**Project Title:** Investigating the use of LAMP for Diagnostic Determination of Field Isolates of ASFV from Current Outbreak Regions

**Supervisors:** Dr Eleni-Anna Loundras and Dr Caroline Wright

**Research group:** Non-Vesicular Reference Laboratory (NVRL)

**Project Summary:** The Non-Vesicular Reference Laboratory (NVRL) is a World Organisation for the Animal Health (OIE) Reference Laboratory, whose primary purpose is to provide a national and international diagnostic service to characterise outbreaks and investigate the molecular epidemiology of notifiable exotic viruses that cause significant disease in livestock. In addition to its diagnostic and surveillance role, the NVRL is involved in applied research with a focus on the development and validation of diagnostic methods and techniques.

Previously, we have successfully developed loop-mediated isothermal amplification (LAMP) assays for the detection of African swine fever virus (ASFV). LAMP is a highly sensitive nucleic acid amplification technique, which can deliver accurate results within 10-20 minutes and has been used successfully in the field as a diagnostic test. As multiple primers are required for rapid detection of viral RNA, the primer design and optimisation steps are crucial for assay performance.

The Pirbright Institute holds a collection of different ASFV isolates that are available for this validation and optimisation to take place. We are also able to test field isolates from regions currently experiencing ASFV outbreaks in order to confirm the diagnostic sensitivity, specificity and efficiency of LAMP as a real-world application. This will be evaluated by comparison against the diagnostic “gold-standard” real-time PCR.

The student will be trained in selected virological and molecular methods, including cell culture techniques, plaque assays, nucleic acid extraction and real-time PCR. The successful student will be expected to work independently in the molecular suite after having obtained the relevant training.

In addition, the student will support the NVRL in routine duties including consumable management and sample reception as required. This placement will provide the successful student with a unique opportunity to work in an ISO/IEC 17025-accredited Reference Laboratory within high containment facilities and to gain practical knowledge of a wide range of scientific techniques and with a wide range of exotic viruses.

**References for Suggested Reading:**


**To Apply:**

Please email your CV (no more than two sides of A4) and a covering letter, detailing why you would like to undertake the placement and the knowledge and skills that you will bring to the Institute, to studentship@pirbright.ac.uk.

**Closing date to apply:** 09.00, 7th February 2022