



## **TEAGASC PHD WALSH FELLOWSHIP OPPORTUNITY**

### ***"The role of sulphur nutrition in grassland yield, quality and nutrient use efficiency optimisation"***

Ref 2017027

#### **Background**

Sulphur (S) is essential for crop growth. Sulphate, the plant-available form of S, is easily leached or incorporated into unavailable organic forms when applied to soil. Deficiencies were noted in Irish grassland in the 1970's. Since then, atmospheric supply of S has declined and demand for S continues to increase with increasing crop yields and it is possible that S deficiency has become more prevalent. S deficiencies may lead to reduced grass quality even in the absence of a yield penalty. Sulphur nutrition can be provided through different amendments. The site-specific S deficiency risk is not well understood for the heterogeneous soils of Ireland nor is the relative merits of various S amendment options to correct deficiencies. It is known that S deficiency is not confined to any particular area of the country and both responsive and non-responsive sites occur in most counties. Linking soil parameters to S response may form the basis for S deficiency risk guidance to farmers in the future. The focus of this Ph.D will be to evaluate soil specific S response and potential soil- and plant-based tools for assessing S deficiency and the performance of existing and novel options for S fertilisation, in terms of grass yield, quality, leaching, and nitrogen use efficiency.

#### **Requirements**

Applicants should have a First or Second Class Honours degree or M.Sc. in an appropriate discipline (e.g. Agricultural Science, Plant Science, Soil Science, Environmental Science, Chemistry). The successful candidate should be highly self-motivated and be prepared for laboratory work and extended periods of field work with modern analytical equipment. Field sampling and laboratory experimental and analytical skills and experience are highly desirable. A good knowledge of Irish grass-based agricultural production systems and farm nutrient management practices is desirable. The applicant should have a good working knowledge of English (spoken and written) and hold a full EU driving licence.

#### **Award**

The PhD Fellowship is a joint research project between the Teagasc, Soils, Land Use and Environment Department at Johnstown Castle and University College Dublin. The student will be based, in the first instance, at the Teagasc Research Centre at Johnstown Castle, Co. Wexford and will also spend time, as required, and be registered at University College Dublin, under the supervision of Dr. Paul Murphy in association with Teagasc supervisors (Dr. Patrick Forrester, Dr. David Wall, Dr. Karen Daly). The Fellowship will start as soon as possible after 1<sup>st</sup> of October 2017 or when the most suitable candidate is appointed.

The fellowship provides a stipend of €22,000. University fees are paid by the student from the stipend which is tenable for 4 years.

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

Dr Patrick Forrester, Teagasc, Johnstown Castle, Wexford, Republic of Ireland

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Dr Paul Murphy, University College Dublin.

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#### **Application Procedure**

Submit an electronic copy of Curriculum Vitae and a letter of interest simultaneously to:

Dr. Patrick Forrester: [patrick.forrester@teagasc.ie](mailto:patrick.forrester@teagasc.ie) & Dr. Paul Murphy: [paul.murphy@ucd.ie](mailto:paul.murphy@ucd.ie)

**Closing date: when a suitable candidate is appointed.**