Postdoctoral Researcher, Electrolyser Scale-up, Level 1
School of Chemical Sciences
Fixed Term Contract – 9 Months

Dublin City University (www.dcu.ie) is a research-intensive, globally-engaged, dynamic institution that is distinguished both by the quality and impact of its graduates and by its focus on the translation of knowledge into societal and economic benefit. Through its mission to transform lives and societies through education, research and innovation, DCU acts as an agent of social, cultural and economic progress. DCU is Ireland’s fastest growing university, and now hosts more than 17,000 students across its three academic campuses: DCU Glasnevin Campus, DCU St Patrick’s Campus and DCU All Hallows campus.

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.

School of Chemical Sciences
From the very early years of DCU, the School of Chemical Sciences has played a significant role in the rapid development of the University to the point where we can now compete with some of the best European Universities.

At the postgraduate research level, the School of Chemical Sciences possesses an outstanding track record, currently home to over 45 postgraduate students, engaged in taught and research based MSc and PhD programmes, in diverse fields. These range from the development of chemical and biological sensors, and intelligent materials, to drug design and discovery, and advances in science education. The School houses a suite of state-of-the-art research equipment including high resolution electron microscopy and a range of both mass and magnetic resonance spectrometers.

Role Profile
In collaboration with an industrial partner, we are developing an electrolyser system for the on-site production of Hydrogen Peroxide from renewable electricity. This approach involves the immobilisation of custom catalysts for the continuous production of hydrogen peroxide within a Proton Exchange Membrane (PEM) electrolyser.

We are especially interested in candidates with the ability to drive the design of a scalable electrolyser informed by computational fluid dynamics. However, applicants with a background in electrocatalytic science and electrode preparation are also welcome.

Research Career Framework
As part of this role the researcher 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.

Key Responsibilities & Duties
Reporting to the Principal Investigator, the Postdoctoral Researcher will:

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator
• Engage in the dissemination of the results of the research in which he/she is engaged with the support of and under the supervision of the Principal Investigator. This may include publication in high quality peer reviewed journals and the delivery of conference papers.
• Protect inventions and assist in the filing of patent applications under the guidance of the Principal Investigator
• Engage in appropriate training and development opportunities as required by the Principal Investigator, the School, or the University
• Liaise with both internal and external stakeholders including industry and academic partners/collaborators, including travel where necessary
• Assist in identifying and developing future research and funding initiatives
• Carry out administrative work associated with the programme of research as necessary

**Mandatory Training**
Post holders will be required to undertake the following mandatory compliance training: GDPR and Compliance. Other training may need to be undertaken when required.

**Minimum Criteria**
Applicants should have a PhD in one of the following: mechanical engineering; chemical engineering; process engineering; applied physics, or a closely related field.

**Desirable Criteria**
• Experience in electrolyser/reactor design, computational fluid dynamics, CAD, and rapid prototyping is highly desirable.
• Experience in computational fluid dynamics, computer aided design, and reactor engineering.
• Knowledge of electrochemical process engineering and/or PEM electrolyser/fuel cell design would be advantageous. Alternatively candidates with experience in electrocatalysis, particularly related to electrode processing, coating and testing for electrolyzers or fuel cells, are encouraged to apply.

**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 the research environment (for example funding bodies) and the ability to contribute to grant applications;
• **Communicating 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 students.