

## **PhD or research master's project in aspects of canine toxicology learning liquid chromatography techniques, available Semester 1 2010**

A research project is available for a veterinary science graduate or animal scientist to embark on a PhD or research Master's degree concerned with investigating the most commonly ingested toxins in dogs, how each toxin is diagnosed, determining the morbidity and mortality rates and then developing a liquid chromatography procedure to diagnose some of these toxins in canine serum and urine. Presently there is little knowledge of the actual incidence of intoxication of dogs, the most common types of toxins and there are very few diagnostic tests to identify canine ingested toxins.

The first part of the project involves surveying veterinary practices to identify the most common toxins. Once this is completed and the most prevalent toxins are identified, the individual will be taught how to develop an assay to detect some of these toxins by liquid chromatography. This technique is the gold standard for determining drug or toxin concentrations in biological fluids. Expertise in liquid chromatography is a valuable skill sought out by drug detection, forensic and pharmaceutical laboratories.

The specific aims of the study are:

- i) to survey Australian veterinary practices to ascertain the incidence of dog intoxications, types of toxins ingested, severity of clinical signs, diagnostic tests performed, extent of morbidity, response to treatment, recovery time and number of mortalities.
- ii) using the information obtained from Aim 1, identify the most common toxins affecting Australian dogs, and accordingly develop a diagnostic screening test to identify some of those specific toxins in dog serum and urine, by liquid chromatography (LC).
- iii) to develop a screening test, by liquid chromatography, for the identification of commonly ingested rodenticides (anticoagulants, otherwise known as vitamin K antagonists) in dog serum and urine.

At the completion of the project, the types of toxin, incidence of toxicity, the range of clinical signs, etc ingested by Australian dogs will be documented and a diagnostic test to identify selected toxins in canine serum and plasma will have been developed. The development of tests to detect rodenticides will tell us whether rodenticides can be detected in dog serum and at what concentrations, and whether these agents can be detected in urine.

The project is due to get underway semester 1, 2010.

The successful applicant will need to apply for an Australian Postgraduate Award (a scholarship) to support them during the project and applications for these, close 31<sup>st</sup> October, 2009. To be eligible for these scholarships, the successful applicant must possess a strong first class honours degree. If you don't have a first class honours degree please don't let it stop you from contacting the chief investigator as other areas of funding may be possible.

***For expressions of interest and further information please contact:-***

**Dr Merran Govendir BVSc, PhD, MEd, MACVSc**

**Senior Lecturer in Veterinary Pharmacology**

**The University of Sydney, M.Govendir@usyd.edu.au phone: (02) 9351-5442**