



Ph.D. Studentships

CONSUS: Crop Optimisation through Sensing, Understanding & Visualisation

University College Dublin (UCD) together with Origin Enterprises Plc have established a new collaborative Science Foundation Ireland (SFI) Strategic Partnership research programme, entitled CONSUS, focussed on the application of precision agriculture to crop production with a particular emphasis on optimisation of agri-food production systems leading to more efficient food production with lower environmental impacts. The outcomes from this research programme will deliver a step-change in crop agronomy tools and practices, leading to enhance global competitiveness.

Applications are invited from suitably qualified candidates for three 4-year PhD studentships with the CONSUS team researching crop nutrition and limits to yield potential.

(1) PhD Studentship in sensing soil properties

(2) PhD Studentship in remote sensing of cereal crops

(3) PhD Studentship in micronutrient limitations to nitrogen use efficiency

Positions (1) and (2) are in the School of Biosystems and Food Engineering, working with the soil quality sensing group of Prof. Nicholas Holden

(www.ucd.ie/research/people/biosystemsfoodengineering/professornickholden/)

Position (3) is in the School of Agriculture and Food Science working with the nutrient cycling group of Dr Paul Murphy

(www.ucd.ie/agfood/staff/enviroinmentsustainableresourcemanagement/academic/drpaulmurphy)

The general areas of research and requirements for each studentship are:

(1) soil sensing	(2) yield mapping	(3) micronutrients
Develop theoretical basis for a field-based sensing system to measure soil properties related to nutrient use efficiency over large areas.	Develop a remote sensing framework for mapping soil surface properties and crop properties to permit the mapping of yield and other management attributes.	Use laboratory, field lysimeter and field plot experiments to develop an improved mechanistic understanding of micronutrient limitations to nutrient use efficiency.
Requirements		
• STEM Bachelors or Master's degree (Upper 2nd Class or equivalent) • Evidence of numeracy (mathematics and or statistics)	• STEM Bachelors or Master's degree (Upper 2nd Class or equivalent) • Evidence of numeracy (mathematics and or statistics)	• STEM Bachelors or Master's degree (Upper 2nd Class or equivalent) • Evidence of knowledge of soil science and field experimentation
Desirable		
Some knowledge of • spectroscopy • soil science • agronomy	Some knowledge of • remote sensing • crop science • agronomy	Some knowledge of • soil nutrient management and cycling • agricultural science • agronomy

Each student will receive a stipend of €18,000 per annum and a fee contribution of €5,500 per annum and the support of the CONSUS infrastructure, a Doctoral Studies Panel and a Post-Doctoral Researcher. For more information, please contact Nicholas Holden (nick.holden@ucd.ie) or Paul Murphy (paul.murphy@ucd.ie).

To apply, please submit, by email, a cover letter and CV to both Nicholas Holden and Paul Murphy

For information on studying at UCD and the supports provided for PhD Studentships, please consult: www.ucd.ie/graduatestudies/studywithus/researchprogrammes