



Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

## PHD WALSH FELLOWSHIP OPPORTUNITY

Plant Ecophysiology Research Group  
Botany Discipline, School of Natural Sciences,  
Trinity College Dublin

Environment, Soils and Land Use Department  
Teagasc  
Johnstown Castle

**Enhancing carbon sequestration in Irish Grassland systems: Investigating the impacts of lime, basalt, digestate and alternative land-use on soil carbon stocks and fluxes.**

### Project Background and description

The Climate Action Plan envisages a 51% reduction in national Greenhouse Gas (GHG) emissions by 2030, with agriculture set the goal of achieving Climate Neutrality by 2050 at a national, all-Island and EU level. Achievement of these targets pose significant challenges for agriculture across the island of Ireland, especially in the context of sustained economic and GHG emissions growth since 2011. Previous Teagasc Marginal Abatement Cost Curves (MACCs) calculated the abatement potential of agriculture, land-use and agri-bioenergy to be between 5.5 and 9 megatonnes CO<sub>2</sub>e per annum based on 27 individual measures. This work will form part of the wider LabMACC project and will contribute to these targets by investigating the impact of liming, carbonation and application of digestate on soil carbon dynamics include gaseous exchange, soil carbon stocks and losses to soil water.

### Candidate requirements:

- Applications are invited from graduates holding a first or 2.1 class honours degree or M.Sc. in Biochemistry, Soil Science, Agricultural Science, Environmental Science or related discipline.
- The successful candidate should be practically and technically minded, and interested in using state-of-the-art approaches to measure terrestrial carbon dynamics.
- The candidate should be self-motivated, prepared for extensive field-based and laboratory work and someone who enjoys data analysis, writing and communicating/disseminating their work.

- Prior experience in measuring carbon and greenhouse gas dynamics of terrestrial systems would be advantageous.
- A full, clean Irish/European driving licence and fluency in English are essential.
- This award is available to EU candidates only

**Award:**

The successful candidate will be enrolled for a 48-month (Structured) Research PhD programme in the Botany Department in the College of Natural Sciences, Trinity College Dublin and will be based at the Teagasc Johnstown Castle Environment, Soils and Land Use Department. The Fellowship provides University fees for EU students and a stipend of **€18,000 per annum for a duration of four years.**

**Application deadline:** 17<sup>th</sup> February by 5pm (Irish local time)

**Start Date:** March 2023

**Application Procedure:**

Interested applicants should submit, within a single PDF document, a CV with educational background, transcripts of degree results, list of publications and conference presentations, a short (1–2 page) letter of motivation and contact details for 2 referees submitted directly to Dr. Matthew Saunders ([saundem@tcd.ie](mailto:saundem@tcd.ie)). The motivation letter should clearly state how the applicant's research interests and skills relate to the research project outlined above.

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