



DAFM Funded PhD opportunity

Healthy Oats: Closing the Circle: Optimising Parameters for Oat Growth, Bioactive Extraction, and Processing to Produce Sustainable Fortified Food-For-Health Products. 'HOPE'

Project Background:

Globally, consumers have an increased interest in sustainable plant-based foods to promote health. Oats provide numerous documented health and nutritional benefits through their unique soluble fibres (beta glucan) and antioxidants (avenanthramides). **HOPE** intends to be the first project to close the circle in the oat food chain, from Farm to Health. The project will optimise growing conditions to maximise Beta- glucan and bioactive production; create new value streams by valorising oat milling waste to produce B- glucan, vanillin, and antioxidants, etc. HOPE intends to develop an oat-based functional food platform with evidence-based research targeting key health issues for example, sarcopenia, iron deficiency in women, 'hidden hunger', obesity, diabetes etc., using consumer-led concept generation to identify the best target products to address the selected target nutrient deficiencies, to ensure the successful inclusion of these products in consumers' dietary routine. HOPE will explore the functionality of oats in selected target products and monitor changes in sensory and nutritional quality and safety. Finally, the impact of the functional-food prototypes will be determined through testing with healthy consumers and those suffering from lifestyle diseases, e.g., obesity, diabetes, etc.

PhD Position:

This 4-year PhD offers an exciting opportunity to conduct innovative new produce development and sensory focused research to support the development of oat-based functional foods for the Irish food industry that are sustainable and comply with circular economy models.

This PhD project will focus on co-creating functional foods with consumers using a variety of qualitative and quantitative research methods, such as focus groups, surveys and sensory analysis, with the view of developing and characterising the new food products with consumer input, from start to finish. The characterisation work will include physico-chemical, functional, nutritional and safety analyses.

The PhD student will conduct the research in our laboratories and sensory testing facilities, developing skills in experimental design, data collection, statistics, and a range of laboratory techniques. There will also be opportunities throughout the PhD programme for further professional development training and attendance at national and international conferences. The successful candidate will be based at the UCD School of Agriculture and Food Science under the supervision of Dr. Amalia Scannell and Dr. Andrea Silva-Espinoza.

Requirements: Applicants should hold (or expect to hold) at least a primary degree (minimum 2.1) in an appropriate discipline (Food Science, Food Technology, Sensory Science, Food Science and Nutrition etc). Minimum English requirements can be found here:

<https://www.ucd.ie/registry/prospectivestudents/admissions/policiesandgeneralregulations/generalrequirements/minimumenglishlanguagerequirements/>.

Yearly stipend €25000 tax free, University fees are also covered by the grant award

Application procedure and start date: apply here <https://forms.gle/cw5p8M56Cdc3Xhq28> by September 1st 2024. Preferred start date is Sept/Oct 2024.