**PhD Scholarship Advertisement**

Fully Funded PhD Scholarship in Understanding Rumen Microbiology to Mitigate enteric Methane Emissions from Agriculture

School of Biological and Chemical Sciences

Applications are invited from suitably qualified candidates for full-time funded PhD scholarship starting in September, 2025 affiliated to the College of Science and Engineering and School of Biological and Chemical Sciences at the University of Galway.

**University of Galway**

Located in the vibrant cultural city of Galway in the west of Ireland, the University of Galway has a distinguished reputation for teaching and [research excellence](https://www.universityofgalway.ie/our-research/)

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**Detailed Project Description:**

Ruminants (cattle and sheep) can successfully produce value edible products (such as meat and milk) for human consumption from inedible low value forage and contribute to food security. They house a unique complex rumen microbial community that enables the host to digest their plant feed through microbial-mediated fermentation. However, the rumen microbiome is also responsible for the production of one of the most potent greenhouse gases, methane. Under recent national legislation, Ireland has committed to reduce GHG emissions from agriculture by 25% by 2030. Strategies to lower methane production by ruminants have proved challenging with often having a only temporary mitigation effect. An increased understanding of the host–microbiome interactions in the rumen is required for the development of novel mitigation strategies and to monitor mechanism of action of novel dietary and genetic approaches. In this studentship, in collaboration with Teagasc and the Irish Cattle Breeding Federation, rumen host-microbiome interactions will be investigated in high compared to low methane emitters and in response to both feed additive supplementation and breeding strategies across different diet types. Specifically, the successful candidate will learn state of the art animal science, methane measurement and laboratory based scientific approaches such as rumen microbiology, next generation sequencing and bioinformatics skills to provide a fundamental understanding of mechanism of action of breeding strategies and feed additives employed to reduce methane emissions from agriculture.

**Living allowance (Stipend):** €22,000 per annum, [tax-exempt scholarship award]

**University fees**: Covered by the scholarship

**Start date**: September 2025

**Academic Entry Requirements:** Applicants should have a primary degree (First or upper Second Class Honours) or M.Sc. in an appropriate discipline (e.g. microbiology, biological science, animal science, biotechnology, or similar). The successful candidate should be highly self-motivated and be prepared for some animal-based studies and biological sample collection, laboratory-based studies for microbiological and molecular analyses and apply bioinformatics and biostatistics. International applicants require a minimum score of IELTS 6.05 in English for entry into postgraduate programmes.

**To Apply for the Scholarship:** The PhD Scholarship funded by the University of Galway, in collaboration with the MAGS project which is funded by the Department of Agriculture, Food and the Marine (DAFM; project contract number 2023RP904). The student will be registered at the University of Galway in the School of Biological and Chemical Sciences but may spend some time at the Animal and Bioscience Research Department, Teagasc, Grange, Co. Meath or at the ICBF, Tully, Co. Kildare, collecting biological samples for their project. The student will be under the supervision of Dr. Sinead Waters (University of Galway). To apply please send a cover letter and Curriculum vitae to Dr. Sinead Waters (sinead.waters@universityofgalway.ie).

**Contact Name:** Dr. Sinéad Waters

**Contact Email:** Sinead.Waters@universityofgalway.ie

**Application Deadline:** 30th April, 2025and time 17:00 (Irish time 24hr format)

**Primary Supervisor name**: Dr Sinead Waters