



December 2024

Current HBLB Veterinary Science and Education Grants

The list includes awards that are technically completed, but where the final report packages are still awaited or are still under consideration by the VAC.

| <i>MAJOR RESEARCH PROJECTS</i> |
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| New avenues for intervention in age-related degenerative disease in the horse: unravelling the role of altered RNA splicing and senescence in tendons |
| Using a cell-based system to identify the genetic mechanisms behind fracture risk in Thoroughbred horses |
| Exploiting microvesicle small non-coding RNA and protein cargo in osteoarthritis for early diagnosis and treatment |
| Tackling the threat of emerging MDR <i>Rhodococcus equi</i> : genomics, evolution, control |
| Identifying equine genes with anti-influenza activity |
| Jockeying for position: identifying genes required for <i>S. zooepidemicus</i> to colonise the equine respiratory tract |
| Development of a safe and effective African Horse Sickness vaccine |
| Artificial Intelligence-based solutions for racecourse dilemmas: novel computational approaches and evidence-based clinical decision-making in equine exercise-associated arrhythmia. |
| Development of a non-invasive diagnostic test to assess fetal health in the pregnant mare |
| Aetiopathogenesis and genetic architecture of recurrent exertional rhabdomyolysis (RER) in UK Thoroughbred horses |
| Life after racing: Who's a winner? |
| Defining the contribution of microvascular cells to tendon health and ageing |
| Next Generation Probiotics - 'Omics-based Identification of Candidate Bacteria |
| Exploring novel stem cell tools to combat equine infection - towards the reduction of antibiotic usage and antimicrobial resistance |
| A periosteal cell therapy for the treatment of equine osteochondritis dissecans |
| Adaptive modelling for emerging equine vector borne viruses |
| Harnessing deep learning methods for improved fracture detection in TBs |
| Cerebrospinal fluid biomarkers of equine herpesvirus myeloencephalopathy |
| Development of an equine protein atlas to understand ageing and age-related diseases |
| The role of the anti-inflammatory mediator, adiponectin in protecting against SIRS-induced organ damage with particular reference to sepsis-related laminitis |
| Macrolide (multidrug)-resistant <i>Rhodococcus equi</i> (MDR-RE): tools for enhanced surveillance and rational control |
| Integrating multi-omics to reveal the genetic risks underlying catastrophic fracture |
| Identifying outbreak-associated traits in equine influenza viruses |
| <i>SMALL RESEARCH PROJECTS</i> |
| Culture free detection of commensal and pathogenic multidrug resistant bacteria in faecal samples from hospitalised horses |
| Investigation of the structure and cargo of extracellular vesicles from mesenchymal stem cells use for treatment of osteoarthritis in horses |
| Coordination dynamics in racehorse-rider dyads trotting over turf, synthetic and tarmac surfaces |



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| Novel bio-derived repellents for the protection of horses against biting insects including horseflies, midges and ticks. |
| Improving surveillance techniques to identify key Tabanid (biting fly) species as potential vectors of equine viruses |
| Do platelet rich plasma (PRP) derived extracellular vesicles (EVs) contribute towards rescuing the inflammatory tendon phenotype? |
| The impact of metallic implants used in equine fracture repair on low-field MRI imaging findings and identification of suitable scanning protocols to reduce this impact. |
| Improving the annotation of genes across the equine genome. |
| Exploring inertial sensing technology to quantify gait symmetry in Thoroughbred foals before and after corrective trimming for angular limb deformities |
| Validation and development of molecular tools to identify specific equine strongyle species and associated anthelmintic resistance markers |
| Applying novel-omic approaches to investigate equine airway immunity |
| Can MSC-derived extracellular vesicles rescue the joint phenotype in an advanced 3D <i>in vitro</i> model of equine osteoarthritis |
| Can peptides derived from Equine Herpesvirus-1 proteins act as competitive inhibitors of viral replication by blocking essential protein-protein interactions? |
| Prevalence of acute infectious and persistent breeding induced endometritis in UK Thoroughbred mares post cover |
| Development of rapid stable-side tests to distinguish Equine herpesvirus, equine influenza and <i>Streptococcus equi</i> infections |
| Evaluation of acyl-carnitine profiling as a new tool to detect poor performance in thoroughbreds |
| Targeting mitochondrial dysfunction as a novel therapeutic target in Thoroughbred horses with recurrent exertional rhabdomyolysis (RER) |
| Computed Tomographic evaluation of the percentage of tongue fat and angles of the soft palate and depth of the basihyoid bone in TB racehorses in training that have dorsal displacement of the soft palate |
| SCHOLARSHIPS AND POST-DOCS |
| Magnetic resonance spectroscopy of the distal metacarpus in horses with and without catastrophic fractures |
| Measuring local strain distributions through the equine SDFT as a novel, non-invasive marker of tendon function and healing |
| Novel non-invasive predictor of tendon function with and without injury |
| Multi-omics investigation of the >30kDa putative causal neurotoxin present in serum/plasma from horses with acute equine grass sickness |
| Advanced echocardiographic evaluation of the equine athletic heart |
| Improved diagnosis of infectious causes of airway diseases in racehorses |
| Protecting tendon cells from inflammation to improve tendon regeneration |
| Identification of anthelmintic resistant cyathostomin species in UK TB population |
| Advanced analytics applied to endoscopic analysis of upper airway function |
| Epidemiology and genetics of congenital musculoskeletal disorders in neonatal TBs |
| Mechanistic insights into VapA and the treatment of <i>Rhodococcus equi</i> |
| Antibacterial agents and new targets to treat bronchopneumonia in foals |
| Do horse tendon cells become primed to inflammation? |



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| Identifying challenges and opportunities for sustainable parasite control in Thoroughbreds |
| Exercise physiology and angiogenesis |
| EIV Impact on long term respiratory health |
| Exploring mechanisms of autologous biological therapies for tendon injury repair in the horse |
| Epidemiology and economics of TB breeding |