## POTENTIAL DVM STUDENT VetSRA RESEARCH CONCEPTS

<table>
<thead>
<tr>
<th>Department</th>
<th>Faculty Member</th>
<th>Faculty Email Address</th>
<th>Concepts</th>
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<tbody>
<tr>
<td>Biomedical Sciences</td>
<td>Dr. Spencer Greenwood</td>
<td><a href="mailto:sgreenwood@upei.ca">sgreenwood@upei.ca</a></td>
<td>Disease ecology of the avian parasite <em>Trichomonas gallinae</em>: Sampling different wildlife and domestic populations to explore genetic diversity and transmission routes of an emerging disease. The student will learn; <em>in vitro</em> culture from clinical samples, conduct viability assays for survival in seed and molecular characterization via PCR, sequencing and phylogeny reconstruction.</td>
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<tr>
<td>Biomedical Sciences</td>
<td>Dr. Sunny Hartwig</td>
<td><a href="mailto:shartwig@upei.ca">shartwig@upei.ca</a></td>
<td>1. Development of a canine genetic testing program at AVC Phase 1: SNP identification for common genetic diseases in pure-breed dogs. 2. Assessment of Prevalence of canine Lyme pathogen <em>Borrelia burgdorferi</em> in Atlantic Canada.</td>
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<tr>
<td>Biomedical Sciences</td>
<td>Dr. Jonathan Spears</td>
<td><a href="mailto:jspears@upei.ca">jspears@upei.ca</a></td>
<td>1. Wildlife projects involving best practices of veterinary and nursing care of injured wildlife species native to PEI 2. Reptile analgesia and anesthetic techniques.</td>
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<tr>
<td>Biomedical Sciences</td>
<td>Dr. Collins Kamunde</td>
<td><a href="mailto:ckamunde@upei.ca">ckamunde@upei.ca</a></td>
<td>1. Fish welfare: Side-effects and mechanisms of action of local anesthetics on salmonids. 2. Effect of temperature on reactive oxygen species metabolism in salmonids.</td>
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<td>Companion Animals</td>
<td>Dr. Michelle Evason</td>
<td><a href="mailto:mevason@upei.ca">mevason@upei.ca</a></td>
<td>Dr. Evason’s research is a continuation of her PhD project, which was the launch and establishment of a longitudinal (lifetime) canine health and Lyme disease study performed on dogs in Eastern Canada. The study goal is to gain insight from data that may help better manage Lyme disease, and also explore multiple aspects of pet health and welfare (e.g. nutrition, obesity, vaccination, deworming, and human-animal bond) as we monitor the dogs (and their families) over multiple years. Use of these dogs, their families and participating veterinary clinics as sentinels for various infectious disease (focus on Lyme) may also help unlock answers that relate human health, particularly for emerging Lyme endemic regions in Canada. Educational partnerships between general</td>
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practice veterinary clinics and collaborating veterinary schools, such as the Atlantic and Ontario Veterinary College, are a critical part of this study's preliminary success and have far-reaching bonds and impact across the Canadian veterinary community at all levels (e.g. veterinary undergraduate and graduate student involvement, local general practitioners etc.).

| Companion Animals | Dr. Christine Savidge  
|                   | Dr. Peter Foley  
|                   | csavidge@upei.ca  
|                   | pefoley@upei.ca  
|                   | PCR detection of Leptospira DNA in urine of outdoor cats in Prince Edward Island.  

| Health Management | Dr. Bronwyn Crane  
|                   | mbcrane@upei.ca  
|                   | 1. Investigating Ureaplasma Diversum in bovine embryo transfer  
|                   | 2. Retrospective evaluation of factors influencing embryo number and quality in bovine embryo transfer.  

| Health Management | Dr. Aimie Doyle  
|                   | ajdoyle@upei.ca  
|                   | jmcclure@upei.ca  
|                   | 1. Equine skin preparation techniques.  
|                   | 2. Proviral Load for Bovine Leukosis.  
|                   | 5. Retrospective studies on umbilical hernias and equine cryptorchid (A. Doyle)  
|                   | 6. Microbiome on surgeon's hands and surgical sites for equine castration.  

| Health Management | Dr. Martha Mellish  
|                   | mmellish@upei.ca  
|                   | mbcrane@upei.ca  
|                   | Digitally cataloguing, radiographing and evaluating the conformation of a sample of Sable Island horse hooves. Morphometric evaluation would be performed to determine the status of hoof health from horses deceased from natural causes from 2007-2013 on Sable Island. Radiographic evaluation of the hooves to evaluate for abnormalities and presence of laminitis would be performed.  

| Health Management | Dr. Laurie McDuffee  
|                   | lmcduffee@upei.ca  
|                   | A PRISMA (preferred reporting items for systematic reviews and meta-analyses) strategy will be used for conducting a scoping review of stress and burnout among veterinary students and the extent to which student experiences predict perceived stress in practice.  

| Health Management | Dr. Mary McNiven  
|                   | mcniven@upei.ca  
|                   | Effect of palliative care visits on stress in therapy horses.  

| Health Management | Dr. Javier Sanchez  
|                   | jsanchez@upei.ca  
|                   | Bacterial species classification based on novel diagnostic test and whole genome
The goal of this project is to compare the matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF MS) with whole genome sequences from 96 Streptococcus isolates from lactating cows. The student will learn about MALDI-TOF, next generation sequence data, and the use freely available bioinformatics tools. A short communication is expected from this project.

| Health Management | Dr. John VanLeeuwen | jvanleeuwen@upei.ca | Assessment of short- and long-term impacts of participating in an intercultural community-based learning experience program by UPEI students over the past 14 years. |
| Pathology and Microbiology | Dr. Mark Fast | mfast@upei.ca | 1. Wild/cultured Atlantic sturgeon health assessment.  
2. Application of functional feeds in Atlantic salmon to ameliorate the impact of co-infection.  
3. Warming ocean temperature impacts on pathogens of Atlantic salmon |
| Pathology and Microbiology | Dr. Cora Gilroy  
Dr. Shelley Burton | cgilroy@upei.ca  
shburton@upei.ca | Total cell counts of equine bronchoalveolar lavage cytocentrifuge cytology slides using scanned images and image J software |
| Pathology and Microbiology | Dr. Anne Muckle  
Dr. Dave Groman  
Jan Giles | cmuckle@upei.ca  
groman@upei.ca  
jgiles@upei.ca | Validation of MALDI-TOF Mass Spectrometry for the Identification of Piscirickettsia salmonis  
Collate a collection of at least 10 P. salmonis isolates from different geographical sources, including ATCC isolate, and check for viability and purity. Sequencing of the isolates, if not already done. Run the isolates on the MALDI-TOF-MS, working with Diagnostic Bacteriology staff to create MSPs and compare testing methods (direct colony versus extraction). Collating/analysis of all data. Literature search on relevant topics. Poster presentation and draft of manuscript for publication. |