



Research Centre	School of Chemical Sciences
Post title	Postdoctoral Researcher in Polymer Synthesis Chemistry
Level on Framework	Level 1
Post duration	Up to 10 Months Fixed Term Contract

Dublin City University

Dublin City University (DCU) is a leading innovative European University. It is proud to be one of the world's leading Young Universities and is among the world's top 2% globally. DCU is known as Ireland's University of Impact, with a mission to 'transform lives and societies' and focuses on addressing global challenges in collaboration with key national and international partners and stakeholders.

DCU has over 20,000 students in five faculties spread across three academic campuses in the Glasnevin-Drumcondra area of North Dublin. Thanks to its innovative approach to teaching and learning, the University offers a 'transformative student experience' that helps to develop highly sought-after graduates. DCU is currently No. 1 in Ireland for Graduate Employment Rate, and for graduate income (CSO).

DCU is a research-intensive University and is home to a number of SFI-funded Research Centres. The University participates in a range of European and international research partnerships. DCU is also the leading Irish university in the area of technology transfer as reflected by licensing of intellectual property.

As a 'People First' institution, DCU is committed to Equality, Diversity and Inclusion - a University that helps staff and students to thrive. The University is a leader in terms of its work to increase access to education, and is placed in the world's Top 10 for reducing inequalities in the Times Higher Education Impact Rankings.

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.

Background & Role

Grain-4-Lab is a €2.4 million funded sustainability project, part of the SFI Future Innovator Prize Programme (<https://grain4lab.ie/>). The aim of the project is to reduce the reliance on fossil-fuel based single-use plastics in research laboratories, by providing a more sustainable and functionally equivalent alternative. In Grain-4-Lab we take waste products from the brewing and distilling industry and aim to produce a high quality bioplastic alternative.

We are a highly multi-disciplinary team which includes researchers from the fields of bioprocessing, materials science, polymer synthesis, societal change and scientific outreach. Grain-4-Lab operates in close collaboration with an international network of companies and collaborators to develop, test and trial their bioplastic solution. The project was recently featured on Irish national news channel RTE (<https://www.rte.ie/news/ireland/2022/1005/1327355-dcu-scientists/>).

The School of Chemical Sciences at Dublin City University invites applications for a senior postdoctoral researcher in polymer synthesis chemistry to work on the Grain-4-Lab project on the development of compositable polymers and polymer networks. The position is available from 1st January 2024.

The goal of this specific project is to develop a method for isolating monomer molecules from waste material and using these to produce high molecular weight polymers. The project will involve collaboration with the Schools of Physical Sciences, Biotechnology, and Nursing, Psychotherapy and Community Health in Dublin City University.

Principal Duties and Responsibilities

Reporting to their Principal Investigator the Postdoctoral Researcher will:

- Conduct a specified programme of research under the supervision and direction of the Principal Investigator, with a specific focus on the design and execution of synthetic polymer processes
- Engage in the dissemination of the results of the research in which they are engaged with the support of and under the supervision of the Principal Investigator, with a specific focus on completing funding reports and preparing presentations and material for funding reviews
- Supervise and assist undergraduate and postgraduate students working in this area with their research
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators
- Carry out administrative work associated with the programme of research as necessary, including assisting the Principal Investigator in tendering for equipment and instruments required for the project

Minimum Criteria

Individuals should have a PhD in organic chemistry/polymer synthesis. In addition, it is desirable that the Individual has:

- A minimum of 6 years post-doc research experience in polymer synthesis, including experience with lactide synthesis, ring-opening polymerization and working with Schlenkline.
- Experience with different polymer analytical techniques including GPC, NMR, FTIR, DSC, TGA etc
- Research experience in polymer characterization and data interpretation, formulation of polymer blends and composites, and polymer processing.
- Evidence of publication of research articles in relevant fields.
- The ability to work in collaborative projects and possess excellent communication skills.
- High motivation and passion about sustainability and climate change research.
- Good research expertise specifically in biodegradable plastics.

Individuals 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