

Research Centre: Adaptive Sensors Group, INSIGHT Centre for Data Analytics
National Centre for Sensor Research

Post Title: Research Assistant: Analytical Platform Engineering and Validation

Post Duration: Fixed Term Contract up to 24 Months

Overview

The Adaptive Sensors Group (ASG, see www.adaptivesensors.com/) 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>), supplemented by significant project based income provided by Enterprise Ireland, the Marine Institute, EPA, EU-programmes, and Industry partners.

Due to support obtained under the Enterprise Ireland Innovation Partnership programme (**Next Generation Wearable Sensors for Monitoring Sweat Composition in Real-Time, Contract No: IP 2016 504**), in partnership with Realtime Technologies Ltd., Realtime-Shimmer, an 24-month Research Assistant position is available to work on the development of sensing platforms for capture and analysis of sweat concentration in real-time. This project builds on previous research into the design, fabrication and evaluation of wearable platforms that could sample and analyse the levels of sodium in sweat. In collaboration with our industry partner, Realtime-Shimmer, based at DCU-Alpha Innovation Campus, this successful initial research will be developed further into a platform capable of detecting multiple analytes in sweat in real time, using an electrochemical sensor array integrated with fluidic sampling and wireless communications. The successful candidate will play a substantial role in the design and fabrication of the platform design and fabrication using 3D printing/rapid prototyping, selection of materials employed in the fabrication process, design fabrication and integration of fluid handling & electrochemical sensors, as well as support for the characterisation and performance of prototypes through to laboratory trials. While this project mainly deals with development of wearable chemical sensing of sweat composition, he/she will contribute to the group's overall research effort in autonomous sensing devices. He/she 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 science, and analytical chemistry.

Duties and Responsibilities

Reporting to the PI, he/she will:

- Play a substantial role in supporting the engineering effort of the ASG.

- Ensure that the project objectives are delivered, specifically, the delivery, characterisation and completion of laboratory trials of prototype wearable sensing platforms for real-time sweat analysis.
- Work closely with project partners to in Real Time-Shimmer and the School of Health and Human Performance, DCU, the ensure laboratory trials are completed and validated.
- 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 tradeshow).
- Attend, and contribute to, group meetings
- Maintain an up-to-date profile on the group website

Experience and Qualifications

Candidates should have work/postgraduate experience in which rapid prototyping played a significant element and ideally a primary degree in mechanical/electronic or mechatronic engineering. A background in microfluidics and electrochemical sensing/analytical chemistry is desirable.

Salary *€20,459 – €32,930

*Appointment will be commensurate with qualifications and experience and will be made on the appropriate point of the Admin Assistant salary scale, in line with current Government pay policy.

Closing date: 24 February 2017

Informal enquiries:

Prof. 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> and also from the Human Resources Department, Dublin City University, DCU Glasnevin Campus, Dublin 9, Ireland, Tel: +353 (0) 1 700 5149.

Applications should be submitted by e-mail to hr.applications@dcu.ie or by fax: +353 (0)1 700 5500 or by post to the Human Resources Department, Dublin City University, DCU Glasnevin Campus, Dublin 9, Ireland.

Please clearly state the role that you are applying for in your application and email subject line: Job Ref#489 Research Assistant: Analytical Platform Engineering and Validation

Dublin City University is an equal opportunities employer.