Research Centre: I-Form, Advanced Manufacturing Research Centre

Post title: Postdoctoral Researcher

Level on Framework Level 1

Post Duration Fixed Term up to 2 Years

Research Career Framework
As part of this role the researcher will be required to participate in the DCU Research Career Framework [http://www.dcu.ie/hr/ResearchersFramework/index.shtml](http://www.dcu.ie/hr/ResearchersFramework/index.shtml). This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path. The role may include teaching duties in support of module delivery. The work relating to teaching activities and forms part of the development of the individual within the Research Career framework that is operated in the Faculty.

Background
Dublin City University (DCU) is one of the largest universities in Ireland. Its student population is approximately 17,000, including 500 research postgraduates and over 1,800 taught postgraduate students, plus around 3,000 distance education students. DCU is a research-led university which has developed its own research specialists, established internationally recognized centres of excellence that have substantive collaborative links with leading universities and industrial partners.

DCU has a strong track record in attracting both Irish and European Union research funding under Horizon 2020 (and all previous Framework Programmes), Marie Curie Actions and Erasmus. We offer a dynamic and internationally-focused environment in which to advance your academic career.

I-FORM Advanced Manufacturing Research Centre
The I-FORM Advanced Manufacturing Research Centre has been established by Science Foundation Ireland (SFI) to deliver high-impact, innovative science and engineering research. I-FORM has particular focus on additive manufacturing (‘3D printing’) combined with advanced digital technologies applied in a precision manufacturing environment, see [http://www.i-form.ie/](http://www.i-form.ie/)
The Centre brings together a multi-disciplinary team of over 80 PhD and Post-Doc researchers in manufacturing engineering, materials and data science, in a cross-disciplinary and translational research environment. I-FORM operates in close collaboration with a global network of companies and collaborators.

**Principle Duties and Responsibilities**

**Project: Investigation of the use of metrology for process control in metal additive**

Recent process in machine control, production speed and final part properties has made Selective Laser Melting (SLM) technology an excellent candidate for rapid prototyping and manufacturing. However, online quality control and process monitoring for real-time closed-loop feedback are still challenging and represent an impediment to the widespread incorporation of SLM in various industrial sectors. Additive manufacturing of parts by SLM is an extremely complex and multivariate process. In this targeted project, process monitoring tools will be specifically applied to stainless steel and in a second phase of the project to aluminium alloy 6061. The first phase of the project will develop system (SLM + monitoring) understanding using stainless steel as a demonstrator and the second phase will introduce and optimise the process for aluminium 6061.

Reporting to his/her Principal Investigator the Postdoctoral Researcher will:

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator
- Engage in appropriate training and professional development opportunities as required by the Principal Investigator, School or University in order to develop research skills and competencies
- Disseminate the outcomes of the research in which he/she is engaged including publishing in high quality peer-reviewed journals of international standing.
- Support the PI and research group in the design and development and implementation of the broader research programme.
- Support the development of proposals for research funding.
- Take responsibility as requested for day-to-day advice and support of graduate research students associated with your research group.
- Contribute to teaching and outreach activities of the group.
- Liaise with stakeholders such as industry and collaborators.
- Carry out administrative work associated with the programme of research as necessary.
• Actively publish research findings in high impact journals and at key conferences as part of the research group effort to disseminate research outputs

**Minimum Criteria**

Applicants should have a PhD in a discipline relevant to material preparation and characterisation methods. A broad knowledge of materials processing and characterisation technologies is essential. It is preferable for the candidate to have experience with additive manufacturing. Experience with process monitoring and produced component evaluation will be sought. Experience with Design of Experiments for process optimisation will be sought.

The team is looking for high performance aspiring applicants with a desire to discovering new knowledge and to drive forward advanced manufacturing technologies. Applicants are invited from high achieving graduates with the specific related backgrounds noted above. Ideally the applicant will have demonstrated:

• An ability to design and/or implement a substantial programme of research including initiating and leading new research programmes.
• Demonstrated ability in communicating their research nationally and internationally (for example by publishing in high quality peer reviewed journals of international standing, presentation at conference and through interaction with industrial partners).
• Experience in assisting with the supervision of postgraduate students would also be desirable as would financial management of a research project.
• A demonstrated ability of good communication skills will be sought.

**Salary:** €37,223 - €40,661

*Appointments will be commensurate with qualifications and experience and will be made on the appropriate point of the salary scales, in line with current Government pay policy.*

**Closing Date:** 7th January 2019
Candidates will be assessed on the following competencies:

**Discipline knowledge and Research Skills** – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline.

**Understanding the Research Environment** – Demonstrates an awareness of research environment (e.g. funding bodies and company requirements) and the ability to contribute to grant applications.

**Communication Research** – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students.

**Managing & Leadership Skills** – Demonstrates the potential to manage a research project including the supervision of undergraduate/postgraduate students.

**Informal enquiries to:**

Professor Dermot Brabazon, School of Mechanical & Manufacturing Engineering  
E-mail: Dermot.brabazon@dcu.ie Phone: +353 (0)1 700 8213

*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, Dublin 9. Tel:+353 (0) 1 7005149.

*Please clearly state the role that you are applying for in your application and email subject line: #1071 Postdoctoral Researcher, I-Form, Advanced Manufacturing Research Centre*

Applications should be submitted by email to hr.applications@dcu.ie or by Fax: +353 (0)1 7005500 or by post to the Human Resources Department, Dublin City University, Dublin 9.

*Dublin City University is an equal opportunities employer*