

Research Centre I-Form, Advanced Manufacturing Research Centre

Post title Postdoctoral Researcher

Level on Framework Level 1

Post duration Fixed term up to 3 Years

Research Career Framework

As part of this role the researcher will be required to participate in the DCU Research Career Framework <http://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.

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.

Background

Dublin City University (DCU) is one of the largest universities in Ireland. Its student population is approximately 13,000, 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.

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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/>

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: Additive Manufacturing (AM) and characterisation of heat exchange component

This project will develop Nitinol powder feedstock and develop optimised processing parameters to allow for Nitinol processing within the metal Additive Manufacturing process. A focus of this activity will be on controlling the metal cooling rate such that the shape memory effect of the alloy can be retained at low temperatures. The effectiveness of the developed production process will be evaluated against conventional production routes. The developed Nitinol components will be tested for their effectiveness as core elements of an engine assembly. The design freedom of AM will be investigated to allow for improved heat exchange efficiency and robustness. In addition to these fundamental process development requirements, this project will be conducted with a focus toward achieving the next generation heat engine product design of a collaborating company.

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 heat exchange, strain measurement, XRD and component evaluation 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: *€36,854 – €47,728

****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: 17th August 2018

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 Greg Hughes, VPRI, greg.hughes@dcu.ie Phone: +353 (0)1 700 5390

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: Job Ref #961 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