

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

Post Title: Research Assistant, Microfluidics Fabrication, Systems Integration & Rapid Prototyping

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 (**Customisable Environmental Monitoring Platforms Based on 3D Printed Microfluidics, Contract No: IP 2016 0502**), in partnership with TE Laboratories, Co. Carlow, an 24-month Research Assistant position is available to work on the development of sensing platforms for remote environmental monitoring. Versions of these autonomous sensor systems have been extensively trialled in collaboration with partners in EU projects. This position is focused on the further development of these platforms, primarily focused on improving the microfluidics chip fabrication to reduce unit costs significantly while improving the platform functionality. The successful candidate will play a substantial role in the design and fabrication of fluidics units using emerging technologies like 3D printing, materials employed in the fabrication process, integration of optical and electronic components, as well as support for the characterisation and performance of prototypes in field deployments. While this project mainly deals with platforms for water quality monitoring, he/she will contribute to the group's overall research effort in autonomous instruments, including platforms for water analysis. 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 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 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

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. Expertise in systems integration, 3D CAD/CAM design, and familiarity with fabrication techniques will be important. Experience in polymer handling, electronics and microcontroller programming is desirable. Some experience in environmental monitoring deployments would be an advantage.

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#488 Research Assistant, Microfluidics Fabrication, Systems Integration & Rapid Prototyping

Dublin City University is an equal opportunities employer.