



Nottingham BBSRC DTP CASE Project



Project Title:
Maedi-Visna Virus Variation in UK sheep flocks: implications for virus control
Research Cluster:
Heat Resilient Agriculture (Sustainable Agriculture & Food)
School:
School of Veterinary Medicine and Science
Partner Organisation:
Agriculture and Horticulture development board (AHDB) beef and lamb
Project Description:
<p>This is a collaborative project between the School of Veterinary Medicine & Science at University of Nottingham and the Agriculture and Horticulture development board beef and lamb division.</p> <p>The project focusses on sequencing Maedi Visna (MV) virus isolates from UK sheep. MV is a chronic lentiviral disease of sheep causing wasting, respiratory disease and mastitis in around 10% of UK sheep flocks. The virus is very hypervariable and it is difficult to get PCR based diagnostics to detect all strains of the virus. Current control programmes in the UK focus on serology testing and culling and are failing to reduce the disease impacts with the national incidence increasing.</p> <p>The project will use cutting edge nanopore “readfish” long read sequencing to sequence full length virus isolates from a variety of tissues and clinical samples from UK sheep to determine what our current virus strains are and whether these show tissue compartmentalisation (variation in individuals due to sight of virus replication).</p> <p>Project methods will include training in bio-informatics, NGS pathogen sequencing, host genetic analysis and multivariate modelling of host and virus characteristics. This project is linked to a larger UKRI/BBSRC funded project on host genetic resistance to the virus and the virus sequencing will also be correlated with host genetic markers to determine if host genetics influences virus variation. These results will be used to inform design of non-invasive (milk, nasal swab) qPCR based testing for the virus as an adjunct to the current testing regime.</p> <p>The project will include a 3-month placement at industry partner AHDB to engage with farms and vets as to the proposed changes to the national testing and control scheme</p>

guidance before final integration and implementation of the project results into the national control programme

Lead Supervisor:

[Rachael Tarlinton](#)

Please email the lead supervisor to find out more about this project.

Terms & Conditions:

Home and international students are welcome to apply for this opportunity. Funding is available for four years from October 2025. The award covers tuition fee (£4,712) at the home rate plus an annual stipend which was (£19,273) for 2024. This is set by the Research Councils.

Please note that successful international candidates will be put forward for a University Fees Difference Scholarship to cover the difference between the home and international fee.

<https://www.nottingham.ac.uk/bbdtb/apply/apply-online.aspx>

Closing Date:

12 noon (UK time) 31 January 2025