Project Title: Regulation of Transcription Factor NF-κB by Bovine Respiratory Syncytial Virus (bRSV) Small Hydrophobic (SH) Protein in Bovine Dendritic Cells

Eligibility:

- This studentship is open to science graduates (with, or who anticipate obtaining, at least a 2.1 or equivalent, in a relevant biological subject in their undergraduate degree, or a Masters degree - subject to university regulations). Other first degrees, e.g. veterinary science, will be considered. You should be looking for a challenging, interdisciplinary research training environment and have an active interest in the control of infectious diseases.

- This is a fully-funded studentship only open to UK students and eligible EU students who qualify for home-rated fees, in line with BBSRC criteria: [http://www.bbsrc.ac.uk/documents/studentship-eligibility-pdf/](http://www.bbsrc.ac.uk/documents/studentship-eligibility-pdf/)

- Students without English as a first language must also provide evidence that they meet the English language requirement, e.g. with an IELTS score of 7.0 and no less than 6.5 in any of the subsections.

Supervision:

Principal Supervisors: Efrain Guzman, The Pirbright Institute; Andrew Easton, University of Warwick
Co-Supervisor: Maria Montoya, The Pirbright Institute

Abstract:

Applications are invited for a PhD position, starting in October 2016, in a Pirbright Institute-funded collaborative project between Dr Efrain Guzman of The Pirbright Institute and Prof Andrew Easton of the University of Warwick ([https://www2.warwick.ac.uk/fac/sci/lifesci/people/aeaston/](https://www2.warwick.ac.uk/fac/sci/lifesci/people/aeaston/)) to study the modulation of the transcription factor NF-kB in dendritic cells by the small hydrophobic protein of bovine respiratory syncytial virus (BRSV).

RSV is a major respiratory pathogen and infects cells of the respiratory tract inducing inflammation and damage to the lungs. Antigen presenting cells (APC) such as macrophages and dendritic cells (DC) are major contributors in this inflammation. Many of the processes induced during inflammation are regulated by the transcription factor NF-κB (nuclear factor kappa-light-chain-enhancer of activated B cells) and we have shown that the small hydrophobic (SH) protein of BRSV regulates the function of NF-kB but we still don’t understand how this process occurs.

The aim of the project is to determine how BRSV SH protein regulates NF-κB in bovine DC. Firstly, the student will determine the minimum region of SH required for regulation of NF-kB; secondly, the mechanism of NF-kB regulation by SH will be investigated; lastly, the effects of SH expression on DC function will be determined.

The student will learn molecular biology, protein biochemistry, molecular and cellular immunology at both Pirbright and Warwick, will receive training in state-of-the-art technologies and will benefit from being embedded in two lead laboratories, thus gaining invaluable experience from cross-disciplinary research, preparing them for future careers in either academia or industry.
References for Background Reading:


Registration, Training and Funding:

This is a BBSRC fully funded project. The student will be based at The Pirbright Institute and registered with the University of Warwick, with visits to the university to meet with their supervisor and undertake training as required. Eligible students will receive a minimum tax-free annual stipend of £14,057 and university registration fees will be paid. A full range of research and transferrable skills training will be made available to the student as appropriate.

Further information regarding the partner institutions can be found at:

The Pirbright Institute
University of Warwick

Click here to apply
Your application will only be considered if we have received the following documents:
- Application Form
- CV
- Two references sent directly by your referees