

Research Project for PhD Student

Project Title:

Evaluation of the hepatic microvasculature in normal dogs and dogs with a naturally-occurring vascular malformation of the liver (congenital portosystemic shunt).

Project Supervisor: (name only)

A/Prof Filip Braet (Deputy Director)

A/Prof Geraldine B Hunt

Project Champion: (name and email address)

A/Prof Geraldine B Hunt

Host unit: (e.g., research institute, school/discipline hosting the project)

University Veterinary Centre, Sydney and The Australia Key Centre for Microscopy and Microanalysis

Host Unit's URL:

<http://www.vetsci.usyd.edu.au/sydneyclinic/>

<http://www.emu.usyd.edu.au/emu/kc.php>

One Sentence Project Summary: (single sentence for Google-style search results)

Description of the electron microscopic characteristics of the hepatic microvasculature of dogs with a congenital vascular abnormality of the liver.

Project Synopsis: (about 250 words max)

The study will involve description of the electron microscopic characteristics of the hepatic microvasculature of normal dogs (which has not been reported previously) and comparisons with the microvasculature of dogs with a congenital vascular abnormality of the liver. In addition, the microvasculature will be compared between dogs whose livers regenerate after surgery for the vascular anomaly, and those dogs whose livers appear incapable of regeneration.

Keywords for Research Area and Clinical Condition (these are needed so that people may search by key word):

Hepatic microvasculature.
Sinusoids.
Endothelium.
Electron microscopy.

Congenital portosystemic shunt.

Other Information: (Optional) (e.g, techniques used in the project - e.g., electron microscopy, current PhD topics; scholarships/funding available; possible research areas for PhDs topics; etc.)

This study has seed funding from a Faculty of Veterinary Science Bequest (\$2400.00), and additional funding from the Canine Research Foundation (\$7982.00). The student will learn techniques for preservation of liver samples for microscopy and evaluation of the endothelium and small blood vessels of the liver using light microscopy and transmission and scanning electron microscopy. This study will lead to at least one peer-reviewed Journal publication. Depending on results from this project, the opportunity may arise for enrolment in a PhD.