iPotato: Using smart technologies to spot internal defects in potato

PhD Studentship for October 2020
Academic supervisor: Prof Martin McAinsh, Lancaster University

Damaged crops cost the UK potato industry over £200 per hectare. Although disease contributes to crop losses, internal tuber defects that are undetectable from the outside (e.g. Black Heart, Hollow Heart, etc.) also contribute significantly. The development of non-destructive methods for detecting internal defects in intact tubers is therefore essential to minimize the reduction in productivity and associated costs to the industry caused by such defects.

In this project, you will work with one of the UK’s largest potato producers and their agritech business B-hive Innovations, to investigate the use of smart technologies for the early detection of internal defects in intact tubers. You will combine laboratory experiments with observations made at key points in the supply chain enabling you to gain valuable skills in biospectroscopy and chemometrics, plant hormone analysis and RNA sequencing. You will also learn about innovation and knowledge exchange within the potato sector.

What is the CTP?
This funded project forms part of the Waitrose Collaborative Training Partnership (CTP) between the Waitrose Partnership, their international food production and supply companies, Lancaster University, University of Reading, University of Warwick and Rothamsted Research. The CTP will deliver studentships on the themes of sustainable crop production, sustainable soil and water and biodiversity and ecosystem services in agriculture. This project is based at Lancaster University.

Who should Apply?
Applicants should hold a minimum of a UK Honours Degree at 2:1 level or equivalent in the Natural Sciences, such as Biology, Plant Science, Soil Science or Agriculture Biology.

Funding
Full studentships (UK/EU tuition fees and stipend (£15,009 2019/2020 tax-free) for 4 years for UK/EU students subject to eligibility criteria. Unfortunately, studentships are not available to non-UK/EU applicants.

A student must have:
- Settled status in the UK, meaning they have no restrictions on how long they can stay
And
- Been ‘ordinarily resident’ in the UK for 3 years prior to the start of the grant. This means they must have been normally residing in the UK (apart from temporary or occasional absences)
And
• Not been residing in the UK wholly or mainly for the purpose of full-time education. (This does not apply to UK or EU nationals).

For further information please contact Prof. Martin McAinsh: m.mcainsh@lancaster.ac.uk or for application queries contact Roz Wareing, r.wareing@lancaster.ac.uk. Visit the Waitrose CTP Website www.sustainableagriculturewaitrose.org/training/ctp/

How to apply

Follow the instructions on How to apply of the Waitrose CTP website http://sustainableagriculturewaitrose.org/training/ctp/ctp-application-process/how-to-apply/

Send all applications to this unique email address as per the instructions on the How to apply webpage above

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Deadline 22nd January 2020 Midnight