

Summer Projects

Name	Departm	Area of Study	email	Contact Number
Susantha Gomis	Vet Path	Pathogenesis and vaccinology of infectious diseases in poultry. Learning flow cytometry, pathology, and molecular techniques.	susantha.gomis@usask.ca	(306) 966-7299
Sarah Wood	Vet Path	Honey bee disease, ecotoxicology and antimicrobial resistance	sarah.wood@usask.ca	3069661633
Sally Sukut	SACS	Our summer project will investigate the risk of musculoskeletal disease in radiology workers performing ultrasound exams. We will use joint tracking software for ergonomic assessment to analyze videos acquired by the student of VMC workers in both large and small animal clinics. In the course of monitoring worker positioning, the student will be able to watch ultrasounds being performed in many companion species. In doing so, they will develop knowledge of ultrasound specific anatomy, and a better understanding of medical and surgical diseases. There will also be time for the student to spend time in radiology, developing a better understanding of what we do and acquiring further knowledge in all imaging modalities.	sally.sukut@usask.ca	
Valentina Ragno	LACS	Safety and efficacy of a Streptococcus equi subsp. zooepidemicus vaccine in horses - Co-Supervisor Dr. Matheus Costa An attenuated live vaccine that protects swine species from clinical disease has been developed and will be tested in equine subjects. A safety and efficacy trial will be conducted in the summer of 2024. Opportunity to develop clinical skills in monitoring, treatment, and sample collection.	vmr981@mail.usask.ca	
Vanessa Cowan	VBMS	The student(s) will retrospectively characterize specific poisonings in cats and dogs seen by the VMC from 2018-2023. This work will provide practical information for Canadian veterinarians on common symptoms, treatment methods, and prognosis. Topics to be explored include xylitol, lilies, NSAIDs, opioids, chocolate, marijuana, grapes/raisins, and others. The data will eventually be submitted for publication in the CVJ.	vanessa.cowan@usask.ca	
Fabienne Uehlinger	LACS	1.Antimicrobial resistance in horses: The student will help to collect fecal samples from horses treated with antimicrobials and process them in the microbiology lab. They would also assist in analyzing retrospective data on antimicrobial use in horses from the WCVM VMC.	f.uehlinger@usask.ca	

Fabienne Uehlinger	LACS	<p>2.Sheep vaccination and breeding soundness</p> <p>The student works with a graduate student in completing a vaccine trial in sheep here at the WCVM. To that end, the student will help with blood sample collection and ELISA testing in the lab. They will also help evaluate data on sheep colostrum quality. To round out the sheep experience, the student would contribute to a ram breeding soundness project.</p>	f.uehlinger@usask.ca	
Ali Hoonaramooz	VBMS	<p>Effects of environmental toxicants on formation of Artificial Testis</p> <p>In the past few decades, the rate of testicular cancer in young men has increased 400%, while sperm counts have dropped by 50%. Both of these changes might be linked to exposure to environmental toxicants causing irreversible mal-development of fetal testis. Since direct investigation of the effects of environmental toxicants on human fetal tissue is not possible, we have established an innovative system for formation of 'artificial testes' which is surprisingly indistinguishable from intact testis. Using neonatal piglet testes as a model for fetal or infantile human testes, we will examine potential environmental toxicants on formation of artificial testes.</p>	ali.honaramooz@usask.ca	
Maud Ferrari	VBMS	<p>Research area: Investigate how environmental changes affect the behaviour of crayfish and their ability to respond to predation threats; experiments will examine the effects of eutrophication stressors as well as the role of dominance hierarchies and competition in these behavioural responses.</p>	maf156@mail.usask.ca	
Joe Rubin	Vet Micro	<p>Antimicrobial resistance in Treuperella pyogenes</p> <p>This project is a collaboration between Dr. J. Rubin (Vet Micro) and Dr. K. Ghosh (Animal Health Lab, Abbotsford B.C.). The student will with vets in the lower mainland to collect swabs from cattle and will then be responsible for isolating and identifying T. pyogenes with Dr. Ghosh.</p>	ier298@mail.usask.ca	

Gregg Adams	VBMS	<p>Bison Integrated Genomics and the Bison Genome Biobank. This is a Genome Canada-funded project in collaboration with the Toronto Zoo, Parks Canada and AAFC. We have the opportunity to test techniques and protocols for bison germplasm collection (semen & oocytes) under wild conditions with disease-free animals. The goal is to produce clean, viable sperm and oocytes to enable biobanking and distributing new genetics among herds. Work will be done on our captive bison herd at the newly renovated Native Hoofstock Centre and at a National Park bison herd. The summer student's project will contribute toward an aspect of current graduate student projects, and will result in a scientific abstract worthy of presentation/publication to an international scientific society.</p>	gregg.adams@usask.ca	306-966-7411
Jaswant Singh	VBMS	<p>Effect of cetrorelix on ovarian follicle development in calves. Summer researcher will perform daily ultrasonography of ovaries of calves for 1 month followed by follicular dynamics and laboratory work.</p>	jaswant.singh@usask.ca	306-966-7410
Arata Matsuyama	SACS	<p>Clinical oncology research project This project is a part of our comparative oncology research effort through Tumor Bank program to expand our cancer tissue archive and a retrospective study to improve our understanding of cancer diagnosis and therapy. The student will work closely with the VMC Oncology and Surgery services and conduct cancer tissue banking and review medical records through VetNet system, under the supervision by a medical oncologist.</p>	arata.matsuyama@usask.ca	306-966-7198
Arata Matsuyama	SACS	<p>Comparative cancer research project This project is focused on Tumor Bank program mainly through necropsy procedures of dogs with cancer diagnosis. The student will work closely with the VMC Oncology service and PDS pathology to collect cancer tissues, organize samples, and analyze the isolated cancer cells and tissues.</p>	arata.matsuyama@usask.ca	306-966-7198

Monique Mayer	SACS	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 1 month of the summer for data collection (airfare, accommodations and car rental are covered by the study).	monique.mayer@usask.ca	
Cheryl Waldner	LACS	Projects where summer students could participate depending on interests and background include 1) the Canadian Cow-Calf Health and Productivity Enhancement Network, 2) Bovine respiratory disease projects in cow-calf herds and the feedlot including summarize data from whole genome sequencing of bovine respiratory bacteria.	cheryl.waldner@usask.ca	
Emily Jenkins & Maarten Voordouw	Vet Micro	Maarten and I are seeking a DVM student interested in ticks and tick borne diseases. They would participate in environmental tick surveillance in dog parks, green spaces, and parks, and train and conduct digital and physical tick identification for eTick, which serves the public, veterinarians, and medical practitioners in the province of Saskatchewan. They would have the opportunity to learn molecular diagnostics and parasitological methods in the Zoonotic Pathogens Research Unit (Jenkins lab), and participate in sampling and analyses from other wildlife projects. Student would need to be comfortable with driving, overnight stays, and well, ticks.	Emily.jenkins@usask.ca	3069662569
Dylan Olver	VBMS	My research examines the relationship between heart and brain health. My studies are conducted in pigs, rodents, and humans. Students in my lab generally get direct experience with assessing animal behaviour, conducting surgery, and performing postmortem gross and microdissection. Student roles are tailored to their interests and future goals, and students will have the opportunity to present their work and contribute to lab publications. If you are interested, let's schedule a time to talk shop	dylan.olver@usask.ca	3069662327

Tony Ruzzini	Vet Micro	Antimicrobial resistance from bees to beef. This project will focus on discovery and characterization of new and understudied mechanisms of antimicrobial resistance relevant to pathogens of food producing animals.	antonio.ruzzini@usask.ca	3069662665
Tony Ruzzini	Vet Micro	Microbial transformation of bile into immunomodulatory compounds. This project aims to define microbes involved in the transformation of bile into secondary metabolites that influence animal health.	antonio.ruzzini@usask.ca	3069662665
Yolande Seddon	LACS	Evaluating euthanasia of large pigs by one-step euthanasia. Work will be on farm, validating the technique, taking electrical and physiological measurements.	yolande.seddon@usask.ca	3069667151
Gurpreet Aulakh	SACS	1. Energy (ATP) regulation during cellular redox activation: Ozone (O ₃), one of the toxic environmental pollutants, causes neutrophilic lung inflammation and injury resulting in lung dysfunction and disruption of the alveolar capillary barrier. It has been established that O ₃ induces oxidative cell death and releases extracellular ATP (e-ATP) that in turn, triggers a massive innate immune response. The summer project will look at in vitro models to mimic redox stress and quantify cell energy dynamics.	gka240@mail.usask.ca	13069667060
Gurpreet Aulakh	SACS	2. Molecules at the cusp of inflammation and cancer: This summer project will establish an in-vitro model to mimic angiogenesis and cell migration to test molecules such as angiostatin which are known to inhibit angiogenesis but their exact role during inflammation is not clear.	gka240@mail.usask.ca	13069667060
Gurpreet Aulakh	SACS	3. Harnessing neutrophil migration through ATP5IF1: ATP synthase is a ubiquitously expressed, oligomeric or dimeric, multi-protein complex which executes the final step of the mitochondrial electron transport chain, and generates ATP during cellular respiration. The nuclear encoded protein ATPase inhibitor factor 1 (ATP5IF1), binds to the ATP synthase in hematopoietic cells and the IF1 mimicking molecule, BTB056884, prevents ATP hydrolysis, induces neutrophil recruitment and enhances their viability in response to ozone and LPS. This summer project will involve testing BTB06584 in neutrophil migration assays in vitro.	gka240@mail.usask.ca	13069667060

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 cattle and performing ELISAs on blood to determine blood serotonin levels.	e.synder@usask.ca	3069667646
Emily Snyder	LACS	This project would involve a records search on all cases of Vagal Indigestion seen in the veterinary teaching hospital or on field services. All cases of vagal indigestion would be pulled, and then the records examined for final necropsy diagnosis to see if other lesions were found.	e.synder@usask.ca	3069667646
Dinesh Dadarwal	LACS	Unveiling uterine cell functionality and immunotyping in postpartum dairy cows: Studying the functionality and immunotyping of uterine cells in postpartum dairy cows is crucial for understanding reproductive health and ensuring successful calving intervals. Postpartum cows undergo significant physiological changes, particularly uterine involution, which involves the repair and restoration of the uterus after calving. The student will work closely with a graduate student, contributing to a comprehensive experiment combining both animal and laboratory work components.	did651@mail.usask.ca	
Dinesh Dadarwal	LACS	Testing a remote estrus detection system for breeding beef cattle. We're investigating the effectiveness of an activity sensor-based system compared to Estroject patches for artificial insemination and under natural breeding programs in range cattle. The goal is to enhance the efficiency of artificial insemination and natural breeding programs for better reproductive outcomes in cattle. The summer student will collaborate with a graduate student at LFCE, gaining substantial hands-on experience in this field.	did651@mail.usask.ca	
Marina Leis , Co-I Matheus Costa	LACS	Exciting research opportunity to be part of a multidisciplinary veterinary team evaluating a novel vaccine to prevent respiratory disease in dogs. Clinical trial and lab experience included, lots of opportunities to develop clinical skills.	marina.leis@usask.ca	

Maarten Voordouw	Vet Micro	Surveillance projects include passive and active surveillance of ticks in Saskatchewan. Active surveillance requires fieldwork and travel around the province. Lab-based projects include next generation sequencing to determine effect of <i>Borrelia burgdorferi</i> on skin microbiome and cross-validation of qPCR and microscopy-based methods to quantify abundance of <i>B. burgdorferi</i> . Other projects include opportunities to learn statistics and how to analyze data.	maarten.voordouw@usask.ca
Michael Wu	VBMS	Dr. Michael Wu The Wu lab is broadly interested in understanding the impact of environmental stress on aging using the genetic model <i>C. elegans</i> . Summer projects include using transgenic worms to perform high-throughput genetic and chemical screens to identify compounds that are toxic to reproduction and development, or the identification of genes important for cellular defense. Students will gain hands-on experience in fluorescent microscopy and work with transgenic nematode strains.	michael.wu@usask.ca
Daniel MacPhee	VBMS	Project: Birth requires coordinated uterine muscle contractions (labour) which are regulated, in part, by the presence of gap junctions and specific collagens within the extracellular glue holding muscle cells together. Heat shock protein 47 is a chaperone that guides and protects the function of gap junction and collagen proteins in many tissues, but we do not if it is present and functioning in uterine muscle. Using a variety of biochemical and microscopy assays, we will determine where and when this chaperone is found in rat uterine muscle cells during pregnancy and labour.	d.macphee@usask.ca

Month	Project	Hours
Dec		
Jan		
Feb		
Mar		
April		