



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

Research Centre	DCU Water Institute School of History and Geography
Post title	Postdoctoral Researcher - Ecosystem Modelling
Level on Framework	Level 1
Post duration	24 month 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

The DCU Water Institute (WI) is a cross-faculty initiative of research and education on water. It aims to work with all stakeholders – a quadruple helix of academia, industry, agency and society in its research and development work. Through research and capacity building, the WI develops solutions to national and global problems in water. We specialise in technology developments across science, engineering and computer science domains with strong communications focus and policy and business drivers. These areas are reflected in our academic members in DCU, across all faculties of the University.

Applications are invited for a postdoctoral researcher on the Horizon Europe **intoDBP** project (Innovative Tools to Control Organic Matter and Disinfection Byproducts in Drinking Water). The project focuses on organic matter and disinfection byproducts (DBPs) in water and aims to develop, test, scale-up, validate and benchmark innovative tools and strategies to protect catchments and minimise human exposure to disinfection byproducts under current and future climates, without compromising disinfection efficacy.

Researchers at DCU will lead a workpackage which specifically concentrates on dissolved organic matter (DOM) compounds, the precursors of DBPs, which have been increasing in many aquatic systems over recent decades, an increase that has been linked in part to the effects of global warming. The objective of this work package is to develop a modelling workflow connecting a suite of existing catchment and lake models for DOM to produce an integrated workflow simulation of shorter- and longer-term changes in DOM concentrations in drinking water sources and apply it to a set of case-study sites in Ireland and Spain.

The project activities will be coordinated by Dublin City University (DCU). The postdoctoral researcher will be mainly based in DCU and will report to the workpackage coordinator Dr Valerie McCarthy but will work closely with project partners from The Catalan Institute for Water Research (ICRA) in Spain and Virginia Tech in the US. The main focus of the work undertaken will be modelling past and future changes in catchment and lake processes. It is envisaged that the work will link to the ISIMIP (*Inter-Sectoral Impact Model Intercomparison Project*) lake sector group.

Principal Duties and Responsibilities

Working closely with the research team in DCU, project partners and stakeholders, the researcher will support a range of activities related to:

- Undertaking simulations of past and future changes in DOM input at a set of Irish and Spanish case-study sites.
- Publishing scientific papers
- Undertaking field work where required.
- Assisting in organising project meetings and training workshops, and attendance at all events.

- Contributing to project dissemination, including the project webpage and social media accounts and assisting in project dissemination.
- Undertaking other duties as may reasonably be requested and that are commensurate with the nature and grade of the post.

Minimum Criteria

Applicants should have a PhD in Limnology, ecosystem modelling or other relevant discipline. In addition, it is desirable that the candidate has experience under the following criteria:

Essential Criteria

- Strong background knowledge of lake and catchment processes.
- Experience in the analysis of high frequency monitoring data from lakes and/or rivers.
- Strong data analytics/statistical skills.
- Experience with dynamic river/lake physical or water quality models.
- Experience in analysing high frequency monitoring data from lakes and/or rivers.
- Experience using R and/or Python.
- Strong oral and written communication skills in English.
- Good interpersonal skills.
- Proven ability to work independently.
- A willingness to travel overseas.

Desirable Criteria

- Experience in ecological forecasting.
- Strong background knowledge of DOM processing.
- Experience working with gridded meteorological datasets.
- Experience in using GIS software.
- EU driving licence.

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.

Essential Training

Training required for the role should be entered here. At a minimum, the following should be entered in addition to other applicable, role specific mandatory training:

The postholder will be required to undertake the following essential compliance training: Orientation, Health & Safety, Data Protection (GDPR) **and all Cyber Security Awareness Training**. Other training may need to be undertaken when required.

Salary Scale:

IUA Postdoctoral Researcher Salary Scale: Point 1 € 42,783 – Point 3 € 45,322

Appointment will be commensurate with qualifications and experience and in line with current Government pay policy.

Closing date: Wednesday, 13th December 2023

For more information on DCU and benefits, please visit [Why work at DCU?](#)

Informal Enquiries in relation to this role should be directed to:

Title. Dr Valerie McCarthy, School of History and Geography, Dublin City University.

Email: valerie.mccarthy@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 clearly state the role that you are applying for in your application and email subject line: #RF1934 Postdoctoral Researcher - Ecosystem Modelling.

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](#)

