

HBLB' S STRATEGIC PRIORITIES AND SCOPE OF RESEARCH INTERESTS

Applicable to all HBLB scientific research and education awards

STRATEGIC RESEARCH PRIORITIES 2021

The HBLB's strategic research priorities are aligned with the outcomes of the Horse Welfare Board's strategic plan for the welfare of horses bred for racing (2020 – 2024):

- ❖ Best possible quality of life, which include all aspects of healthcare, husbandry and disease control (e.g. improved methods of disease diagnosis, more effective vaccines, biosecurity and disease prevention strategies, antimicrobial and anthelmintic resistance)
- ❖ Best possible safety and well-being during breeding, training and racing (e.g. enhancement of diagnostic methods and restoration techniques after musculo-skeletal disease and injury, safer training and racing practices, minimisation of fatal and non-fatal injury)
- ❖ Lifetime responsibility for equine health (e.g. optimal health of breeding Thoroughbreds and youngstock, reproductive efficiency, evaluation of factors affecting transition to post-racing careers)

SCOPE OF RESEARCH INTERESTS 2021

The lists below include examples of specific interest within general area headings. These lists are not exhaustive and may be revised from time to time.

MUSCULOSKELETAL SCIENCE AND ORTHOPAEDICS

- Musculoskeletal biology, physiology and pathophysiology
- Prevention of orthopaedic disease and injury in racehorses
- Improved identification and management of musculoskeletal disease and injury in racehorses
- Identification of genetic, environmental and acquired risk factors associated with musculoskeletal disease and injury
- Recurrent exertional rhabdomyolysis and other myopathies
- Developmental orthopaedic disease
- Fracture repair
- Joint disease
- Tendonitis
- Biomechanics and locomotion
- Musculoskeletal aspects of exercise physiology
- Associations between musculoskeletal disease and conformation, training methods, track and jump design, shoes, tack, riding equipment and the rider

INFECTIOUS DISEASE

- Parasitology
- Virology
- Bacteriology
- Improved prevention of current and emerging infectious diseases by the development of more effective vaccines and management strategies
- Identification of genetic, environmental and acquired risk factors associated with infectious disease
- Improved methods of disease detection and surveillance
- Emerging exotic diseases that threaten UK racing and breeding
- Vaccinology

INJURY PREVENTION AND PERFORMANCE

- Measurement and prediction of athletic ability and potential
- Improved racecourse design and surfaces, riding strategies, tack and equipment to enhance the safety and welfare of racehorses
- Associations between training methods and athleticism
- Associations between other environmental and genetic factors and athleticism
- Stabling, transport and other facets of horse management and husbandry
- Stereotypes
- Behaviour
- Overheating
- Stress
- Post exercise recovery protocols

RESPIRATORY HEALTH AND DISEASE

- Improved preventative and therapeutic strategies for lower airway disease in racehorses
- Improved preventative and therapeutic strategies for pneumonia in foals and weanlings
- Identification of genetic, environmental and acquired risk factors associated with respiratory disease
- Prevention, diagnosis and treatment of Hyperresponsiveness, inflammatory airway disease and recurrent airway obstruction
- Identification and clinical management of upper airway disorders
- Respiratory aspects of exercise physiology
- Exercise-induced pulmonary haemorrhage

NUTRITION AND GASTROINTESTINAL HEALTH AND DISEASE

- Nutrition
- Dental disease
- Intestinal physiology and disease
- Improved strategies to prevent parasite infection
- Prevention, assessment and management of colic
- Equine gastric ulcer syndrome

INFLAMMATION, INNATE IMMUNITY AND PAIN

- Pathophysiology and treatment of inflammation
- Identification and treatment of pain in horses
- Endotoxaemia and systemic inflammatory response syndrome
- Immunomodulation

NEUROLOGY

- Pathophysiology of neurological disease
- Prevention and early detection of paralytic herpes
- Prevention, assessment and management of diseases presenting with ataxia
- Equine grass sickness and its prevention
- Recurrent laryngeal neuropathy

CARDIOVASCULAR HEALTH AND DISEASE

- Cardiovascular aspects of exercise physiology
- Pathophysiology and management of cardiac and vascular disease
- Identification of causes of exercise-associated sudden unexpected death

REPRODUCTIVE HEALTH AND DISEASE

- Male and female reproductive success
- Prevention of abortion
- Prevention and early detection of EHV-1
- Early embryonic loss and pregnancy failure
- Stallion subfertility
- Ovarian disorders
- Fertility regulation
- Umbilical cord and placental pathology
- Maintenance of pregnancy
- Parturition, dystocia, induction and management of foaling
- Reinforcement of natural covering
- Venereal disease

FOALS AND YOUNG STOCK

- Nutrition
- Growth and development
- Reduction in prevalence of and management of conformational abnormalities
- Improved strategies to prevent and manage pneumonia in foals and weanlings
- Improved strategies to prevent parasite, bacterial and viral infection in young stock
- Identification of genetic, environmental and acquired risk factors associated with disease in young stock and predisposing to subsequent injury and disease in horses in training
- Preventative medicine
- Perinatology
- Developmental orthopaedic disease

OTHER AREAS OF INTEREST

- Basic and applied genetics
- Dermatology
- Ophthalmology
- Endocrinology
- Anaesthesia and Critical Care
- Oncology
- Retirement and careers beyond racing
- Disorders of the older horse
- Exercise physiology