

Research Centre	Adaptive Sensors Group, INSIGHT Centre for Data Analytics National Centre for Sensor Research, DCU
Post Title	Research Assistant, Microfluidic System Design for Up Scaling Fabrication
Post Duration	12 Months

Overview

This position is available at the Adaptive Sensors Group, Dublin City University to provide mechatronic engineering skills related to microfluidics fabrication and integration, and analytical device prototyping.

Background

The Adaptive Sensors Group (ASG, see www.adaptivesensors.com) is a large, multidisciplinary research unit supported 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, EPA, EU-FP7, and Industry partners.

Role

A 12-month Research Assistant position is available to work on the design and fabrication of microfluidic chips for potential applications in water quality and personal health monitoring, in cooperation with Prof. Michael Gilchrist's group and University College Dublin. Funded by Enterprise Ireland, this position is focused on design for cost-effective manufacturing of microfluidic chips, as well as fabrication and assessment of prototype chips, integration of chemical reagents for water quality analysis, design and fabrication of integrated sensing devices, and evaluation of the integrated devices. The candidate will also contribute to the group's overall research effort in autonomous instruments for environmental/health monitoring. He/she will join a multidisciplinary team whose ethos is to provide mutual support across a range of projects, drawing on combined team expertise ranging across mechanical/electronic engineering, computer science, wireless communications, web database management, environmental science, materials science, and analytical chemistry.

Duties and Responsibilities

Reporting to his/her Principal Investigator the Research Assistant will:

- Ensure that project objectives are delivered, specifically (i) the design, fabrication and testing of microfluidic chips produced by upscaling methods such as injection moulding; and (ii) the evaluation of prototype designs for potential applications in environmental and personal health monitoring
- Participate in meetings with academic and industry partners, funding agencies, and potential end-users of the developed technology.

- Contribute to project reporting requirements.
- Attend, and contribute to, group meetings.
- Maintain an up-to-date profile on the group website.

Experience and Qualifications

Candidates should have experience in which design-for-manufacture and 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 micro-fabrication techniques are essential. Experience in analytical instrumentation, electronics and microcontroller programming is desirable. Some experience in environmental monitoring deployments would be an advantage.

Salary Scale: €21,850 – €32,930

Subject to experience, qualifications and available budget

Closing Date: 8th September 2014

Application forms are available from:

Human Resources Department, Dublin City University, Dublin 9. Tel: +353 (0) 1 7005149 Fax: + 353 1 700 5500 Email: hr.applications@dcu.ie

Informal enquiries: contact Prof. Dermot Diamond (dermot.diamond@dcu.ie)

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