Call for Expressions of Interest to join VistaMilk SFI Research Centre as an Academic Collaborator

The objective of this Expression of Interest (EoI) is to recruit new Academic Collaborators (AC) to the VistaMilk SFI Research Centre within one or more of the platforms or targeted projects. An SFI Academic Collaborator is an individual who is committed to providing a focused contribution for a specific task within the Centre. For this process, VistaMilk will welcome a balanced pool of applicants in terms of gender, discipline and site location.

Who we are

The VistaMilk SFI Research Centre represents a unique collaboration between Agri-Food and information communications technology (ICT) research institutes and leading Irish/multinational food and ICT companies; it is funded by Science Foundation Ireland (SFI) and the Department of Agriculture Food and the Marine (DAFM).

The VistaMilk SFI Research Centre aims to be an agent of growth for the Irish dairy industry by being a world leader in fundamental and translational research for precision pasture-based dairying. Globally, agriculture is undergoing seismic disruptions arising from the competing challenges of food security, the environment, and societal needs. Solutions to these disruptive challenges may exist in the parallel revolution occurring in areas of science and technology. These challenges present major threats and opportunities as traditional dairy production needs to urgently transform itself using these new technologies. The proposition is that innovative multi-level analytical approaches, applied to Big Data generated from novel sensor and -omic technologies, can be used to facilitate the sustainable production of a greater volume of consistently higher quality, value-added dairy products and ingredients from a basal, grazed-pasture diet.

The overarching objective of the VistaMilk SFI Research Centre is to generate and deploy innovative basic and applied science and technologies to better understand and monitor the complex interactions across a highly inter-dependent food-production chain. The objective will be achieved by exploring 3 inter-dependent thematic areas (i.e., Pasture, Cow and Food) bringing together expertise in the biological sciences, sensor-systems, communications and networking, data analytics, and food processing.

The Director, Donagh Berry leads the Centre. He is supported by two deputy directors, Laurence Shalloo (Teagasc) and Mark Keane (UCD). There are 4 other Principal Investigators, Catherine Stanton (Teagasc), Paul Cotter (Teagasc), Sasitharan Balasubramaniam (WIT) and Alan O'Riordan (Tyndall National Institute).

The applicant group is currently supported by 17 funded investigators, 47 academic collaborators and 42 industry collaborators. The Centre will hire 90 researchers consisting of 58 postgraduate students and 32 post-doctoral researchers as well as supporting technical staff. Research and development activities will be carried out within 9 Targeted Projects (TPs) in 3 Thematic Areas (TAs) – Pasture, Cow, Food; underpinned by 8 Platform Technologies.

Platform Technologies

Platform 1: Advanced Sensors & Systems Integration	
Topic 1.1 Electrochemical nanosensor systems. Topic 1.2 Spectroscopic sensors. Topic 1.3 Microelectromechanical systems (MEMS). Topic Area 1.4 Low Power Sensor Interfacing. Topic Area 1.5 Reduced Maintenance Smart Sensor System Integration	

Platform 2: Communications and Networks	
Topic 2.1 Fog computing and edge analytics. Topic 2.2 Molecular communications and Internet of Bio-Nano Things.	

Platform 3: Data, Privacy & Warehousing	
Topic 3.1: Data standards. Topic 3.2 Data warehousing and decision support systems. Topic 3.3 Data security, privacy and access-control.	

Platform 4: Data Analytics	
Topic 4.1 Predictive techniques using temporal and spatial data. Topic 4.2 High-Dimensional Statistical Methods for –omics Data. Topic 4.3 Data Analytics from Converging Modalities.	

Platform 5: -omics	
Topic 5.1 Genomics. Topic 5.2 Metagenomics.	

Platform 6: Experimental Test-Beds	
Topic 6.1 On-farm test-bed facility. Topic 6.2 Processor test-bed facility.	

Platform 7:

Platform 7: Integration	
Topic 7.1 Optimised database structure. Topic 7.2 Integrated data flows.	

Platform 8:

Platform 8: Deployment	
Topic 8.1 Deliver. Topic 8.2 Models. Topic 8.3 Tools. Topic 8.4 Automation and validation of farm-scale habitat mapping.	

Thematic Area 1: PASTURE

Thematic Area 1: TP 1	Soil nutrient dynamics
Objective: *Deliver more accurate predictions of soil nutrient supply to maximise grass growth and minimise losses to the environment.*	

Thematic Area 1: TP2	Sustainable pasture management
Objective*: Capture accurate real-time information on pasture production, canopy structure/quality, and herbage mineral content for grazing dairy-cows and deploy in pasture decision support tool.*	

Thematic Area 1: TP3	Pasture breeding programmes
Objective*: Increase the rate of genetic gain in forage breeding to enhance on-farm profitability.*	

Thematic Area 2: COW

Thematic Area 2: TP4	Animal nutrition and fertility
Objective: *Develop an improved understanding of the rumen environment and its impact on performance as well as exploiting activity monitors to diagnose animal-level events.*	

Thematic Area 2: TP5	Animal Health
Objective*: Provide diagnostic options to support sustainable control of priority diseases in dairy herds.*	

Thematic Area 2: TP6	Sustainable animal breeding programmes
Objective: *Deliver more accurate genomic predictions for performance in dairy cows.*	

Thematic Area 3: FOOD

Thematic Area 3: TP7	Next generation dairy processes and products
Objective*: To optimise and predict the processing performance of future milk by understanding the contribution of pasture and cow-level factors to compositional variability.*	

Thematic Area 3: TP8	Digestive characteristics of dairy products
Objective: *Employ in vitro, ex vivo and in vivo systems to study the (pre-)digestion of new dairy Ingredients and their impact on host cells and the gut microbiota.*	

Thematic Area 3: TP9	Nutrifunctional Milk
Objective: *Quantify nutritional attributes & health benefits of dairy products for human nutrition.*	

Under the SFI Research Centres Programme what is the definition of an Academic Collaborator?

An Academic Collaborator is an individual who is committed to providing a focused contribution for a specific task. The collaborator will serve under the direction of the Lead Applicant, and may or may not receive funding through the award. Collaborators are not designated as SFI-funded researchers. Collaborators cannot be the primary supervisor/mentor of postgraduate students, postdoctoral researchers or research staff enrolled on the Award.

Eligibility Criteria for SFI Academic Collaborators in VistaMilk:

- VistaMilk Academic Collaborators must hold a PhD or equivalent for at least 3 years from the date of submission of the EoI.
- VistaMilk Academic Collaborators must be senior author[i] on at least 5 international peer reviewed articles. Only original research publications, and not review articles, are acceptable.
- Your application must be supported in writing by one of VistaMilk's Principal Investigators.

In addition to the eligibility criteria above, VistaMilk Academic Collaborators are expected to have the necessary research management experience, as exemplified by one or more of the following:

- The winning of at least one competitively awarded, internationally peer reviewed research grant
- The winning of a competitively awarded R&D, innovation or commercialisation award
- The management of an industry funded project or EU award.

Documents to provide to VistaMilk for your Expression of Interest:

- CV of the applying researcher.
- Cover letter including :
  - Indication of the targeted project(s) or platform(s) the applicant wishes to be involved in.
  - A description of the positive impact the applicant is hoping to have on the research projects of the Centre (max 250 words).
- Evidence should be provided in the submission for each of the eligibility criteria above.

The process

Submit your expression of interest to vistamilk@teagasc.ie with subject matter "VistaMilk Collaborator".

VistaMilk' Executive Committee will assess and prioritise all eligible applications. VistaMilk Executive Committee will ultimately make the decision on the appointment(s) of Academic Collaborator(s).

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[i] SFI defines a senior author as one that is listed as first or joint first author, reflecting the fact that he/she has provided the greatest intellectual contribution, has held the primary responsibility for collecting and analysing data, and for the writing of the manuscript and associated drafts. The last author is also considered as a senior author, since this position generally reflects his/her overall responsibility for the study and suggests that a level of mentorship has been provided.