Priority Research Topics for December 2023
(Applicable for all grant programmes and Research Training Scholarship)

- Detection of alteration of the equine genome or biomarkers that indicate artificial manipulation of performance

- **High incidence of degenerative orthopaedic disease in racehorses**
  - Response of critical musculoskeletal tissues to repetitive, cyclical high intensity loads associated with current modes of training and racing.
    - Longitudinal studies to characterise structural changes in tissues at high risk of injury due to repetitive, cyclical loading.

- **Relationship between track and injuries.**
  - Application of “Big Data” analytics to identify risk factors for injuries in training and racing.
  - Pros and cons of synthetic surfaces in different climates.

- **Suitability of individual horses for racing.**
  - Are there particular biomechanical characteristics of horses (either temporary or permanent) that predispose individuals to injury? If so, can we screen for these?
  - Is “Handedness” a real feature of horses and, if so, does it impair some horses running in a particular direction around an oval track?

- **Reducing the incidence of severe fractures in horses while training and racing**
  - Develop clear advice to trainers based on systematic review of the literature and promulgate to the global racing community.

- **Husbandry and management**
  - Identify common factors that improve or degrade the welfare of racehorses.

- **Objective measures to assess the physical potential for racehorses to adapt to different future career paths on retirement from racing**
  - Develop an evidence-based assessment protocol that relates clinical history, clinical findings and performance in early retraining to long-term outcomes.

- **Disease associated with intensive training**
  - Exercise Associated Sudden Death.
  - Risk factors for Exercise Induced Pulmonary Haemorrhage and lower airway disorders and practical measures to reduce their impact.
  - Application of modern technology to identify causes of sudden-onset poor performance and to determine their impact of horse welfare.
  - The consequences of Equine Gastric Ulcer Syndrome on horse welfare.