2025 Summer Research Program – Mentor List

This list is comprised of faculty who have reached out and are looking to work with students over the summer on a project. Mentors are not limited to those on this list.

FACULTY MEMBER	AREA OF RESEARCH
Arruda, Andreia DVM, MS, PhD Associate Professor Arruda.13@osu.edu Department of Veterinary Preventive Medicine	• My area of research relies on the epidemiology of infectious diseases in food animal populations. • Projects available would involve investigating emerging or re-emerging diseases that are important for producers and veterinarians, in order to better understand their spread, control and prevention within and between farms in the U.S. Several projects are also related to building or developing better biosecurity and emergency response protocols in the U.S. and beyond. Even though sometimes data-based, all my projects have a direct field application with components of networking and direct contact with the industry for feedback/ dissemination of results purposes. A lot of my projects are related to swine and, more recent, cattle.
Bohland, Kyle DVM, MS Assistant Professor (Clinical) bohland.19@osu.edu Department of Veterinary Clinical Sciences go.osu.edu/vetbehavior	• Dr. Bohland is a faculty member in the behavioral medicine service with broad interests in psychopharmacology, end-of-life and hospice care, and pain management. For a summer research student, we are looking for a student to help with a retrospective research project on a commonly used behavior medication (sertraline/Zoloft) that currently has scant research in the veterinary literature. The student would assist with a literature review, designing a retrospective study, surveying owners, and medical records review. There will also be opportunities to be involved in the clinic to see how the research will impact patient care.
Bracha, Shay DVM, MS, DACVIM (oncology) Associate Professor, Medical Oncology Bracha.2@osu.edu Department of Veterinary Clinical Sciences	• Dr. Shay Bracha's laboratory carries out comparative cancer research through the study of genes and proteins for disease detection and novel therapies.

	• His work has focused on studying the contents of exosomes (small packets of protein, amino acids, and DNA) found in the blood stream of patients with cancer. • These exosomes can carry biomarkers that predict disease stage, drug resistance, and prognosis as well as shape the microenvironment within the tumor itself. • Dr. Bracha studies ways to decode these exosomes to identify new treatment targets for animals with osteosarcoma (bone cancer) and other types of tumors.
Burns, Teresa DVM, PhD, DACVIM Associate Professor, Equine Internal Medicine Burns.402@osu.edu Department of Veterinary Clinical Sciences https://vet.osu.edu/burns-teresa	• Laminitis • Endocrine diseases of horses
Flint, Jaylene PhD Assistant Professor Flint.72@osu.edu https://vet.osu.edu/about-us/people/jaylene-flint **Flint, Mark** BVSc, PhD Associate Professor Program Head of Zoo & Wildlife Conservative Medicine and Ecosystem Health Flint.71@osu.edu https://vet.osu.edu/about-us/people/mark-flint Department of Veterinary Preventive Medicine	• Several projects involving Ecosystem Health/One Welfare at various locations throughout Ohio as well as some potential desktop studies
Garabed, Rebecca VMD, MPVM, PhD Associate Professor Department of Veterinary Preventive Medicine Garabed.1@osu.edu https://vet.osu.edu/garabed-rebecca	• Access to veterinary care and infectious disease epidemiology projects
Habing, Greg	The overall goal of our research program is to

DVM, PhD Associate Professor Department of Veterinary Preventive Medicine Habing.4@osu.edu http://vet.osu.edu/habing-greg	enhance antimicrobial stewardship on dairy farms and investigate the epidemiology and transmission of zoonotic foodborne diseases within livestock production systems. Summer research students will contribute to one of the broader goals of the laboratory, with specific projects assigned based on their experience and interests. Opportunities include: • A project focusing on the epidemiology of *Salmonella Dublin* in calf and dairy production systems, utilizing a combination of fieldwork and microbiological techniques. • A project aimed at implementing antimicrobial stewardship interventions on dairy farms, including measuring antimicrobial use within dairy and calf production systems.
Hale, Vanessa MAT, DVM, PhD Assistant Professor Hale.502@osu.edu Hale Lab Website Department of Veterinary Preventive Medicine	• Environmental chemical exposures can increase the risk of developing cancer in dogs and in humans. • But how might the microbes living in or on us (our microbiome) metabolize these chemicals? • Could microbes increase or decrease risks associated with chemical exposures? • This summer project will focus on examining the growth and metabolism of gut and urine associated microbes grown in the presence the environmental chemical benzo[a]pyrene (BaP). BaP is a chemical produced by partial combustion and is found in automobile emissions, cigarette smoke, and charred foods. Determining if and how microbes metabolize BaP will establish a microbe – chemical – host framework that could alter the way we approach cancer development and treatment.
Herron, Meghan DVM Sr. Director Behavioral Medicine, Education and Outreach Gigi's	• Gigi's is a shelter organization dedicated to improving the lives of shelter dogs with an emphasis on dogs from underserved, rural communities. We offer state-of-the-art medical and behavioral care, including a

mherron@gigis.org 614-356-8081 ext. 313 This project will be in collaboration with Dr. Winston at OSU CVM	Canine Parvovirus Treatment Center, where dogs from shelter and rescue organizations across the state of Ohio can be treated for this deadly disease at a low-cost. • Dr. Meghan Herron is a boarded veterinary behaviorist and the Senior Director of Behavioral Medicine, Research, Education, and Outreach at Gigi's with research interests that include early socialization interventions for puppies in shelter environments, including puppies exposed to, being treated for, and recovering from Canine Parvovirus. • She works with a team of behavior and medical professionals and to ensure cohesion between medical and behavior aspects of all dogs under Gigi's care. • Summer research opportunities are available for students interested in protocols that allow for safe socialization in a shelter environment, as well as how innovative CPV treatments can shorten hospitalization times and maximize their fleeting socialization window.
Jennings, Ryan DVM, PhD Associate Professor-Clinical Anatomic Pathology Training Program Coordinator Jennings.398@osu.edu Department of Veterinary Biosciences https://vet.osu.edu/about-us/people/ryan-jennings	• utilizing digital image analysis in evaluating prognostic factors in mast cell disease and dermatological diseases
Kim, DS PhD Assistant Professor Kim.9587@osu.edu Department of Veterinary Biosciences https://vet.osu.edu/people/dongsung-kim	• Research interest: Cancer (lung, colorectal, pancreatic) Biology. • The lab uses newly developed small molecule inhibitors targeting KRAS oncoprotein. • Projects will involve using biochemical, proteomic and genomic approaches to identify novel therapies.
Karniychuk, Vladi DVM, PhD Assistant Professor Karniychuk.1@osu.edu Department of Veterinary Biosciences	• Virus genome biology • Interactions of wild-type and CpG dinucleotide-enriched viruses with host proteins • Development live vaccines

https://vet.osu.edu/about-us/people/vladi-karniychuk	• Development oncolytic viruses • Flavivirus pathogenesis • Non-vector flavivirus transmission • Virus interactions with pregnant host and fetus
Li, Haichang DVM, PhD Assistant Professor Department of Veterinary Biosciences 454 VMAB li.3714@osu.edu Haichang.li@osumc.edu https://vet.osu.edu/about-us/people/haichang-li	• My current research focuses on cancer research and regenerative medicine. • As the PI or co-Is on several NIH-funded grants, I have been actively participating multiple research projects to understand the mechanism of MG53 in tissue repair, which is reflected in my multiple first- and co-author papers in peer-review journals including JBC; Nat Commun; Sci Transl Med; Diabetes; Am J Respir Crit Care Med; J Cell Mol Med; and Kidney International. • Most recently, our study uncovered a novel function for MG53 as a tumor suppressor by targeting G3BP2/SG signaling in non-small cell lung cancers (NSCLCs) (Li et al, Molecular Cancer, 2021).
Marsh, Antoinette PhD Professor (Veterinary Parisitology) Marsh.2061@osu.edu Department of Veterinary Preventive Medicine https://vet.osu.edu/people/antoinette-marsh	• Dr. Marsh's laboratory carries out applied veterinary parasitology research for canine hookworms, Parelaphostrongylus tenuis (meningeal worm), and trichostrongyles of ruminants and collaborates with other faculty across the college and university. The student will be involved in all stages of designing, collecting samples, analyzing, interpreting results and presenting/publishing results. Non-laboratory bench top scholarly activities involve legal liabilities of zoonotic parasites and animal law related topics.
Matusicky, Michelle (Missy) DVM, MPH, DACVPM Associate Professor-Clinical Matusicky.1@osu.edu Department of Veterinary Preventive Medicine https://vet.osu.edu/about-us/people/missy-matusicky	• Access to care medicine • Shelter medicine • Small animal population health
Muñoz, Kirk DVM (Hons), MRCVS, MSc, PgCert BA, DACVAA, cVMA Associate Professor	• Finding ways to assess nausea in our veterinary patients. ○ Using and developing blood biomarkers to assess nausea

munoz.215@osu.edu Department of Veterinary Clinical Sciences https://vet.osu.edu/people/kirk-munoz	in dogs, horses and cats ○ Developing scales and other techniques to assess nausea in dogs, horses and cats • Use of pain scales to assess and monitor pain in dogs and cats - in private practice and academia
Nolting, Jacqueline MS, PhD Assistant Professor Swine Health and Biosecurity Extension Specialist Nolting.4@osu.edu Department of Veterinary Preventive Medicine https://vet.osu.edu/preventive-medicine/vpm-research/animal-influenza-ecology-epidemiology-research-program	• My research and extension program centered around the risk and prevention of infectious diseases has several opportunities for summer student research projects in both biological and social science. • The primary pathogen for biological sciences is influenza A viruses in wild birds and terrestrial disease transmission in animal and/or human populations.
O'Quin, Jeanette DVM, MPH, DACVPM, DABVP Associate Professor-Clinical Oquin.4@osu.edu Department of Veterinary Preventive Medicine https://vet.osu.edu/people/jeanette-oquin	• Small animal population health and welfare • Public health and zoonotic diseases • Access to veterinary care
Pesapane, Risa PhD Assistant Professor Pesapane.1@osu.edu Department of Veterinary Preventive Medicine and School of Environmental and Natural Resources https://vet.osu.edu/about-us/people/risa-pesapane	• The Parasite and Pathogen Ecology Lab at OSU has partnered with The Wilds to conduct tick and tick-borne pathogen surveillance on animals, humans, and vegetation on their property. • The goal of this project is to understand the risk of tick-borne disease to animals in the collection, as well as staff and visitors. • Over the past year, ticks have been collected from a variety of zoo and domestic animal species, from different habitats, as well as from employees and visitors. • At minimum, we seek a summer research student to identify these ticks to species, perform testing for pathogens of veterinary and medical concern, and summarize any trends in infestation by species or location. • There may be opportunity for the design of additional student-driven lines of inquiry within this study and for prospective collection of ticks from The

	Wilds.
Petersen, Christine DVM, PhD Professor Petersen.307@osu.edu Department of Veterinary Biosciences https://vet.osu.edu/people/christine-petersen	• Dogs represent the primary reservoir for Leishmania infantum human visceral leishmaniasis (VL) and might succumb with severe clinical disease, often in renal failure, as they have previously been considered the most infectious to the vector, sand fly. Previous studies suggest that dogs with mild to moderate clinical disease may be more infectious than dogs with severe disease. In addition, dermal parasitism and infectiousness to sand fly correlates to anemia, but not creatinine, in dogs infected *with Leishmania infantum*. During the disease, the bone marrow and spleen can become heavily parasitized with severe anemia. This project would investigate and characterize the relationships between organ parasitism, degree of anemia, and infectiousness using in-situ hybridization technique called RNAscope on archived, formalin-fixed paraffin-embedded spleen and bone marrow samples from dogs at different stages of canine leishmaniosis severity
Piegols, Hunter DVM, DACVS-SA Assistant Professor-small animal surgery and integrated oncology Piegols.3@osu.edu Department of Veterinary Clinical Sciences https://vet.osu.edu/people/hunter-piegols	• Broadly, our research focuses on the field of surgical oncology. • More specifically, areas of interest include surgical margin evaluation and hemangiosarcoma, though other opportunities may be available as well.
Rikihisa, Yasuko PhD Professor Rikihisa.1@osu.edu Department of Veterinary Biosciences https://riki-lb1.org.ohio-state.edu/?_gl=1*cdbmwk*_gcl_au*NjA0MTYwNjI5LjE3Mjc3MDEyODg.*_ga*MjQyOTQyMzc2LjE3MTk4Mzg5NzA.*_ga_09WC99HMPE*MTczMjAzMjgwMy4zMDMuMS4xNzMyMDMyODIwLjQzLjAuMA..	Examples of current research projects include: • 1. Elucidation of Signaling Pathways for Entry and Survival of Ehrlichiae aand Anaplasma in Leukocytes: The objective of this project is to study bacterial molecules that drive safe entry and survival in the host cells by mobilizing actin cytoskeleton, inhibiting reactive oxygen species generation, lysosomal fusion, and leukocyte's activation and apoptosis, and by competitively acquiring cholesterol, iron, other nutrients. • 2. Characterization of Type IV Secretion in

	Human Ehrlichiosis and Anaplasmosis Agents: The objectives of this project are 1) to identify effectors of type IV secretion system and determine their functions in infection, and developing intracellular nanobodies to block infection. • 3. Roles of Ehrlichia and Anaplasma Outer Membrane Proteins in Parasitism: The objective of this project is to examine biological activities of unique outer membrane proteins for invasion and bacterial physiology (porin, iron transport, immune modulation), and host signal transduction in a cell culture and an animal model of ehrlichiosis. • 4. Isolation and Characterization of New Species and Strains. Ehrlichia, Anaplasma, and Neorickettsial organisms will be isolated from field vertebrate and invertebrate hosts, and molecular diversity and virulence will be analyzed, and mechanisms of transmission will be examined. • 5. Diagnosis and Vaccine Development for Ehrlichia, Anaplasma, and Neorickettsia spp. Our lab. has been developing rapid, sensitive, and specific molecular and serologic diagnostic methods by identifying the unique DNA sequences, and highly immunogenic peptides in these bacteria. We are also developing in-tick neutralizing DNA and mRNA vaccines based on ehrlichial molecules essential for tick to mammal transmission.
Selmic, Laura BVETMED, MPH Professor Department of Veterinary Clinical Sciences selmic.1@osu.edu https://vet.osu.edu/people/laura-selmic	• Optical imaging of surgical margins • Translational cancer research
Toribio, Ramiro DVM, PhD Professor Equine Internal Medicine Department of Veterinary Clinical Sciences Toribio.1@osu.edu https://vet.osu.edu/about-us/people/ramiro-	• Research Program: Endocrine regulation in healthy and critically ill foals. • Goals: to enhance our understanding on the endocrinology of healthy and sick equine neonates. Sprecifically, to investigate factors involved in energy regulation (energy hormones), mineral

toribio	homeostatis (calcium-regulating hormones), and stress (pituitary/adrenal hormones, stress hormones, steroids). Dysregulation of these factors likely contribute to disease severity in sick foals. • Training: students will get familiar with the specifics of the project (physiology, pathophysiology), have the opportunity to travel to horse farms in ohio and equine hospitals in Kentucky, process serum/plasma samples, retrieve medical information, perform endocrine measurements, analyze data, and prepare presentations of the findings. There will be regular weekly meetings. They will gain experience in clinical research, but also acquire knowledge and skills that will be beneficial for incoming courses and the clinic. In addition, students will also be included in a peer-reviewed publication.
Warren, Cody PhD, MPH Assistant Professor Warren.802@osu.edu Department of Veterinary Biosciences https://vet.osu.edu/about-us/people/cody-warren	• The vast majority of newly emerging infectious diseases can be traced back to wild animals. • Of these zoonoses, viruses pose the greatest pandemic threat. • The overall research goal of the Warren lab is to better understand how viruses adapt to infect new host species. • We aim to use knowledge gained through the analysis of virus structure, function, and host interactions to identify fundamental biological processes that influence disease emergence.
Wittum, Tom PhD Professor Wittum.1@osu.edu Department of Veterinary Preventive Medicine https://vet.osu.edu/people/thomas-wittum	• My research program focuses on the epidemiology of zoonotic infectious diseases, but most of the current research in my laboratory is related to antimicrobial use, resistance, and stewardship. • My lab supports multiple ongoing projects related to the emergence and dissemination of antibiotic-resistant bacteria in human and animal populations, and in the environment. • We also support research projects related

	to the ongoing effort to implement a comprehensive antimicrobial stewardship program in the OSU VMC.
Xiong, Gaofeng PhD Assistant Professor Xiong.587@osu.edu Department of Veterinary Biosciences https://vet.osu.edu/about-us/people/gaofeng-xiong	• My research area focuses on discovering important mechanisms and biology underlying breast cancer progression, drug resistance and metastasis, as well as identifying novel strategies to inhibit breast cancer progression by targeting tumor microenvironment cues. • I would like to perform some basic and translational studies in canine mammary tumor.
CHIRP **Winston, Jenessa** DVM, PhD Assistant Professor Winston.210@osu.edu https://vet.osu.edu/about-us/people/jenessa-winston **Rudinsky, Adam** DVM, MS Associate Professor Rudinsky.3@osu.edu **Parker, Valerie** DVM Professor-Clinical Parker.888@osu.edu https://vet.osu.edu/parker-valerie Department of Veterinary Clinical Sciences ********** **Schreeg, Megan** DVM, PhD Assistant Professor-Clinical Schreeg.1@osu.edu https://vet.osu.edu/about-us/people/megan-schreeg Department of Veterinary Biosciences	• The Comparative Hepatobiliary and Intestinal Research Program (CHIRP) is comprised of a team of basic research and clinician scientists at the forefront of cutting-edge research and innovative study design. • CHIRP was developed to streamline multidisciplinary research with a specific focus on team science. • The axis of our program centers on the advancement of knowledge pertaining to gastrointestinal, hepatobiliary, and pancreatic diseases in dogs and cats coupled with dedicated enhancement of animal and human health through translational scientific discoveries. • We are looking for highly motivated veterinary students interested in a summer research experience. • IF students have a specific **pathology interest**, we request you contact **Dr. Schreeg**, directly.