



**PhD studentship in the SENSUS (Sensing Nutrients for Agronomic Advice and Sustainability Measures) project**

**At the DCU Water Institute**

**Funded by the Irish Department of Agriculture, Food and the Marine**

**Project title: Developing and applying handheld optical sensors for spatial and temporal nutrient analysis**

We are seeking applicants with a Bachelors/Masters degree (2.1 or higher) in analytical science, environmental science, agricultural science, or similar, preferably with field and laboratory experience (*e.g.* in soil or water sampling, use of spectroscopic techniques such as IR, fluorescence, etc.).

A studentship of €18,000 per annum, plus fees costs to a maximum of €6,000 per annum, is available for 4 years from 5<sup>th</sup> January 2021. The PhD student will be registered in Dublin City University, supervised by Dr. Blánaid White (DCU) and Dr. Karen Daly (Teagasc) and work as part of the DAFM-funded project, SENSUS - Sensing Nutrients for Agronomic Advice and Sustainability Measures. This project will be based across DCU (Dublin) and Teagasc Johnstown Castle (Wexford).

**To apply: please send letter of application, outlining suitability for the post, and a CV including the names of 2-3 referees, to Blánaid White, [Blanaid.white@dcu.ie](mailto:Blanaid.white@dcu.ie), before 5<sup>th</sup> of December 2020, marking applications DAFM\_SENSUS for ref.**

*Project description:*

This position will form part of the SENSUS (Sensing Nutrients for Agronomic Advice and Sustainability Measures) project, funded by the Irish Department of Agriculture, Food and the Marine under their Research Funding programme. The successful candidate will join the dynamic and interdisciplinary PROTECTS team consisting of researchers from Dublin City University and be primarily based at Teagasc (Johnstown Castle). SENSUS will optimize a number of sensor technologies that can be deployed in Irish agricultural landscapes to provide rapid assessment and diagnostic tools for agricultural and sustainability advisors to help them make decisions on the ground.

In this PhD project, we will develop sampling methodologies and chemometric models for portable applications in FTIR and XRF. These techniques will be coupled with passive sampling devices for soils and sediments to provide rapid assessment tools for in situ measurements. Portable spectroscopic techniques will be deployed at pilot sites to evaluate the effectiveness of on-farm nutrient mitigation measures.