



## PhD Studentship in Life Cycle Sustainability Assessment of Circular Bovine and Ovine Co-Products Valorisation

School of Biosystems & Food Engineering  
College of Engineering & Architecture  
University College Dublin  
<http://www.ucd.ie/biosystems/>

CirCoVal – Circular Bovine and Ovine Co-Products Valorisation

This PhD project will focus on applying a full life cycle sustainability analysis, considering environmental, economic and social impacts, to assess the sustainability of the of the bovine and ovine co-product valorisation processes developed in CirCoVal. The CirCoVal project focuses on the valorisation of red meat co-products with the least value to the industry – currently a source of losses to their producers – and the of purification wastewater produced at the abattoirs. A number of circular processes (including anaerobic digestion, pyrolysis, transesterification and fermentation) will be developed, scaled up, and economically assessed to provide a suite of potential options for the individual producers in the agri- food sector to choose from. The sustainability of the CirCoVal processes will be explored through life cycle assessment (LCA) using data collected from project partners and industry. The LCA research will ensure that the environmental performance and related impacts of the products developed in CirCoVal will be taken into account throughout the project, focusing on appropriate environmental, economic and social methods in the context of LCA.

The PhD student will work under the primary supervision of Dr Fionnuala Murphy in the UCD School of Biosystems & Food Engineering and co-supervision of Dr Egle Gusciute in the UCD School of Sociology. There will be a specific focus on interacting with project partners (Technological University of the Shannon, Teagasc, Tyndall National Institute, Dawn Meats, Kepak, Ashbourne Meats Processing, Arigna Fuels, Loop Head Together and the Irish Bioeconomy Foundation) during all stages of the project to best understand the value chain and for on-site data collection.

The ideal candidate will have an excellent degree in a quantitative science-based discipline such as engineering, food science, agricultural science, environmental science, industrial ecology or similar. The candidate will be expected to broaden their knowledge to include economic and social sustainability in the life cycle assessment. Some knowledge or experience of the food industry and life cycle assessment would be helpful.

Excellent scientific, organisational and project management skills, a commitment to research, excellent problem-solving skills, the ability to work independently and as part of a multi-disciplinary team and excellent interpersonal and communications skills will all be necessary.

**Stipend:** €25,000 tax-free per annum (+ contribution to fees of €6,000 per annum)

**PhD Duration:** up to 4 years

Informal requests for further details can be made to Dr Fionnuala Murphy and Dr Egle Gusciute (fionnuala.murphy@ucd.ie).

Closing date: 17<sup>th</sup> May 2024

Interviews: June 2024

Expected start date: September 2024

To apply please follow the instructions in the following link <https://forms.gle/CqHtrfwQwhMPZHNq9>. Applicants must include their CV, detailed academic transcripts in the form of certified copies of all undergraduate and postgraduate level certificates, a motivation letter and a reference letter from previous professors or mentors. Candidates must have excellent proficiency in written and spoken English (CEFR Level C1) and provide evidence that they fulfil the specific UCD language criteria.

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