2025 Summer Projects

Name	Departmer	Area of Study	email
Dr. Jaswant Singh	VBMS	Effect of cetrorelix on follicular wave dynamics in calves: The project will train student in transrectal ultrasonography of reproductive tract using a probe extension, interpretation of ovarian structures during prepubertal period and clinical reproductive management in cattle.	jaswant.singh@usask.ca
Dr. Sarah Wood	Vet Path	Learn beekeeping and improve pollinator health with science! We are seeking enthusiastic DVM students to study honey bee diseases and the role of pollinators in sustainable agriculture. Specific projects include: surveillance of antimicrobial-resistant Paenibacillus larvae in honey, improving pesticide risk assessment for honey bee drones, novel approaches for Varroa mite management, and improving colony health during blueberry pollination. Your project will involve a mix of field and laboratory research in collaboration with our diverse and dynamic team of over 20 members. Join us!	sarah.wood@usask.ca
Dr. Maarten Voordouw	Vet Micro	"Voordouw lab in Veterinary Microbiology. We do research on ticks and Borrelia burgdorferi, the spirochete that causes Lyme disease. Potential summer research projects include passive and active surveillance of ticks, investigating competition between B. burgdorferi strains, measuring host-to-tick transmission of B. burgdorferi strains, and more."	maarten.voordouw@usask.ca
Dr. Emily Jenkins	Vet Micro	California bighorn sheep within British Columbia's Okanagan Region hold cultural, ecological, and economic significance, and currently face disease challenges, including Psoroptic mange. This project will involve testing and treating sheep in enclosures to optimize efficacy and delivery of antiparasitic medications. Fieldwork will occur in Penticton in conjunction with a biologist from the Okanagan Nation Alliance, the BC wildlife veterinarian, and the veterinary parasitologist at WCVM.	Mackenzie Clark (mclarke@syilx.org), Caeley Thacker (Caeley.Thacker@gov.bc.ca), and/or Emily Jenkins (Emily.jenkins@usask.ca).
Dr. Emily Snyder	LACS	This project will be looking at the role of serotonin in feedlot Atypical Interstitial Pneumonia (AIP) in beef cattle. Duties for this project will include assisting with the collection of blood and tissue samples from dead cattle and performing ELISAs on blood to determine blood serotonin levels.	e.snyder@usask.ca
Dr. Gurpreet Aulakh	SACS	**Functional profile of neutrophils deficient in Inhibitor of ATP synthase Factor 1 (IF1):** Neutrophils are first responders during an infectious inflammation. However, their role during ozone induced inflammation is not known. The project involves analyzing neutrophil of genetically altered mice that have been knocked out for IF1, a protein that is important in regulating ATP generation in cells.	gka240@mail.usask.ca
Dr. Gurpreet Aulakh	SACS	**Modulating glucose and ATP dependence during hemangiosarcoma cell invasion:** Hemangiosarcoma is a highly invasive form of cancer commonly found in canine species. The dependence of cells on glucose and ATP is key to their invasion. The project will study the effect of ATP synthase regulators on murine and canine hemangiosarcoma cell lines.	gka240@mail.usask.ca
Dr. Vaness Cowan/ Dr. Dylan Olver	VBMS	**Exploring the mechanisms of ergot alkaloid mycotoxins in isolated bovine arteries**. This project includes dissection of arteries from abattoir cattle and incubating arteries in tissue baths with different ergot alkaloids. These experiments will help us better understand how these mycotoxins cause blood vessels to contract.	vanessa.cowan@usask.ca

Dr. Michael Wu	VBMS	The Wu lab is broadly interested in understanding the impact of environmental stress on aging using the genetic model *C. elegans*. Summer projects include using transgenic worms to perform high-throughput genetic and chemical screens to identify hazardous environmental compounds. Other projects also includes using the worm model to identify genes and mechanisms behind antiparasitic drug resistance. Students will gain hands-on experience in fluorescent microscopy and work with transgenic nematode strains.	michael.wu@usask.ca
Dr. Monique Mayer	SACS	**"Dose to the Lens of the Eye in Veterinary Workers Performing Fluoroscopic Procedures".** We have a funded project investigating dose to the lens of the eye in veterinary workers performing fluoroscopy procedures. We are collaborating with a veterinary cardiologist, equine surgeon and surgical researcher at Colorado State University. The student must be willing to travel to Colorado State University for 3-4 weeks during the summer for data collection (airfare, accommodations and car rental are covered by the study).	monique.mayer@usask.ca
Dr. Dylan Olver	VBMS	My lab will be examining cardiovascular stress responses in swine towards better understanding swine mortality. We will also be studying how different toxins affect blood vessel function in different organs from cows to determine why these toxins cause harm and if certain organs are more vulnerable.	tdylanolver@gmail.com
Dr. Dinesh Dadarwal	LACS	**Comparison of Sensor-Based Estrus Detection Systems versus Estrotect Patches in Identifying Estrus in Beef Cattle to Optimize Breeding Success** Traditional estrus detection methods, such as visual observation, are labor-intensive and prone to errors. Estrotect patches offer a cost-effective, visual solution, while sensor-based systems provide automated, real-time monitoring of cattle behavior. This study aims to evaluate the strengths and limitations of these two methods to determine their effectiveness and suitability for modern beef cattle operations.	did651@mail.usask.ca
Dr. Dinesh Dadarwal	LACS	**Investigating Daily Sperm Production (DSP) in Rams Across Two Distinct Seasons and Its Association with Changes in Scrotal Circumference** Seasonal changes in photoperiod and environmental factors influence reproductive performance in rams, affecting testicular function, sperm production, and fertility. This study will measure DSP during two contrasting seasons to evaluate how seasonality impacts ram fertility. The goal is to understand the relationship between photoperiod, reproductive parameters, and changes in scrotal circumference to enhance breeding program outcomes.	did651@mail.usask.ca
Dr. Elisabeth Snead	SACS	Our first yr resident, Dr. Lam and Dr. Snead are looking for a 2nd or 3rd yr student who is interested in participating in a research project investigating the use of intranasal glucagon for the emergency treatment of hypoglycemia induced by insulin in cats and dogs. Preference would be given to a student with a strong interest in internal medicine and who has a desire to pursue advanced training in small animals in the future.	ecs212@mail.usask.ca

Dr. Al Chicoine	VBMS	What it is: Drug residue depletion study in honey bees What students would do: Prepare medication, treat honey bee colonies in the Saskatoon area in May (before honey flow begins), then collect honey samples at weekly intervals starting in June. Samples will be analyzed at the CFIA laboratory (beside WCVM), where the student may also gain some experience in analytical methods used for drug residue assessment. Bonus: Because this study will require intermittent student involvement, there may be an opportunity to participate in other clinical pharmacology research projects with the animal care unit Beagles (depending on study timing).	alc869@mail.usask.ca
Dr. Susan Detmer	Vet Path	Influenza research project with pigs and vaccine development. Skills developed: virology, molecular biology, animal handling and medical care. The student will be trained in the laboratory to do cell culture and other virology and molecular biology techniques under the guidance of graduate students and technicians. Past experience not necessary but good aseptic techniques a must to keep cells healthy. The student will have the responsibility of caring for a small group of healthy pigs in the level 1 ACU, including vaccinations, to create hyperimmune serum. The student will use this serum on cell cultures to determine cross protective properties to select a new vaccine strain for the western regional vaccines.	susan.detmer@usask.ca
Dr. Claire Card	LACS	Our research centres on equine reproduction and answering questions about pregnancy recognition. The upcoming research will involve a great deal of hand-on experiences including: breeding mares, collecting stallion semen and embryo recovery and culture of equine embryos. We will used advancing imaging techniques to evaluate uptake of cellular messengers in the endometrium and embryo.	cec062@mail.usask.ca
Dr. Trent Bollinger	Vet Path	various wildlife health related projects	tkb913@mail.usask.ca
Dr. Arata Matsuyama	SACS	Oncology Research - study of canine sarcomas. Our focus is on cancer tissue collection, tissue analysis and medical record review. The student will work alongside a graduate student within WCVM and can become an author of a publication.	arata.matsuyama@usask.ca
Dr. Rodrigo Carrasco Bravo	vbms	The goal of my lab is to understand the neural control of reproductive hormones in mammalian species. The student (s) will be participating in a series of studies examining the control of pulsatile and pre-ovulatory luteinising hormone secretion by estradiol using the ovine and camelid species as experimental models. It is expected that the student will gain experience in transrectal ultrasonography, blood sampling and general laboratory techniques.	roc271@mail.usask.ca

Dr. Olamide Adebiyi	VBMS	**Characterizing the sequence of events in specific brain regions following lysophosphatidylcholine-induced demyelination**. Demyelination, loss of myelin integrity in the brain, is a common feature of diseases like multiple sclerosis, neuromyelitis optica, and other neurological conditions such as stroke, and Alzheimer's disease. Remyelination, the spontaneous repair of myelin sheaths, helps restore function and prevent axonal degeneration. However, demyelination and remyelination proceed concurrently, unpredictably, and differently across brain regions. The project will involve stereotaxic surgery, brain sectioning, intracranial injection, histology, immunohistochemistry, imaging, intracardial perfusion, cell counting, and microscopy.	olamide.adebiyi@usask.ca
Dr Yolande Seddon	LACS	Swine behaviour and welfare, multiple oppurtunities	yolande.seddon@usask.ca
Dr. Lynn Weber	VBMS	Mycotoxins are toxins produced by molds that grow on grains in the field or in any food item, including dog food, when improperly stored. This project would look at whether mycotoxin levels in test dog foods used on the last number of years in the Weber lab have mycotoxins and if so, does that correlate to the cardiac function and health data of the dogs in the previous trials. This would be a retrospective study and re-analysis of existing samples and data, but with opportunity to work with graduate students to learn cardiac ultrasound and other cardiovascular techniques in colony beagles.	lynn.weber@usask.ca