FPC@DCU - Fraunhofer Project Centre for Embedded Bioanalytical Systems:
Full-time PhD scholarship opportunity

The Fraunhofer Project Centre for Embedded Bioanalytical Systems at Dublin City University (FPC@DCU) – a joint initiative by Science Foundation Ireland and Fraunhofer-Gesellschaft - develops microfluidics-based solutions for decentralised bioanalytical testing in areas like in-vitro ("Point-of-Care") diagnostics, life-science tools, biopharma, agrifood, environmental and industrial monitoring. The research and technology development of FPC@DCU therefore operates at the very promising but also challenging crossroads of microsystems engineering and the life sciences. In its present start-up phase, the FPC@DCU focuses on high-level process integration and automation of centrifugal microfluidic "Lab-on-a-Disc" systems for "point-of-use" testing of biosamples such as body fluids, food, drink, bioprocess samples and water.

Your mission:

The FPC@DCU will recruit a highly ambitious student with strong scientific and engineering competences for the research and technology development of microfluidics-based solutions for decentralised bioanalytical testing. The successful applicant will meet DCU’s minimum entrance requirements for registration as full-time PhD students (including English language proficiency where necessary) and will study for a PhD in the field of centrifugal microfluidic technologies, specifically in (at least) one of the following research areas:

- Development of microfluidics-based sample-to-answer automated devices for decentralised bioanalytical testing in medicine and the life sciences
- Modelling and simulation of centrifugal hydrodynamics
- Optimisation of rotationally actuated flow control elements, e.g. valves and routers, and Laboratory Unit Operations (LUOs), e.g. for reagent storage, plasma extraction, metering, aliquoting, mixing of purification / concentration
- Development of custom-tailored materials, membranes and inserts as well as related manufacturing and assembly processes for multi-component Lab-on-a-Chip systems
- Development of complementary detection / transduction and biorecognition / bioassay technologies as well as bioanalytical applications

More information can be found on www.dcu.ie/microfluidics and www.dcu.ie/fpc.

Your profile:

You already have, or can convincingly demonstrate your willingness and capability to swiftly acquire a deep knowledge in a relevant subset of research fields and technologies enabling decentralised sample-to-answer testing of biosamples on compact microfluidic Lab-on-a-Chip systems; for instance, in their experimental design and testing, hydrostatic- and dynamic modelling and simulation, materials processing, manufacture, bioanalytical methods and detection technologies. You have a first class honours B.Sc. or M.Sc. degree (or equivalent) in a topic of high relevance to the FPC@DCU and can convincingly demonstrate your capability to develop a portfolio of compelling scientific, technological and publication / communication skills.

Stipend: €18,500 p.a. plus full tuition fees for 4 years. The award is subject to meeting the terms and conditions of the funder and subject to the student's satisfactory annual progression in DCU.

Application process

Submit your CV and a supporting document (max. 1 page) outlining your motivation for applying, relevant skill set and background, as a single PDF document to jens.ducree@dcu.ie.

Closing date for applications is 12 noon (Irish / UK time) on Friday 30th August 2019, or until the position is filled. The prospective start of the postgraduate position would be in as soon as possible.