2020 UQ Winter Research Scholarship Program
Research Projects offered by School of Veterinary Science

How to apply

The UQ Winter Research Scholarship Program is offered by the School of Veterinary Science and UQ Student Employability Centre during the winter vacation period (mid-June to mid-July). This document provides you with a list of available projects.

1) Browse the projects.

2) Contact a potential supervisor in the area of your interest, or the contact person listed, to discuss your interest to undertake their research project. Gain the research project supervisor’s tentative approval, and include this with your full UQ Summer Research Scholarship application.

3) Submit your application via StudentHub
<table>
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<tr>
<th>Supervisor</th>
<th>Dr Sarah Purcell</th>
<th>Duration: 5 weeks</th>
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<tr>
<td><strong>Contact Details:</strong></td>
<td>Email – <a href="mailto:sarah.purcell@uq.edu.au">sarah.purcell@uq.edu.au</a></td>
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**Retrospective evaluation of the clinical use of fresh frozen plasma in dogs in Australia**

Fresh frozen plasma (FFP) is commonly administered to dogs for the provision of clotting factors. Other controversial uses for plasma include the provision of alph-macroglobulins in canine pancreatitis, and passive immunotherapy in canine parvoviral enteritis. Although there are potential benefits of plasma, there are many potential side-effects including anaphylaxis, hypersensitivity reactions, and a host of inflammatory reactions such as febrile non-haemolytic transfusion reactions and transfusion related acute lung injury.

This project aims to use Vet Compass records to gain a better understanding of the frequency with which plasma is used in small animal practice in Australia for conditions other than coagulopathy. Records will primarily be assessed to determine the reason for plasma transfusion, but may also include any adverse effects relating to the use of plasma transfusion, the volumes of plasma administered and clinical outcomes.

The findings will be of direct interest to the profession and wider community within Australia as plasma products are commonly used in practice with little or no evidence to support their use. These products are not only expensive but may also have detrimental effects on our canine patients.

**Number of student places available:** 1

**Expected outcomes** - Scholars will develop skills in data management. The student may then be interested in assisting in formulation of a manuscript for publication outlining the findings of the study and/or presentation of the findings.

**Suitable for** - This project would be suited to a veterinary student in their 3rd or 4th year of study, and would particularly suit a student that has some experience in a veterinary hospital, reading and interpreting hospital records.

**Other important details** – Interested students must contact the supervisor/s, prior to submitting an application. Evidence of supervisor support is required to be uploaded as part of the application process.
<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Dr Carlos E Medina-Torres</th>
<th>Duration: 4 weeks</th>
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<tr>
<td>Contact Details:</td>
<td>Email – <a href="mailto:c.medina@uq.edu.au">c.medina@uq.edu.au</a></td>
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**Prevalence and Risk Factors for Equine Colitis in Australia**

Colitis is a severe and often fatal diarrhoeic disease in horses. Despite many recent advances in monitoring and therapy, colitis remains an important cause of morbidity and mortality. Horses with colitis invariably exhibit signs of a systemic inflammatory response syndrome (SIRS), which may progress to multiple organ failure and death. Although multiple infectious and non-infectious aetiologies have been identified, it can be difficult to pinpoint the exact cause, and in approximately 50% of cases, the definitive diagnosis remains elusive. In the veterinary literature, the epidemiological features of equine colitis remain ill defined, and the risk factors are poorly understood.

Our analysis of medical records in the VetCompass Consortium, aims to determine the apparent risk factors and prevalence of colitis amongst horses in Australia. This research will help improve our understanding of this inadequately researched area, as well as, update upon previous studies, which have attempted to describe the complex interaction between risk factors and colitis onset. By understanding the epidemiological features of colitis and its associated risk factors, effective control and preventative measures can be instituted to reduce the burden of this disease on Australian horses.

**Number of student places available:** 1

**Expected outcomes** - Students are required to:

- Work collaboratively with the Equine Internal Medicine and VetCompass team
- Learn and be involved in the analysis of large datasets and a retrospective multicentre clinical study design
- Oral presentation of the preliminary results within the school of Veterinary Science and/ or professional meeting

Prepare a manuscript suitable for publication

**Suitable for** - Applications are open to UQ 4th year Veterinary Science students, whom are likely to use this project as the basis of their 5th year research elective.

This project is suitable for an enthusiastic, reliable and hardworking individual with a keen interest in horses and epidemiology. An aptitude in data handling and statistical analysis would be advantageous, albeit, non-mandatory.

**Other important details** – Interested students must contact the supervisor/s, prior to submitting an application. Evidence of supervisor support is required to be uploaded as part of the application process.
### Antimicrobial use in dog-to-dog fight wounds

Dog-to-dog bite wounds (DBW) are a common reason for dogs presenting to veterinary clinics and emergency centres, however, there is a lack of research and insufficient experimental and clinical evidence to allow scientific recommendations on antimicrobial treatment of these wounds. This project is a retrospective study looking at data Australia wide to determine the antimicrobial prescribing patterns of veterinarians and if they comply with the prescribing guidelines as formed by Australasian Infectious Diseases Advisory Panel. Our second aim is to determine what proportion of these wounds undergo culture and sensitivity testing, what are the common organisms isolated and their resistant patterns.

This project involves manually going through data from a computer search of medical records using an excel spreadsheet.

### Number of student places available: 1

**Expected outcomes** - The student will work under the direction of an Emergency and Critical Care Resident and Veterinary Medical Centre Faculty. The applicant will gain skills in data cleaning and data organisation. There is the potential for secondary projects with acknowledgements or co-authorship on abstracts or papers to be generated from the extra data obtained during this project. There is opportunity to gain research experience in other projects with the investigators over the winter break.

**Suitable for** - This project is open to 4th or 3rd year UQ veterinary science students. Priorities given to students with skills with Excel, attention to detail, and an interest in small animal medicine or antimicrobial use. Up to 3 students can be involved in this project as this involves 75,000 records from Vet compass. Students who wish to pursue a research elective in 5th year may be able to continue working on this project. A GPA > 5.8 is usually required to be successful at obtaining a scholarship.

**Other important details** – Interested students must contact Dr Nicole Kalnins, Emergency and Critical Care Resident, n.kalnins@uq.edu.au. Short interviews are necessary prior to application submission. Evidence of supervisor support is required to be uploaded as part of the application process.
**Supervisor** | **Dr Justine Gibson & Dr Allison Stewart** | **Duration:** 4-5 weeks
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**Contact Details:** | Email – [a.yoo@uq.edu.au](mailto:a.yoo@uq.edu.au) | |

**Development of antibiogram for otitis and pyodermas at UQVETS Small Animal Hospital**

Skin and ear infections are two of the most common presenting complaints encountered in small animal general practice. It is not uncommon for dogs and cats to require antimicrobial treatment at presentation. Veterinarians require hospital specific data to guide empirical therapy.

This project is a retrospective study. Data will be collated from all submitted samples (skin and ears) to the veterinary diagnostic laboratory for culture and susceptibility testing. The aims are to (1) generate a cumulative antibiogram for use in the general practice at UQVETS; and (2) identify most commonly cultured organisms and antimicrobial resistance patterns.

This project involves manually entering data from the laboratory database and the Veterinary Medical Centre medical records into an excel spreadsheet.

**Number of student places available:** 1

**Expected outcomes** - The student will work under the direction of a veterinary microbiologist and a small animal rotating intern. The applicant will gain skills in data collection, database generation, cleaning and organisation. There may be opportunity to involve in veterinary microbiology diagnostic work in the laboratory. There is potential for secondary projects with acknowledgement or co-authorship on abstracts or papers to be generated from the extra data obtained during this project. There is opportunity to gain research experience in other projects with the investigators over the winter break.

**Suitable for** - This project is open to 4th or 3rd year UQ veterinary science students. Priorities given to students with skills with Excel, attention to detail, and an interest in small animal medicine, microbiology or antimicrobial stewardship. Students who wish to pursue a research elective in 5th year may be able to continue on related projects with these investigators. A GPA > 5.8 is usually required to be successful at obtaining a scholarship.

**Other important details** – Interested students must contact Dr Anna Yoo, Small Animal rotating intern, [a.yoo@uq.edu.au](mailto:a.yoo@uq.edu.au). Evidence of supervisor support is required to be uploaded as part of the application process.
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<th>Supervisor</th>
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<th>Duration: 5 weeks</th>
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<tr>
<td>Contact Details:</td>
<td>Email – <a href="mailto:n.kalnins@uq.edu.au">n.kalnins@uq.edu.au</a></td>
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Retrospective study of Antimicrobial use and susceptibility testing in dog-to-dog fight wounds from South-East Queensland.

This project is in addition to the project “Antimicrobial use in dog-to-dog fight wounds” but uses data from South-East QLD only. Dog-to-dog bite wounds (DBW) are a common reason for dogs presenting to veterinary clinics. Research is needed to provide scientific recommendations on antimicrobial treatment of these wounds. This project is a retrospective study looking at data from Queensland to determine the antimicrobial prescribing patterns of veterinarians and if they comply with the prescribing guidelines as formed by Australasian Infectious Diseases Advisory Panel. Our second aim is to determine what proportion of these wounds under-go culture and sensitivity testing, what are the common organisms isolated and their resistant patterns.

This project involves manually going through data from a computer search of medical records from UQVETS Dayboro, St. Lucia and Gatton using an excel spreadsheet.

**Number of student places available:** 1

**Expected outcomes** –

- The student will work under the direction of an Emergency and Critical Care Resident and Veterinary Medical Centre/Microbiology Faculty.
- The applicant will gain skills in data cleaning and data organisation.
- There is the potential for secondary projects with acknowledgements or co-authorship on abstracts or papers to be generated from the extra data obtained during this project.
- There is opportunity to gain research experience in other projects with the investigators over the winter break.

**Suitable for** –

- This project is open to 4th or 3rd year UQ veterinary science students.
- Priorities given to students with skills with Excel, attention to detail, and an interest in small animal medicine or antimicrobial use.
- Students who wish to pursue a research elective in 5th year may be able to continue working on this project.
- A GPA > 5.8 is usually required to be successful at obtaining a scholarship although voluntary positions may also be available.

**Other important details** – Interested students must contact Dr Nicole Kalnins, Emergency and Critical Care Resident, n.kalnins@uq.edu.au. Short interviews are necessary prior to application submission. Evidence of supervisor support is required to be uploaded as part of the application process.
Let’s not reinvent the Wheel! Reliability and Usefulness of the internet-based knowledge in Veterinary Medicine

As we all know internet is a great resource when it comes to finding fast information. But do all websites provide reliable and useful information when it comes to veterinary medical information. The goal of this project is to explore and review the content of a range of veterinary medicine related websites and to rank the information provided on its reliability and trustworthiness as well as its in-depth nature or usefulness.

The aim is double:
- to be able to direct petowners to reliable data sources when their animal is diagnosed with a condition and that they want to learn more about it,
- to create a registry of reliable websites for final year students to read from when they are in clinical rotations.

**Number of student places available:** 1

**Expected outcomes** – The student can expect to:
- gain knowledge in veterinary medical science in general
- perform data collection
- be involved and learn about data analysis
- present the preliminary results of the study in a school, university and/or professional meeting
- participate in the writing of the manuscript for publication

**Suitable for** – Suitable for veterinary students, veterinary technician students. The study will involve some meetings at Gatton but can be mainly done remotely. Mainly, this project requires an individual who is enthusiastic and proactive as well as reliable and hardworking. Having medical veterinary knowledge is required for this project.

**Other important details** – If you would like to have more information, please contact Dr Erika Meler by email at e.meler@uq.edu.au. Ideally students should attempt to contact Dr Erika Meler prior to submitting an application but all applications will be considered.
Exploring the information required by referring veterinarians in specialist referral summaries.

The Small Animal Veterinary Teaching Hospital of the University of Queensland (UQ-SAVTH) provides high level specialist care for animals. Specialists share their daily duties in the hospital between student teaching, patient care, client communication, medical record and referral summary writing. Writing thorough referral summaries for a patient visit takes time away from the patient and students. No study has yet looked into what referring veterinarians expect to find in a referral summary and what is the best way for specialists to present useful and comprehensive information in a concise and time efficient manner. The main purposes of this prospective qualitative study are:

- to explore what are the critical pieces of information that referring veterinarians expect to find in a referral summary through an online survey
- to identify how much variations in expectations there is between referring veterinarians
- to draft a standardised referral summary template that would save the most time to specialist working at the UQ-SAVTH and comply with the needs of referring veterinarians

This project has been designed with the following practical ideas in mind:

1) to ensure quality and satisfaction of service to referring veterinarians,
2) to understand better the similarities and differences between referring veterinarians with regards to specialist referral summaries,
3) to save time to specialists clinical teachers to allow them to concentrate on their primary audience, the students.

Number of student places available: 1

Expected outcomes – The student can expect to:
- learn about the organisation of the veterinary industry
- be involved and learn about study design
- be involved and learn about creating an online survey
- be involved and learn about data analysis
- present the preliminary results of the study in a school, university and/or professional meeting
- participate in the writing of the manuscript for publication

Suitable for – Suitable for any student interested in animals as well as practice management. Therefore veterinary students, medical school or business school students are encouraged to apply but all students enrolled at UQ should feel free to apply. The study will involve meetings at Gatton but could be done remotely. Students usually located at St Lucia can use the free intercampus bus running daily between both campuses.

Mainly, this project requires an individual who is enthusiastic and proactive as well as reliable and hardworking. Having advanced knowledge and interest in business management in relation with the medical field as well as data collection and statistical analysis would be particularly valued but is not mandatory. Some specific knowledge about the veterinary industry would be an asset for this project but is not required to apply.

Other important details – If you would like to have more information, please contact Dr Erika Meler by email at e.meler@uq.edu.au. Ideally students should attempt to contact Dr Erika Meler prior to submitting an application but all applications will be considered.
A comparison of the diversity of cases, financial outcomes and professional collaboration between a small animal hospital located in an urban and a rural location.

The Small Animal Veterinary Teaching Hospital of the University of Queensland (UQ-SAVTH) was once located in the middle of the city in St Lucia campus. The UQ SAVTH was moved to the rural campus of Gatton in 2012. The location of a practice determines to some degree the type of cases seen, the amount of money spent per cases and the number of general practitioners referring cases. The main purposes of this descriptive retrospective study are:

- to compare the variety of the cases presented to the UQ SAVTH at Gatton campus between 2014 and 2016 and at St Lucia campus between 2010 and 2012,
- to compare the average amount spent per consultation in the two UQ hospitals,
- to compare the number of referring veterinarians collaborating with the University development in both settings

This project has been designed with the following practical ideas in mind:

1) to ensure appropriate variety of cases and exposure of students, interns and residents graduating from UQ Gatton campus,
2) to understand better the socio-economics parameters of the area and be able to implement financial help and solutions for owners to afford care for their animals,
3) to know better the pool of referring veterinarians participating to the growth of the University and develop with them strategies to increase the referral pool of cases and future collaborations.

Number of student places available: 1

Expected outcomes – The student can expect to:
- learn about clinic software from which the data will be extracted
- learn about the veterinary industry
- be involved and learn about study design
- be involved and learn about data analysis
- present the preliminary results of the study in a school, university and/or professional meeting
- participate in the writing of the manuscript for publication

Suitable for – Suitable for any student interested in animals as well as practice management. Therefore veterinary students or business school students are encouraged to apply but all students enrolled at UQ should feel free to apply. Data collection will be done at Gatton campus during winter break; however data analysis and writing up of the project can be done from St Lucia campus. Students usually located at St Lucia can use the free intercampus bus running daily between both campuses.

Mainly, this project requires an individual who is enthusiastic and proactive as well as reliable and hardworking. Having advanced knowledge and interest in business management in relation with the medical field as well as data collection and statistical analysis would be particularly valued but is not mandatory. Some specific knowledge about the veterinary industry would be an asset for this project but is not required to apply.

Other important details – If you would like to have more information, please contact Dr Erika Meler by email at e.meler@uq.edu.au. Ideally students should attempt to contact Dr Erika Meler prior to submitting an application but all applications will be considered.
**Supervisor** | Dr Erika Meler | **Duration:** 4-5 weeks
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**Contact Details:** | Email – [e.meler@uq.edu.au](mailto:e.meler@uq.edu.au) |

**Observation of workflow within the UQ small animal teaching hospital, identification of inefficiencies and bottlenecks, and suggestions for improvement.**

The Small Animal Veterinary Teaching Hospital of the University of Queensland (UQ-SAVTH) has a double mission of serving the community and providing outstanding animal care as well as teaching final year veterinary students. Clinical teaching occurs all throughout the process of patient management within the hospital and can slow down the workflow and make operations less streamlined. The main purposes of this observational study are:

- to analyse the timing and duration of clinical and teaching activities performed by clinical teachers throughout the day
- to identify causes of bottlenecks and inefficiencies
- to formulate a plan for a strategic improvement of the workflow

This project has been designed with the following practical ideas in mind:

1) to incorporate clinical teaching activities within hospital operation as best as possible to reduce bottlenecks,
2) to ensure efficient patient flow within the UQ-SAVTH, offer outstanding client service and also allow students and clinical teachers to finish their day on time,
3) to increase the number of cases per day that can be processed through the hospital for an increased case exposure for students and also an increase of revenue for the teaching hospital.

**Number of student places available:** 1

**Expected outcomes** – The student can expect to:
- learn about workflow in a veterinary hospital
- be involved and learn about study design
- perform data collection
- be involved and learn about data analysis
- present the preliminary results of the study in a school, university and/or professional meeting
- participate in the writing of the manuscript for publication

**Suitable for** – Suitable for any student interested in animals as well as practice management. Therefore veterinary students, medical or business school students are encouraged to apply but all students enrolled at UQ should feel free to apply. The study will be mainly based at Gatton campus during winter break however the student won’t be required to come every day to Gatton campus as writing and analysis of the data can be done from St Lucia. Students usually located at St Lucia can use the free intercampus bus running daily between both campuses.

Mainly, this project requires an individual who is enthusiastic and proactive as well as reliable and hardworking. Having advanced knowledge and interest in business management in relation with the medical field as well as data collection and statistical analysis would be particularly valued but is not mandatory. Some specific knowledge about the veterinary industry would be an asset for this project but is not required to apply.

**Other important details** – If you would like to have more information, please contact Dr Erika Meler by email at [e.meler@uq.edu.au](mailto:e.meler@uq.edu.au). Ideally students should attempt to contact Dr Erika Meler prior to submitting an application but all applications will be considered.
Modelling best practice in self-directed clinical skills development.

The SVS Student Clinical Skills Hub opened in March 2017 as a purpose built, self-directed learning laboratory for students to practice their clinical skills. Student, staff, alumni and industry engagement with the facility has been increasing rapidly and donations of expired or underutilised clinical and laboratory consumables and equipment has inspired the development of many in-house training models. The development of these models and how they are implemented has been guided by student feedback regarding relevance to coursework and which part of each clinical skills the student’s find most difficult during the learning process.

Authenticity of procedure is critical for developing muscle memory and confidence, however we have shown repeatedly that in many instances this is not reliant on hi-fidelity models. The critical aspect is the use of re-purposed clinical equipment in an authentic manner.

The aim of this project would be to conduct a literature review of other studies evaluating this premise and other simple models which can be constructed in-house. Then use this as a foundation to develop a new model and its associated learning resources, based on their own experience of learning a new clinical skill in the veterinary program which the students found manually difficult or a skill for which deconstruction of the skills creates a deeper understanding of the skill or its underlying theory.

Number of student places available: 1

Expected outcomes – Students can expect to gain experience in literature searching, evaluation and summarisation, basic scientific article planning and use of endnote software. The students will be asked to prepare a mini journal article including information from their literature review and the methodology for their model design, learning resources and implementation and efficacy evaluation plan. This will be used as the basis for a collaborative journal article between the students, the Hub’s coordinator, the Chair of the SVS T&L committee and director of the Clinical Studies Centre.

Additionally the students will be expected to design and construct at least one new clinical skills training model and its associated training resources, an implementation and basic efficacy evaluation plan. This will be implemented during semester two by the Hub’s coordinator and students will able to see how their work is supporting the learning of their peers.

Suitable for – This project is open to applications from students enrolled in the UQ BVSc program, who are currently undertaking years 2, 3 or 4 of the program. Students must be able to work effectively in a team, as ideally this project would attract two students who would be able to undertake the reviews independently and then workshop ideas and undertake model construction jointly.

Other important details – If you would like to have more information, please contact Dr Fran Shapter by email at f.shapter@uq.edu.au.

Evidence of supervisor support is required to be uploaded as part of the application process.
<table>
<thead>
<tr>
<th>Supervisor</th>
<th>A/Prof Chiara Palmieri, Dr Francois-Rene Bertin &amp; Dr Allison Stewart</th>
<th>Duration: 5 weeks</th>
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<tbody>
<tr>
<td>Contact Details:</td>
<td>A/Prof Chiara Palmieri <a href="mailto:c.palmieri@uq.edu.au">c.palmieri@uq.edu.au</a></td>
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<td></td>
<td>Dr Francois-Rene Bertin <a href="mailto:f.bertin@uq.edu.au">f.bertin@uq.edu.au</a></td>
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<tr>
<td></td>
<td>Dr Allison Stewart <a href="mailto:allison.stewart@uq.edu.au">allison.stewart@uq.edu.au</a></td>
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**Occurrence of the most common tumour diagnoses in horses and identification of individual risk factors for tumour development.**

Information on tumour types and incidence in horses are very scarce and fragmentary and breed, age and sex predilections for many tumours are poorly described in the equine population.

**Aims:**

- Describe the most frequently diagnosed equine tumours from retrospective diagnostic records archived at the Veterinary Laboratory Service and the Equine Specialist Hospital of The University of Queensland
- Identify any risk factors associated with specific tumour types
- Identify any changes in the details of cases submitted and tumour diagnosed over time
- Identify any variation in the treatment outcome according to the tumour grading and its biological behaviour

More current data on the most frequently diagnosed equine tumour types should inform veterinary surgeons treating clinical cases, provide data for comparative research and identify research priorities.

**Number of student places available:** 1

**Expected outcomes** – The student will gain skills in the histological identification of different tumour types, data mining, data cleaning and statistical analysis. An oral presentation will be delivered at the end of the program. One publication is expected to be generated from this study.

**Suitable for** – Students with a background in veterinary science, preference to 3rd or 4th year BVSc (Hons) students. This project could be continued as a 5017 research elective project.

**Other important details** – Interested students must contact the supervisors prior to submitting their application:

- Chiara Palmieri c.palmieri@uq.edu.au
- Francois-Rene Bertin f.bertin@uq.edu.au
- Allison Stewart allison.stewart@uq.edu.au

Evidence of supervisor support is required to be uploaded as part of the application process.
**Supervisor** | Dr Abbey Cox & Dr Allison Stewart | **Duration:** 5 weeks
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**Contact Details:** | Dr Abbey Cox – a.cox@uq.edu.au  
Dr Allison Stewart - allison.stewart@uq.edu.au |  

**Evaluation of Four (4) Scoring Systems to Measure the Severity of Insect Bite Hypersensitivity (IBH) in Horses**

Insect Bite Hypersensitivity (IBH, Queensland Itch) is a common equine disease and can be a source of frustration for veterinarians and owners alike. The purpose of this project is to analyse 4 different scoring systems for intra- and inter-observer consistency. Veterinarians will be enlisted to use the scoring systems firstly on 5 horses of their choosing, and then on 20 horses randomly allocated to them via photographs. An application (app) will be created to streamline the process of data collection and completion of the scoring systems by the veterinarians. Involvement in the project will involve data management, phot editing and organisation.

**Number of student places available:** 3

**Expected outcomes** – The student will
- Work under the direction of an Equine Medicine and Critical Care Specialist and a General Practitioner. There may be some opportunity to be involved in activities within the Equine Specialist Hospital (ESH) and UQVETS Dayboro.
- Gain skills in data organisation.
- There is the potential for secondary projects with the data collected.
- There is opportunity to gain research experience in other projects with the investigators over the winter break.

**Suitable for** – This project is open to 4th, 3rd or 2nd year UQ veterinary science students.

Priorities given to students with skills with good computer skills, attention to detail, and an interest in equine medicine.

A GPA > 5.8 is usually required to be successful at obtaining a scholarship although there may be two additional externally funded positions for outstanding students with excellent photoshop, excel and computer/data skills. A total of 3 students can be involved in this project.

**Other important details** – Short interviews are necessary prior to application submission.

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<td><strong>Contact Details:</strong></td>
<td>Dr Allison Stewart - <a href="mailto:allison.stewart@uq.edu.au">allison.stewart@uq.edu.au</a>&lt;br&gt;Dr Abbey Cox – <a href="mailto:a.cox@uq.edu.au">a.cox@uq.edu.au</a></td>
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**Testing a prototype electronic stethoscope on horses to create a teaching model for heart murmurs and arrhythmias**

Using a new prototype electronic stethoscope which records heart sounds and phonographs the student will record heart, lung and gastrointestinal sounds from 100 horses to create a library of sounds. Heart sounds will be recorded over the aortic, pulmonary, mitral and tricuspid valves in normal horses and those with murmurs. Work will be undertaken with an app design student to create an app for listening to heart sounds on a full sized horse model as a learning resource.

**Number of student places available: 1**

**Expected outcomes –**

- The student will work under the direction of an Equine Medicine and Critical Care Specialist and General Practitioner to record the library of sound and phonograph files.
- The library of files will be made into an online learning tool and to work on a full sized plastic horse model
- Instructions will be prepared and human ethics submitted for a project to test the usefulness of this learning tool in the education of veterinary and veterinary technology students
- A summer research project will then ensure (same or different student) to test the new learning module.
- There is the potential for the student to be involved in a veterinary education manuscript and present at educational meetings- ie VET Ed Down Under

**Suitable for –** This project is open to 4th or 3rd or 2nd year UQ veterinary science students. Preference will be given to 4th year students or those with previous cardiology experience. Veterinary students with app design skills will also be suitable.

Priorities given to students with skills with good computer skills, attention to detail, and an interest in equine medicine.

A GPA > 5.8 is usually required to be successful at obtaining a scholarship although there may be additional externally funded positions for outstanding students with excellent desired skills. A total of 2 students can be involved in this project.

**Other important details –** Short interviews are necessary prior to application submission.

Evidence of supervisor support is required to be uploaded as part of the application process.
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<tr>
<th>Supervisor</th>
<th>Dr Helle Bielefeldt-Ohmann</th>
<th>Duration: 5 weeks</th>
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<td>Contact Details:</td>
<td>Dr Helle Bielefeldt-Ohmann (<a href="mailto:h.bielefeldtohmann1@uq.edu.au">h.bielefeldtohmann1@uq.edu.au</a>)</td>
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**Ross River virus infection in horses**
Mosquito-borne viruses pose serious public health risks to both human and horses, especially in light of climate change leading to increased mosquito populations. Ross River virus (RRV) is associated with poor performance syndrome (PPS) in horses and in more serious cases horses present with fever, joint swelling and lameness (Barton & Bielefeldt-Ohmann, J Eq Vet Sci, 51:34-40, 2017), but the underlying mechanisms are not well understood. The long-term goal of the project is to improve health conditions of horses in Australia by improving diagnostics via a better understanding of clinical signs and identification of biomarkers for RRV infection. The specific aim is to characterize the spectrum of clinical signs and inflammatory responses of horses following experimental infection with RRV.

**Number of student places available:** 1

**Expected outcomes** – The scholar will gain skills in various clinical assessments of horses and diagnostic sampling of these animals as well as laboratory techniques in virology and immunology/serology as well as data analysis. The studies are likely to result in publishable data.

The expectation is that the scholar takes equal part in the clinical and the laboratory based aspects of the project to get a well-rounded experience in clinical research.

**Suitable for** – This project is open to applications from UQ enrolled students only. It would be an advantage, but not an absolute requirement, if the applicant has some basic animal handling skills and/or laboratory skills (cell culture techniques, ELISA etc) and a basic understanding of immunology and inflammation.

**Other important details** – The project is based entirely on the UQ Gatton Campus.

Supervisor can best be reached by email (h.bielefeldtohmann1@uq.edu.au) and a phone or face-to-face meeting set up if necessary to talk about the project.

Evidence of supervisor support is required to be uploaded as part of the application process.