Applications are invited from suitably qualified candidates for the following position:

Research Fellow in Hydrogen Storage and Gas Grid Analysis
School of Mechanical & Manufacturing Engineering
Dublin City University
Fixed Term Contract up to 36 Months

Dublin City University www.dcu.ie is a young, ambitious and vibrant University, with a mission 'to transform lives and societies through education, research, innovation and engagement'. Known as Ireland's 'University of Enterprise and Transformation', it is committed to the development of talent, and the discovery and translation of knowledge that advances society and the economy. DCU is the Sunday Times Irish University of the Year 2021.

The University is based on three academic campuses in the Glasnevin-Drumcondra region of north Dublin. It currently has more than 18,000 students enrolled across five faculties – Science and Health, DCU Business School, Computing and Engineering, Humanities and Social Sciences and DCU Institute of Education. DCU is committed to excellence across all its activities. This is demonstrated by its world-class research initiatives, its cutting-edge approach to teaching and learning, its focus on creating a transformative student experience, and its positive social and economic impact. This exceptional commitment on the part of its staff and students has led to DCU's ranking among the top 2% of universities globally. It also consistently features in the world's Top 100 Young Universities (currently in QS Top 70 Under 50, Times Higher Top 150 Under 100).

DCU is placed 84th in the world, in the Times Higher Education University Impact Rankings – measuring higher education institutions' contributions towards the UN Sustainable Development Goals. Over the past decade, DCU has also been the leading Irish university in the area of technology transfer, as reflected by licensing of intellectual property.

School of Mechanical and Manufacturing Engineering

The School of Mechanical and Manufacturing Engineering has been at the forefront of Teaching, Learning, Research and Innovation in engineering since its establishment in 1987. Current programmes include Mechanical and Manufacturing Engineering, Biomedical Engineering and Mechatronics. The School is a research-intensive school that is home to key researchers affiliated to the research centres listed above and also to ESIPP, MEDeng and the Water Institute, and has particular strengths in Biomedical Engineering, Advanced Manufacturing and Sustainable Systems and Energy. At postgraduate levels the school offers taught Master's programmes with Majors in Sustainable Systems and Energy.

HyLight Project and Role Profile

Ireland has a commitment to climate action and whole system decarbonisation to advance the global objectives on climate change agreed under the Paris Agreement and has committed to law to decarbonise our economy by >50% by 2030.

HyLIGHT is a 3-year project funded by Science Foundation Ireland (SFI) and a 25-strong industry consortium through MaREI the SFI Research Centre for Energy, Climate and Marine, UCC, DCU & NUIG. The overall aim of HyLIGHT is to provide the knowledge, data and the necessary tools to guide the cost-effective decarbonisation and roadmap sustainable large-scale implementation of hydrogen technologies in Ireland to enable sector integration for a zero-carbon, secure, resilient energy system. HyLIGHT will achieve its aim by collaborating with the leading national and international companies, universities and stakeholders working to facilitate the delivery of hydrogen to all energy sectors; heat, transport and electricity; but also to where it is needed in industry, in a safe and cost effective manner for energy consumers and industry. Over its 3-year timeline, HyLIGHT has four objectives: Vision, Roadmap, Plan and Partnership. The first three each contribute a project milestone. The fourth facilitates partnership in optional investment opportunities, facilitated by the network and knowledge gained that may build into independent projects outside this project.

The project is now seeking to recruit a **Research Fellow** to help develop an all-island understanding of the future of the gas network on the island in the short, medium, and long terms; the expansion/contraction effect of heat pumps and carbon prices and the energy demand from it. It will develop a portfolio of what is needed to transition, from pipes to valves to injection points from 0% - 2% - 7% - 20% to 100% hydrogen in the gas grid. It will explore the feasibility of large-scale salt cavern storage to balance this future hydrogen grid.

As part of this role the Research Fellow will be required to participate in the **DCU Research Career Framework**. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path.

Principal Duties and Responsibilities

See job description for full list of duties and responsibilities.

Qualifications and Experience

Minimum Criteria

- PhD in Mechanical Engineering or similar area with thesis relevant to the HyLight project
- 4 years' relevant postdoctoral research experience at Level 1 of the Research Career Framework or equivalent
- Experience in research grant writing, student supervision, project management
- Proven research independence
- Excellent written and oral English
- Excellent social skills.

In addition, it is desirable that the candidate has a sub-set of the following:

- Managing research consortia
- Proven ability to work to strict deadlines
- Broad expert insights in hydrogen to have the ability to lead related sub tasks & deliverables in other work-packages

- Experience in working in industrial settings
- Strong problem solving abilities.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates the ability to design and implement part of a programme of research (for example by using critical thinking and the application of relevant research methodologies).

Understanding the Research Environment – Demonstrates a thorough understanding of the research environment both nationally and internationally and the ability to contribute substantially to grant applications.

Communicating Research – Demonstrates the ability to communicate their research effectively to the research community and wider society (for example by publishing their research in high quality peer reviewed journals) and the ability to teach and tutor students.

Managing and Leadership skills - Successfully manages research projects including the management and supervision of postgraduates and/or junior research staff.

Essential Training

Post holders will be required to undertake the following mandatory training: Orientation, GDPR, Research Integrity and Compliance. Other training may need to be undertaken when required.

Salary: IUA Research Fellow Salary Scale, Point 1: €55,811

Closing Date: 23rd October 2021

Informal Enquiries in relation to this role should be directed to: Dr. James Carton, Assistant Professor, School of Mechanical Engineering, Dublin City University; Email: james.carton@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 website at https://www.dcu.ie/hr/vacancies-current-vacancies-external-applicants

Applications should be submitted by e-mail with your completed application form to hr.applications@dcu.ie

Please state the role that you are applying for in your application and email subject line: Job Ref #RF1575 Research Fellow in Hydrogen Storage and Gas Grid Analysis.

Dublin City University is an equal opportunities employer.

In line with the Employment Equality Acts 1998 – 2015, the University is committed to equality of treatment for all those who engage with its recruitment, selection and appointment processes.

The University's Athena SWAN Bronze Award signifies the University's commitment to promoting gender equality and addressing any gender pay gaps. Information on a range of university policies aimed at creating a supportive and flexible work environment are available in the DCU Policy Starter Packs