TEAGASC PHD WALSH SCHOLARSHIPS OPPORTUNITY

"The role of microbiomes in the health, welfare and productive performance of beef and dairy cattle"

Walsh Scholarships Ref Number 2020227

The term 'microbiome' describes the genome of all the microorganisms, symbiotic and pathogenic, living in and on all vertebrates.The objective of this exciting four year modular PhD programme is to utilise state of the art molecular technology to conduct cutting edge research on the specific role of the microbiomes (including bacteria, fungi, and viruses) living on or within dairy cattle. While the potential of microbiomes in promoting health and, as a consequence, welfare in ruminants has been recognised for different body sites (skin, mammary gland, gastrointestinal, reproductive and respiratory tracts) the underlying biology regulating their mode of action is yet to be determined. Furthermore, in contrast, the gastrointestinal and other body sites can be affected by specific microbial pathogens, which can have detrimental effects on production efficiency, health and welfare of ruminants. This revolutionary project, which is funded through a large EU Horizon 2020 program research grant, will utilise genotyped heifer calves from the renowned flagship *Next Generation* dairy research herd at Teagasc Moorepark. The reseach work will focus on understanding the establishment (from birth up to first lactation) and functionality of ruminal, faecal, upper respiratory and skin microbiome profiles and these will be compared with that recorded for calves and lactating dairy cows in other partner international institutions. In-depth exploration of microbial communities (including protozoa, fungi and viruses), metatranscriptomes, metaproteomes, metabolomes and immune profiles will be performed from initial microbiome establishment during the birthing process, perinatal and rearing phases, right through to lactation, in order to assess the existence of relationships between patterns of microbiomes and animal productivity and health status. The successful applicant will have the opportunity to join a world renowned research group and learn and apply futuristic laboratory and bioinformatics technology in this highly topical field of study. Opportunies to travel to collaborating laboratories as well as to present their findings at international scientific conferences will also be made available.

Requirements

Candidates will have, or expect to obtain a first or upper second-class honours primary degree, or the equivalent, in a biological science degree (e.g., Animal Science, Biology, Biotechnology, Genetics, Biochemistry, Biomedical Science or Veterinary Medicine). A full EU (B) driving licence is required. Experience of molecular biology techniques, while not essential, would be an advantage. Please click here with regard to English Language requirements.

Award

The successful candidate will register with the School of Biological Earth and Environmental Sciences, University College Cork for a 4-year Ph.D. degree. The research will be mainly carried out at the Animal and Bioscience Research Department at Teagasc Grange and Moorepark with complementary laboratory and course work conducted at UCC.

The scholarship funding is €24,000 per annum and includes University fees of up to a maximum of €6,000 per annum and is tenable for 4 years.

Further Information

Prof. David Kenny, Teagasc Animal and Bioscience Centre, Teagasc, Grange, Dunsany, Co. Meath, Ireland; Phone +353-46-9026731; email: david.kenny@teagasc.ie

Prof Frank Buckley, School of Biological Earth and Environmental Sciences, University College Cork; Phone 0214904582/02542393; email Frank.buckley@ucc.ie

Application Procedure
Submit an electronic copy of Curriculum Vitae, including the names and addresses of at least two referees as well as a letter of interest to either:
Prof. David Kenny (david.kenny@teagasc.ie) or Prof. Frank Buckley (frank.buckley@ucc.ie)

Closing date
Friday 29th July 2022