



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



Joint Trinity College Dublin and Teagasc PhD opportunity

“Assessing the spatial and temporal dynamics of nitrous oxide emissions from fertilised and grazed grassland ecosystems.”

Background

Within grazed grassland systems environmental nitrogen emissions are substantial and associated with both urinary nitrogen deposition and organic/inorganic N fertiliser application. Whilst disaggregated emissions are reported for each category of N source (mineral fertiliser, organic manures and deposited dung/urine) and emission factors subsequently generated for nitrous oxide (N₂O) from these N sources, there are few studies where N₂O emissions from whole grazing systems have been directly measured. This project will assess N₂O emissions associated with fertiliser applications and animal excreta from a full field production system and will attempt to quantify the spatial and temporal variability of emissions in addition to N₂O “hot-spots”. A range of techniques will be used including eddy covariance, flux gradient, static chambers and fast-box techniques.

Requirements

Applications are invited from graduates holding a first or 2.1 class honours degree or M.Sc. in Environmental Science, Biochemistry, Micrometeorology, Atmospheric Physics, Soil Science or related discipline. The successful candidate should be technically minded, highly motivated, prepared for extensive field based and laboratory research, have good data analysis and writing skills, while a full, clean driving licence and fluency in English are essential. Prior experience in micrometeorology and eddy covariance techniques are advantageous.

Award

The PhD fellowship is part of a joint research project, funded by the Department of Agriculture Food and the Marine, with project partners in Teagasc, Trinity College Dublin, NUI Galway and the Agri-Food and Biosciences Institute. The student will be based at the Teagasc, Johnstown Castle Environmental Research Centre and at Trinity College Dublin. The student will be registered at Trinity College Dublin, the fellowship provides an annual stipend of €24,000 and is tenable for 4 years, university fees are paid by the student from this stipend.

Further Information/Applications

Dr Matthew Saunders, Trinity College Dublin, School of Natural Sciences. Phone +353 (0)1 8964870; Email: saundem@tcd.ie

Dr Gary Lanigan, Teagasc. Phone +353 (0)53 9171216; Email: gary.lanigan@teagasc.ie

Application Procedure

Applicants should submit a cover letter and CV outlining their interest and suitability for this position in addition to their experience and relevant qualifications by email to saundem@tcd.ie

Closing Date

5pm Friday 18th August 2017