



Postdoctoral Fellowship and PhD Studentships in Cellular and Molecular Immunology



Teagasc and Trinity College Dublin have developed a strong collaborative '**One Health**' research program with opportunities at both **PhD and postdoctoral levels**. Key to controlling zoonotic infections is to reduce the burden of disease at source, and enormous potential exists for research impact on bovine immunology to enhance sustainable livestock production and also to protect the food chain & human health¹.

Postdoctoral scientist and PhD1 - Defining immunophenotypes associated with disease resistance: Selection for disease resistance in livestock is a potential method to combat infectious diseases by reducing disease burden at source. This project will assess the repeatability and heritability of immune phenotypes during the critical neonatal period and across the productive life cycle of cattle. PD/PhD1 will be responsible for establishing standardised *ex vivo* cell culture and stimulation systems to measure innate and adaptive immune response phenotypes as well as assessing their correlation with lifetime production/health traits. The postdoctoral fellow and PhD1 will be primarily based in Teagasc, Grange but collaborative work will also be performed in international labs.

PhD2 – Functional characterisation of novel antimicrobial and immunomodulatory peptides: Our research has identified novel bioactive peptides with potential for treating bacterial and viral infections. PhD1 will focus on developing expression systems for these peptides, characterisation of their biological activity and testing their efficacy using antimicrobial assays. PhD1 will be primarily based in TCD and a period of collaborative work will also be performed in UCD.

Successful applicants will benefit from multi-disciplinary training to enable the development of cutting edge skills. Combining state of the art techniques in bacteriology, virology and immunology, these projects will form an important foundation for improved understanding of the immune response in cattle. There is also an important focus on translation and industrial application. Large animal work is a not required component of this work as the research programme is well supported on Teagasc research farms. Applicants should have a (2.1-1st class) B.Sc. with experience in genetics, immunology, molecular biology or a related discipline. Expertise in cell culture and flow cytometry as well as proficiency in quantitative genetics (PDoc) would be useful.

Applications (cover letter and CV with referees) by email with position highlighted in subject line to: **Kieran Meade**, Animal Health Bioscientist, Animal Bioscience Research Centre, Teagasc, Grange, Co. Meath. E: Kieran.meade@teagasc.ie

Cliona O' Farrelly, Professor of Comparative Immunology, Trinity Biomedical Sciences Institute, Trinity College Dublin. E: cliona.ofarrelly@tcd.ie

Closing date for applications is April 30th, 2017. PDoc funding is for 3 years with immediate start, PhDs to start in October 2017. Stipend will not cover university fees for non-EU PhD applicants.

¹ Bovine β -defensin gene family: opportunities to improve animal health? Meade, O' Farrelly *et al.*, PMID: 24220329