

## The Clinical Research Outreach Program

### *What is it?*

The CROP course is a training scheme to help clinicians perform practice-based clinical research. It consists of a week's course in Cambridge and completion of a supervised research project.

### *Who is it for?*

The course is intended for veterinarians in practice. No previous research experience is required. You may wish to test a hypothesis that your clinical work has generated, or realised that the literature fails to provide an answer to a question you think is important. We will provide basic tuition to help you design your study and a supervisor to help you complete it.

### *When is it held?*

The course is normally held in April each year.

### *How much does it cost?*

There will be a charge of £100 made to participants. Cheques should be made payable to 'University of Cambridge'. Completing the course will fulfil your year's CPD requirement for the RCVS.

### *Are research projects restricted to farm animal species?*

There is no stipulation on the area of research. Previous clinical associates have been recruited from small animal, equine and exotic animal practice.

### *What subjects are taught during the course?*

Introductions to experimental design, epidemiology, statistics, scientific writing, and research ethics/legislation are provided through lectures, practicals, and tutorials. Much of the course is based on the textbook, 'Handbook of Veterinary Clinical Research, (Blackwells).

### *Who can I speak to in order to ask some more questions?*

Please don't hesitate to contact Dr Mark Holmes (mah1@cam.ac.uk), the outreach program director and course organiser if you have any further questions.

### *How do I apply?*

Complete the attached form and email to Sinead Sheerin at the Department of Veterinary Medicine (sfs27@cam.ac.uk).

### *How are participants selected?*

The form asks you to suggest a research project that you would like to undertake. Applicants are not selected on the quality of their project proposals but we have learnt from previous experience the importance of identifying suitable projects and supervisors at an early stage. You may not end up doing the project first proposed for a variety of reasons. If you have more than one project idea, please don't hesitate to submit any additional proposals (just duplicate that section of the form). An example of a completed form and a list of previous projects is available.

If you are having difficulty in identifying a project then please get in touch and we'll do our best to help. You may also find that discussing possible topics with colleagues in practice may well generate some practical and useful research questions.

Participants are primarily selected on their enthusiasm and interest in performing practice-based clinical research.

**The following is a list of some titles of projects undertaken by participants on the CROP course:**

Is spinal cord dorsal horn damage by syringomyelia associated with pain in dogs?

Can contagious ovine digital dermatitis be eradicated from a flock?

A retrospective study to describe the appearance and test the distribution of natural osteoarthritis in the appendicular skeleton of cats.

A Study of the non-invasive tear break-up time in dogs.

A study of the effect of giving gonadotrophin releasing hormone at the time of artificial insemination on pregnancy rates and milk progesterone levels at five days.

Determination of *Rhodococcus equi* antibody levels in mare's colostrum, passively derived levels in their foals, and persistence of transfused *Rhodococcus equi* antibodies in foals.

A cross-sectional study of the prevalence of enteric organisms of zoonotic potential in kittens presented for initial vaccinations in the UK.

A double-blinded randomised clinical trial of homeopathically-treated hyperthyroid cats and comparison with efficacy of methimazole.

Case control study to compare skull and spine dimensions from MRI scans of normal Cavalier King Charles Spaniel dogs and those with clinical syringohydromyelia.

A cross-sectional prevalence study of *Mycobacterium bovis* in two populations of wild deer.

Comparison of isolation rates of *Chlamydia psittaci* by PCR using cloacal swabs and pooled faeces samples from individual sick pet birds.

A cross sectional study to determine the sensitivities and specificities of total plasma protein and plasma albumin for the diagnosis of Johne's disease in sheep of low body condition score.

A pilot survey of antimicrobial drug dispensing for UK dogs and cats.

A Comparison of the Prevalence of Non-burrowing Skin Mites in Rabbits with and without clinical Skin Disease.

A study of sea lice burdens on farmed Atlantic salmon prior to outbreaks of salmon pancreas disease virus (SPDV) infection in marine farms in Ireland.

The influence of age on selected haematological and biochemical parameters in domestic donkeys *Equus asinus*, in the UK.

Prevalence of enteropathic *Escherichia coli* and other enteropathogens in neonatal dogs.

*On the next page of this document is an example of a project proposal to provide some idea of the level of detail we would like to see. Although you may be uncertain about the type of study design that will be needed to answer their question you wish to answer, the completion of question 3 (Initial project idea) will help you make a start.*

*Try and make the question as simple as possible. It is much easier to extend a project that has been successful than to simplify an overly complex project once it has started. You will get more out of a short and simple project completed quickly and easily, than a project that fails to complete or involves more work and time than you anticipated.*

**Q3 INITIAL PROJECT IDEA [Please note this is a mostly fictional example] (duplicate this question if you have more than one project idea).**

- (a) Title: Clinical trial of a homeopathic treatment said to affect cell counts.
- (b) What is the question to be answered: Does a homeopathic nosode affect the somatic cell counts of dairy cows?
- (c) Write a brief description of how you think you might be able to answer this question in a practice-based research project: (no more than 500 words)
- There are claims in the literature provided by a manufacturer of homeopathic treatments that a homeopathic nosode can reduce the somatic cell counts (SCCs) of cows in a dairy herd. Although previous trials have been performed they have failed to produce a definitive result. A clinical trial will attempt to test the treatment using a larger herd. A single dairy herd will be used for the trial (this will eliminate variations found in different herds). Half the cows will be given the homeopathic treatment and half will be given a placebo. This will be randomized and blinded. Two milk samples will be taken from all the cows in the herd. The first sample will be taken immediately before the treatment is given and a second sample will be taken two weeks after the treatment. The SCCs determined using the normal NMR laboratory. The changes in cell counts for the treatment group and the placebo group will be compared.
- (d) Please list some references (papers or text book citations) where a good account of the current state of knowledge may be found in reference to your question.
- The following paper describes a similar trial and reviews the literature:  
M. A. Holmes, P. D. Cockcroft, C. E. Booth, & M. F. Heath. Controlled clinical trial of the effect of a homoeopathic nosode on the somatic cell counts in the milk of clinically normal dairy cows. (2005), Vet Record 156,565-567  
The claim for the homeopathic treatment is made in the following publication:  
HANSFORD, P. & PINKUS T. (1998) The herdsman's introduction to homoeopathy, pp 26-32. (Available from [www.soilassociation.org](http://www.soilassociation.org))
- (e) If your project is dependent on clinical cases, how many cases would you hope to get in your own clinical work? and, do you think you'd be able to recruit additional cases from colleagues?
- Our practice provides veterinary services for several herds with more than 400 milking cows. These herds have been happy to cooperate with simple research projects in the past.
- (f) Is there already a potential supervisor for your proposed project you would like to suggest?
- I have already spoken to Dr Holmes about this project and he has said he would be prepared to supervise this project.