Postdoctoral Researcher – DigiÉire: Creating a Digital Twin for Ireland

J.E. Cairnes School of Business and Economics
Ref. No. 011349

JOB ADVERTISEMENT

Applications are invited from suitably qualified candidates for a full-time (1 FTE), fixed term position as a Post-Doctoral researcher with the Discipline of Economics at the University of Galway, Ireland. This position is funded by the J.E. Cairnes School of Business and Economics and is available from the 1st of November 2025 to contract end date of the 31st of May 2028.

Informed by the International debate for a 'beyond GDP' framing of climate change within policy, the goal of this project is to produce a Digital Twin for Ireland (DigiÉIRE) to aid climate change adaptation planning that maximises the wellbeing of the Irish population over time. Focusing on possible sea level rise (SLR) and flooding events in coastal communities in Ireland initially, this 2.5-year project will create a digital twin of Ireland, underpinned by a dynamic agent-based model of the Irish population to quantify the impact SLR and increased flooding events. Working with stakeholders, further work will quantify the impact of different SLR and flooding based adaption proposals on Quality of Life and subjective wellbeing of the Irish population up to 2100.

Salary: Postdoctoral Researcher salary scale, €45,846 - €58,481 per annum, subject to new entry requirements and the level of relevant experience, and pro rata for shorter and/or part-time contracts.

Closing date for receipt of applications is 17:00 (Irish Time) on 3rd October 2025. It will not be possible to consider applications received after the closing date.

JOB DESCRIPTION

Job Description:
The successful candidate will, over the course of the project, work with the project team to:
- Develop a Digital Twin for Ireland with a specific focus the two major coastal urban centres, Dublin and Galway.
- Develop a twin dataset of the Irish population using a variety of secondary data including social media data that can be used to understand how individual-level characteristics, coupled with their social and environmental interactions (both natural and built), shape reactions and emotions to climate change related weather events, such as flooding
- Using this data, develop an ABM of the Irish population that combined with the Digital Twin can be integrated into a Climate Change based Integrated Assessment Tool (IAM) to
  - Quantify the impact of sea level rise (SLR) and increased flooding events in coastal Ireland on the Quality of Life and SWB of the Irish population up to 2100.

- Quantify the impact of different SLR and flooding based adaption proposals on Quality of Life and SWB of the Irish population up to 2100

Duties:
To deliver the overall project aim, the successful candidate will perform the following activities:
- Conduct the specified programme of research and scholarship outlined above under the supervision and direction of Professor Karyn Morrissey
- Develop a deep understanding of the direct and indirect impacts of climate change on health and wellbeing
- Develop a deep understanding of climate related challenges for coastal communities in Northern Europe
- Determine the most appropriate approaches to develop the methodologies required to address the research goal
- Plan, co-ordinate and implement the research project, which may include managing a small research team/co-ordinating other researcher activity.
- Keep up to date with cutting edge developments related to methods and techniques that may be of use to the project
- Collaborate with colleagues across the University, and both nationally and internationally on areas of shared research interest.
- In conjunction with the wider DigiÉIRE collaborators, contribute to the publication of the research findings in leading disciplinary journals.
- Develop their own career reputation and career development
- Contribute to the School and Discipline of economics for example, participating in seminars, workshops, etc.

ELIGIBILITY REQUIREMENTS

Essential Requirements:
- PhD (or thesis submitted and awaiting viva prior to start date) in a computationally oriented social science based field of research (for example, computer scientists with previous research in a social science related field of study)
- Strong programming background and extensive experience working on digital twins and Agent Based Models
- Strong econometrical skills
- Good fluency in technical English, both spoken and written

Desirable Requirements:
- Experience modelling the societal impact of different environmental events/hazards on health and wellbeing
- Previous experience working on digital twins or Agent Based Models
- Previous experience working with a range of disciplines within a single project
- Previous experience using quantitative and qualitative data to develop multi-dimensional indices, such as wellbeing or deprivation indices
- Publications in leading disciplinary journals applicable related to this post.

CONTINUING PROFESSIONAL DEVELOPMENT

Continuing Professional Development/Training:
Researchers at University of Galway are encouraged to avail of a range of training and development opportunities designed to support their personal career development plans. University of Galway provides continuing professional development supports for all researchers seeking to build their own career pathways either within or beyond academia. Researchers are encouraged to engage with our Researcher Development Centre (RDC) upon commencing employment - see HERE for further information.

FURTHER INFORMATION/LINKS

- **TO APPLY:** Search Current University of Galway vacancies. Applications must be submitted online.
  - o How to apply guide
- For informal enquiries, please contact Karyn Morrissey, Professor of Environmental and Marine Economics, J.E Cairnes School of Business and Economics, Email: karyn.morrissey@universityofgalway.ie

- University's Strategic Plan

- Working in Research at University of Galway

- Moving to Ireland (Euraxess)

- Applicant Information

- We reserve the right to re-advertise or extend the closing date for this post.

- University of Galway is an equal opportunities employer.

- All positions are recruited in line with Open, Transparent, Merit (OTM) and Competency based recruitment.