OXFORD INTERDISCIPLINARY BIOSCIENCE
Doctoral Training Partnership

Studentship Advertisement 2022-23

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Project Title:	Ultrastructural insights into avian herpesvirus-host cell interactions

Brief description of project:

Marek's disease virus (MDV) is a major avian alphaherpesvirus associated with Marek's disease (MD) in poultry characterised by rapid-onset T-cell lymphomas, immunosuppression and paralysis causing annual economic losses of around $2 billion worldwide. Compared to other herpesviruses, MDV has several distinct characteristics, the most important one being its strict cell-associated replication and cell-to-cell spread.

This collaborative project between eBIC, the Structural Biology Department at Oxford and the Pirbright Institute aims to gain structural insights into the strict cell-associated lifestyle of this major avian viral pathogen using state-of-the-art tools such as cryogenic electron microscopy (Cryo-EM), electron tomography (Cryo-ET) and focused ion beam (Cryo-FIB) milling at Diamond and Oxford. Project will also aim to explore virus-host interactions using the virology expertise at Pirbright, particularly focusing on the interactions of the major viral oncoprotein MEQ that is associated with the induction of lymphomas and increasing virulence. Thus, the project provides the opportunity to study biogenesis of a cell-associated highly oncogenic herpesvirus as well as explore ultrastructure of viral and cellular protein complexes using the most advanced structural biology tools.

Attributes of suitable applicants:

Suitable applicants should have a strong academic record and a genuine interest for research in structural biology and virology. Computational skills will be an advantage.

Funding notes:

This project is fully-funded for four years by the Pirbright Institute and the Interdisciplinary Bioscience DTP. Successful students will receive a stipend of no less than the standard UKRI stipend rate, currently set at £16,062 per year.

This project is supported through the Oxford Interdisciplinary Bioscience Doctoral Training Partnership (DTP) studentship programme. The student recruited to this project will join a cohort of students enrolled in the DTP's interdisciplinary training programme, and will participate in the training and networking opportunities available through the DTP. For further details, please visit www.biodtp.ox.ac.uk. The DTP and its associated partner organisations aim to create a community that is innovative, inclusive and collaborative, in which everyone feels valued, respected, and supported, and we encourage applications from a diverse range of qualified applicants.