Module: One Health and Comparative Animal Models

Module coordinator: Kim Summers

Module outline

The module is broken into two parts. In the first part students will make a thorough exploration of the animal body through laboratory practices involving post-mortem examination of euthanized animals, as well as histology activities. In the second part the students will attend a series of workshops and seminars exploring the concepts of small and large animal models for both infectious and non-infectious diseases including natural, transgenic and genome edited models. The course will also highlight the non-infectious aspects of one health : the similarities between humans and animals in potentially environmentally associated diseases such as cancer, atopy, heart disease and neurodegeneration.

Topics

Post-mortem examination of the animal body (sheep, rabbit, mouse, chicken, fish)
Comparative analysis of structures of the animal body
Histology, pathology cytology, virology procedures and practice
Stem cells
Small and large animal transgenics
Genome editing
Natural canine models of non-infectious human disease
Reproduction, embryology and in vitro fertilisation

Learning : 10 ECTS

Lectures: 40h
Seminars : 20h
Practices: 40h
Independent work: 150h

Assessment

30% Preparation of oral presentation on body structures (25%)
25% Successful completion of the UK personal licence course
(If having attended the course, the student fails once, he will get 20%. If he fails twice, he will get 15%)
30% Literature review of an animal model
20% Preparation of a pamphlet for the general public about an animal model