

## **HBLB' S STRATEGIC PRIORITIES AND SCOPE OF RESEARCH INTERESTS**

Applicable to all HBLB scientific research and education awards

### **STRATEGIC RESEARCH PRIORITIES 2019**

- ❖ Improved Methods of Preventing Current and Emerging Infectious Equine Diseases by the Development of More Effective Vaccines, Diagnostic Tools, Biosecurity and Management Strategies
- ❖ Increased Safety, Health and Well-being of Racehorses through the Development of Better Training Environment, Stable and Racecourse Design and Surfaces, Riding Strategies, Management and Husbandry, Tack and Equipment
- ❖ Prevention or Minimisation of Musculoskeletal Disease and Injury in Thoroughbreds through Advanced Identification and Management
- ❖ Enhanced Reproductive Efficiency, Health and Well-being of the Breeding Thoroughbred and Youngstock
- ❖ Identification of effective, appropriate and evidence-based methods to help the immediate post-racing transition of the racing Thoroughbred to new activities

### **SCOPE OF RESEARCH INTERESTS 2018**

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