

# Walsh fellowship

**PhD Position Available:** An analysis of soil parameters using optical sensors, for optimised soil nutrient management

We are seeking a highly motivated and talented individual to join our research team as a PhD student for an exciting project focused on optimizing soil health and productivity in sustainable agriculture. This position offers an excellent opportunity to contribute to cutting-edge research and make a significant impact on the future of farming practices.

## **Project Description:**

The project aims to understand the complex dynamics of soil ecosystems and optimize key parameters such as nutrients, fertilizers, microorganisms, and environmental factors to improve soil health and productivity. Using state-of-the-art lab-scale soil chambers, coupled with a novel optical gas monitoring system, we will create realistic farm scenarios and study the impact of various parameter variations on soil conditions.

## **Key Responsibilities:**

- Conducting experiments using lab-scale soil chambers and the optical gas monitoring system.
- Optimizing soil parameters such as nutrient levels, fertilizer application methods, microbial composition, and environmental conditions.
- Monitoring and measuring environmental parameters using advanced sensing techniques.
- Collecting and analyzing data to assess the impact of parameter variations on soil health and productivity.
- Collaborating with a diverse research team and presenting findings at conferences and in scientific publications.

## **Qualifications:**

- Master's degree in Analytical chemistry, Optics, Sensors or a related field.
- Strong background in optical sensors or environmental science.
- Experience with experimental design and data analysis.
- Proficiency in laboratory techniques and equipment.
- Excellent communication and teamwork skills.

## **Position:**

This PhD Walsh Scholarship is a joint project between Teagasc and Munster Technological University. This Fellowship forms part of the ICT-AGRI-Food ERA-Net project no. 862665 APP4FARM, co-funded by the Department of Agriculture, Food and the Marine (DAFM). The student will be registered at MTU, working under the supervision of William Whelan-Curtin in association with Teagasc supervisor Dr. Per-Erik Mellander. This is a structured PhD programme for 4 years.

## **We offer:**

- A stimulating and supportive research environment with state-of-the-art facilities.
- Access to cutting-edge technologies and equipment.

- Collaboration opportunities with leading experts in the field.
- Full scholarship including university fees.

**To Apply:**

Interested candidates are invited to submit their application, including a CV and a cover letter outlining their research interests. Please mention "PhD Position - An analysis of soil parameters using optical sensors, for optimised soil nutrient management" in the subject line.

Application Deadline: 18<sup>th</sup> Sept 2023

For more information about the project, please contact  
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