

TEAGASC PHD WALSH SCHOLARSHIP OPPORTUNITY

“Examination of the factors affecting the composition, quality and vitality of bovine colostrum”

Walsh Scholarship No. 2020010

Background

Colostrum is a highly nutritious form of milk secreted by mammals following parturition. The complex composition of carbohydrates, proteins, growth factors, enzymes, fats, immunoglobulins, vitamins and minerals of colostrum are highly dynamic and variable, impacted by animal genetics, health status, parity and diet. The provision of colostrum to the newly born calf is essential for passing on a variety of growth factors and passive immunity to the calf, influencing metabolism, endocrine systems and nutritional state of the neonatal calves and stimulates development and function of the GI tract. Cows typically produce colostrum in excess of what is required by the calf however, this milk has been classed as unmarketable in the past for humans. In more recent times however, manufacturers of nutritional beverages and ingredients have taken a greater interest in colostrum on account of its high contents of immunoglobulins and oligosaccharides which could be nutritionally beneficial to infant formulations among other nutritional formulations. The colostrum phase of the cow typically lasts up to 24 hr after which composition of the milk changes over the following days through the transition milk phase to regular whole milk as we know it. Given the importance of colostrum for the health and vitality of the new borne calf and increased interest from the dairy manufacturers; greater understanding of the composition and factors which affect it would be highly beneficial to a variety of parties across the milk supply chain. The COLOSTROMILK project aims to classify the composition of bovine colostrum and identify the impact of dry cow feeding system on its components and subsequent performance of calves and cows throughout lactation.

Requirements

Applicants should have a First or Upper Second-Class Honours BSc. degree in Food Science, Nutrition or a related discipline. The successful candidate should be highly self-motivated with enthusiasm to develop technical skills across a range of disciplines including laboratory analysis, dairy chemistry, dairy production and processing, and be prepared for laboratory work and periods of fieldwork and food processing work at the Teagasc Moorepark Food Research Centre and Dairy Farm. The candidate will also spend some time acquiring metabolomics data in UCD. The successful candidate will also be expected get involved in wider VistaMilk activities (annual conference attendance, relevant Masterclasses and workshops, Education and Public Engagement activities). A minimum level of competency in English is required. Please see the following link with regard to English Language requirements:

https://www.ucd.ie/registry/prospectivestudents/admissions/policiesandgeneralregulations/generalrequirements/minimum_englishlanguagerequirements/.

Award

Starting in September/October 2020, this PhD scholarship is a joint research project between Teagasc and University College Dublin (UCD). The student will be based in the Dept. of Food Chemistry and Technology in Teagasc Moorepark Food Research Centre, Fermoy Co. Cork Ireland; working under the supervision of Dr Tom O’Callaghan (Teagasc) and Prof. Lorraine Brennan (UCD). The scholarship funding is €22,000 per annum and includes contribution to University fees of up to a maximum of €6,000 per annum and is tenable for 4 years. Higher tuition fees chargeable to non-EU students.

Further Information/Applications

Contact Dr Tom O’Callaghan, Teagasc Food Research Centre, Moorepark, Fermoy, Co. Cork, Rep of Ireland email: tom.ocallaghan@teagasc.ie or Prof. Lorraine Brennan, University College Dublin, email: lorraine.brennan@ucd.ie

Application Procedure

Submit an electronic copy of your curriculum vitae and a letter of interest with names and emails of two academic references simultaneously to: Dr Tom O’Callaghan at tom.ocallaghan@teagasc.ie and Prof. Lorraine Brennan lorraine.brennan@ucd.ie

Closing date – 7th May 2020

VistaMilk represents a unique collaboration between Agri-Food and ICT research institutes and leading Irish/multinational food and ICT companies. VistaMilk is funded by Science Foundation Ireland (SFI), the Department of Agriculture Food and the Marine (DAFM) and the European Regional Development Fund (ERDF).