



## **TEAGASC PHD WALSH FELLOWSHIP OPPORTUNITY**

### **“Dis-aggregated ovine emission factors associated with dung and urine deposition in upland and lowland production systems”**

Walsh Fellowship Ref Number 2018028

#### **Background**

Food Wise 2025 report set ambitious national growth targets for agricultural production. Simultaneously, Ireland must both reduce greenhouse gas (GHG) emissions by 20% by 2020 as well as minimise the carbon footprint associated with agri-food as part of Bord Bia's Origin Green programme. In addition, maintenance of good water quality is vital for future sustainability of pastoral-based production. Sheep production systems lead to nitrogen (N) deposition in excess of grass demands, often as a result of urinary N returns. Urinary-N from grazing animals is a major contributor to emissions of a potent GHG nitrous oxide (N<sub>2</sub>O) and N leaching. Ireland is currently using the IPCC default N<sub>2</sub>O emission factor, which is a fraction of applied N lost as N<sub>2</sub>O, to calculate gaseous N losses from all ovine excreta. Recent work on bovine excreta revised emission factors down thereby reducing agricultural GHG emissions by 0.7 million tonnes CO<sub>2</sub>-eq. Similarly, this project seeks to revise the sheep emission factors with further sectoral GHG reductions. This work will also investigate N cycling and assess differences in emissions from lowland and upland sheep production due to differences in a) dietary N inputs, b) N cycling in mineral and organic soils and c) climate (temperature and rainfall).

#### **Requirements**

Applications are invited from graduates holding a first or upper second-class primary degree or equivalent or M.Sc. in a relevant discipline (Environmental Science, Agricultural Science or another related discipline). The successful candidate should be highly self-motivated with an ability to work both independently and as part of a team while also undertaking recommended coursework.

#### **Award**

The PhD Scholarship is a joint research project between Bangor University, Teagasc Soils & Land-Use Department, Johnstown Castle, Co. Wexford and Teagasc Animal & Grassland Research and Innovation Centre (AGRIC), Athenry, Co. Galway. The student will spend the first two years at Teagasc Athenry with the following two years at Teagasc Johnstown Castle. The student will be registered at Bangor University and will work under the supervision of Prof. Dave Chadwick, in association with Teagasc supervisors (Dr. Dominika Krol and Prof. Gary Lanigan in Johnstown Castle and Dr. Sinéad Waters in Athenry). Periods of work will be undertaken at Bangor University. The fellowship funding is €22,000 per annum and includes University fees and is tenable for 4 years. The fellowship will commence on 1st of October 2018 and/or when the most suitable candidate is identified thereafter.

#### **Further Information/Applications**

Dr. Dominika Krol, Teagasc, Environment, Soils & Land-Use Department, Johnstown Castle, Co. Wexford, Ireland; Phone: +353 (0) 53 9171301; email: [dominika.krol@teagasc.ie](mailto:dominika.krol@teagasc.ie)

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#### **Application Procedure**

Applicants should submit an electronic copy of CV including the names and contact details of two academic referees and a cover letter detailing their qualifications and experience by email simultaneously to: Dr Dominika Krol ([dominika.krol@teagasc.ie](mailto:dominika.krol@teagasc.ie)) and Prof. Dave Chadwick ([d.chadwick@bangor.ac.uk](mailto:d.chadwick@bangor.ac.uk))

#### **Closing date**

5pm Friday July 6th, 2018