



Diamond-Pirbright Studentship Advertisement – 2017-18

Applications for this studentship must be made to the University of Oxford - please visit [University of Oxford](http://www.ox.ac.uk) for further details.

Project Title: Super-resolution and electron microscopy to understand the virus-host interactions required for replication of foot-and-mouth disease virus.

Supervisors: Dr Toby Tuthill (Pirbright), Dr Daniel Clare (Diamond), Dr Liz Fry (Oxford) and Prof Dave Stuart (Diamond & Oxford)

Departments/Organisations: The Pirbright Institute, Diamond Light Source, the University of Oxford, Strubi

Email: toby.tuthill@pirbright.ac.uk, daniel.clare@diamond.ac.uk, liz@strubi.ox.ac.uk, dave@strubi.ox.ac.uk

Brief description of project:

Foot-and-mouth disease virus (FMDV) is a single-stranded positive-sense RNA virus in the picornavirus family. Picornaviruses have small genomes and rely on host cell factors to replicate. FMDV subverts cellular lipid trafficking pathways to generate distinctive membrane structures, called replication organelles that serve as platforms for viral replication. FMDV encodes a number of proteins essential for its replication, such as the RNA polymerase 3Dpol, which are likely to interact with each other and with a number of unidentified cellular proteins to form a replication complex where new copies of the viral genome can be generated. The cellular components required for formation of either the membraneous replication organelles or the replication complex remains unknown. Recent research by the Tuthill group and their collaborators have identified a number of candidate host-cell proteins that are required for viral replication. This new information, along with super-resolution fluorescence microscopy and electron microscopy facilities at Pirbright and Diamond combines to produce a timely opportunity to understand FMDV replication in more detail than ever possible before. This project will combine virology and microscopy at Pirbright with cutting edge multi-modal imaging approaches at Diamond in order to identify and characterize the cellular factors required for viral replication.

Attributes of suitable applicants:

The potential applicant should have a first-class or strong upper second class undergraduate degree with honours in the biological sciences/Chemistry/physics. It would be advantageous if the applicant has some experience in working in a biological research laboratory. The applicant should also have good communication skills and be highly self-motivated.

Funding notes:

This project is funded for four years by the Biotechnology and Biological Sciences Research Council BBSRC. BBSRC eligibility criteria apply (<https://www.ukri.org/files/legacy/news/training-grants-january-2018-pdf/>). EU nationals who do not meet BBSRC residence criteria are encouraged to contact the programme administrator to check their eligibility for BBSRC funding before submitting a formal application. Successful students will receive a stipend of no less than the standard RCUK stipend rate, currently set at £14,777 per year, which will usually be supplemented by the industrial partner.



OXFORD INTERDISCIPLINARY BIOSCIENCE 
Doctoral Training Partnership

Rex Richards Building, South Parks Road, Oxford OX1 3QU
Email: dtenquiries@dtc.ox.ac.uk
Tel: +44(0)1865 610660 Fax: +44(0)1865 610670
<http://www.dtc.ox.ac.uk>

Diamond-Pirbright Studentship Advertisement – 2017-18

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 be able to take full advantage of the training and networking opportunities available through the DTP. For further, details please visit www.biodtp.ox.ac.uk.

Applications for this studentship must be made via the University of Oxford - please visit [University of Oxford](http://www.ox.ac.uk) for further details.