise the chemistry of the photo-responsive gels in terms of response characteristics and integration strategies

• Develop strategies for integration of the photocontrol materials into microfluidic manufacturing pilot lines under development by the project partners;

• Implement analytical methods for (1) water quality monitoring (e.g. nutrients, metals) on the prototype microfluidics platforms; (2) personal health monitoring (depending on progress with (1))

The successful candidate will join a multidisciplinary team that functions on the basis of mutual support across a range of projects, drawing on combined team expertise in mechanical/electronic engineering, computer science, wireless communications, web database management, environmental science, materials chemistry, and analytical chemistry.

Duties and Responsibilities:

Reporting to Professor Dermot Diamond, the successful candidate will;

• Deliver the technical and administrative deliverables associated with the project

• Maintain close interaction with the industry partner throughout the project

• Assist with management and administration research of related projects, through co-supervision of postgraduate students, generation of technical and administrative reports, and organisation of/attendance at project meetings.

• Deliver teaching modules for degree courses as agreed with the project PI and relevant head of School.

• Participate in the DCU Researcher Career Development process

• Identify funding opportunities and assist with the preparation of H2020 and other funding proposals

• Assist with the managements of relationships with external industry and academic partners

• Attend and contribute to ASG meetings and maintain an active profile on the ASG/NCSR website

• Contribute positively to the overall research reputation of the ASG, and through it, INSIGHT and the NCSR.

Qualifications

Candidates should have a primary degree in which materials science or analytical chemistry was a significant component, and a doctorate in which electrochemistry and/or materials characterisation played a significant part. Ideally, candidates should have experience in electroanalytical chemistry, microfluidics, materials chemistry, and/or analytical method development and validation. Previous experience with on-body chemical sensing is not necessary but would be an advantage.
Closing date: 7th November 2017
Salary: *€36,488 - €41,003
*Appointment will be commensurate with qualifications and experience will be made on the appropriate point of the salary scale, in line with current Government pay policy

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.
- **Management & Leadership skills** - Demonstrates the potential to manage research projects including the supervision of undergraduate students and visiting researchers.

Informal enquiries to:
Professor Dermot Diamond; dermot.diamond@dcu.ie

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

**Application Procedure**

Application forms are available from the DCU Current Vacancies (open Competitions) website at [http://www.dcu.ie/vacancies/current.shtml](http://www.dcu.ie/vacancies/current.shtml) and also from the Human Resources Department, Dublin City University, Dublin 9. Tel: +353 (0) 1 7005149.

**Please clearly state the role that you are applying for in your application and email subject line: Job Ref 680 Postdoctoral Researcher, Wearable Chemical Sensing Platforms for Real-Time Sweat Analysis**

Applications should be submitted by email to 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

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