

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

Post title Research Assistant, Microfluidics Fabrication, Systems Integration &
Rapid Prototyping

Post duration Fixed Term up to 3 Years

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.

The successful candidate will work as part of a project team 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), Supteo and microLIQUID (France), EV Group GMBH (Austria), CNRS (France), TELLABs (Ireland), Tech2Market (Poland) and DCU.

This position is primarily focused on improving the microfluidics chip fabrication to significantly reduce unit costs through replacement of conventional valves located externally to the fluidic system with fully integrated polymer structures. The successful candidate will play a substantial role in the design and fabrication of fluidics units using emerging technologies like 3D printing, materials selection for the fabrication process, integration of optical and electronic components, as well as provide support for the characterisation and performance of prototypes in field deployments. 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 his/ her PI he/she will:

- Play a substantial role in supporting the engineering effort of the ASG
- Work closely with project industry partners leading the field deployments and ASG group members to deliver functional microfluidic components for prototype instrument field deployments.
- In participation with project industry partners, ensure that the fabrication strategies used to create the photofluidic platforms are as compatible as possible with manufacturing lines developed during the project
- 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. 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.

Closing date: 3 November 2017

Salary: *€21,459 - €24,761

**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.*

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://www4.dcu.ie/hr/vacancies/current.shtml> and also from the Human Resources Department, Dublin City University, Dublin 9. Tel: +353 (0)1 700 5149; Fax: +353 (0)1 700 5500 Email: hr.applications@dcu.ie

Please clearly state the role you are applying for in your application and email subject line: Job Ref 679 Research Assistant, Microfluidics Fabrication, Systems Integration & Rapid Prototyping

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, Dublin 9.

Dublin City University is an equal opportunities employer