

1. **Ling Jin's laboratory:** Research project on "Investigating treatments against herpesvirus reactivation from latency in KHV-koi host model." will investigate inhibitors of histone demethylases as therapy drugs against herpesvirus reactivation from latency. The inhibitors of histone demethylases against KHV gene activation and replication will be evaluated directly in the novel KHV-koi host model.
2. **Brianna Beechler and Justin Sanders's laboratories:** recruiting a vet student to evaluate the prevalence and distribution of lungworm species in dogs in Oregon, while also working towards developing a patient side diagnostic tool (like a snap test) that is simple and easy to use. This will require they accompany me to vaccine and low income clinics to obtain fecal samples from dogs, while also performing the laboratory work with Justin. It may also include working with Dr. Gordon to extract live lungworms with bronchoscopy depending on the available patient pool.
3. **Brianna Beechler's laboratory:** I may also have a project looking at sea lion physiology and mercury toxicity - on my recently funded Sea Grant.
4. **Luiz E Bermudez's laboratory:**  
 Project 1: Epidemiology of antibiotic resistance in the Vet Hospital. Beta-lactamase mediated resistance.  
 Project 2: Immunology of host defense against Mycobacterial infection in mice.
5. **Dan Rockey's laboratory:** Our group works on the biology of both human and veterinary chlamydial pathogens. Most of the work is in tissue culture or genomics analysis. We have a variety of projects that a student can use to develop both scientific skills and an understanding of these important pathogens.
6. **Christiane Löhr's laboratory:** Student research projects in my laboratory focus are often driven by questions arising from diagnostics especially pathology. My primary areas of interest are 1. all aspects of Neoplastic Diseases including pathogenesis, diagnosis, prevention, intervention, and treatment; 2. Diseases of New World Camelids, Goats, and Aquatic Animals; 3. Disease of the Skin, Special Senses and Liver. I have two specific projects, but am open to entertaining other research ideas within the above mentioned areas. A few specific neoplastic entities I am currently examining are feline injection site sarcoma, tumors of the caprine reproductive tract, mammary tumors, and osteosarcoma.  
  
 Project 1: Effect of acute, subacute and chronic barotrauma (decompression) on ocular health of *Sebastes* (rockfish)  
  
 Project 2 (in collaboration with Dr. Whitler): Hormone receptor expression in healthy tissues and in tumors of the caprine reproductive tract
7. **Kathy Magnuson's Laboratory:** My laboratory is interested in determining the causes of memory decline during aging and determining the early pathological changes that lead to Alzheimer's disease, with an aim toward designing interventions that can

prevent these problems. We will be testing young and old human subjects in multiple cognitive tasks in order to examine the impacts of previous military service or multivitamin/multiminerals on cognitive aging. We will also be using brain slice electrophysiology to test the effects of early treatment with anti-inflammatory compounds on a mouse models of Alzheimer's disease.

8. **Justin Sanders' laboratory:** Parasite investigation. A Willamette valley cattle rancher has been experiencing an unusually high prevalence of the liver fluke, *Fasciola hepatica*, in his cattle every year for the last several years. Two years, ago, a survey of snails from three water sources on the ranch did not yield any *F. hepatica* cercariae. However, the problem has continued. This project will involve sampling water and nearby vegetation and testing by PCR to determine the source of the parasite.

with **Mike Kent's laboratory:** a : Histological description of acute juvenile copepod infection in salmon. The parasitic copepod *Salmincola californiensis* has recently been recognized as an important factor in the low survival of juvenile Chinook salmon, hindering efforts to reestablish populations in their native streams above impassable dams on the Willamette river. We have developed a model for studying the infection in laboratory-reared Chinook and are using this system to describe the pathological impacts of different stages of the parasite on the gills on fish. Fixed gills of acutely infected fish collected at different time points spanning a range of copepod development are available for study to describe the histological presentation of *S. californiensis* juvenile infection.

b. Pathogens and Lesions in Adult Salmon Suffering Prespawn Mortality. Adult Chinook salmon return to freshwater in the Spring or early Summer, and reside in the Willamette River system until they spawn in the autumn (September). The fish are semelparous, and hence die after spawning. Chinook salmon in this system often suffer a very high prevalence of mortality the summer before spawning. Working with fisheries biologists, we are collecting dead, moribund and healthy fish at various times in the summer. Fish are necropsied, processed for histopathology, and patterns of infections and associated lesions are documented. The summer vet student would work with the Kent lab, collecting fish from the field, conducting necropsies, and learning how to identify pathogens and lesions in salmon. Analysis of data will be included in attempt to link these findings to causes of prespawn mortality.

9. **Natalia Shulzhenko's lab:** We are building a biobank of samples for canine and feline microbiome studies. The samples include nasal, oral, rectal swabs. Samples are preserved in the way appropriate for DNA isolation for microbiota analysis.

Several studies are being designed to address relevant questions regarding the role of microbiota in small animal health, diet and disease.

10. **Erika McKenzie's Research:** Clinical research investigating the effects of colloid transfusion in clinically diseased horses.
11. **Stacie Summers's Research:** Retrospective study going looking cats with pyelonephritis comparing urine sediment to positive urine cultures.
12. **Jennifer Johns' Lab:** Research on mesenchymal stem cells and osteosarcoma, including work on immune responses.
13. **Brian Dolan's lab:** Dr. Dolan has two research focuses. The first is to study how cells directly present peptide antigens via the MHC class I antigen presentation pathway to T cells. We do a variety of cell assays and biochemical experiments designed to discover how the process occurs and if it can impact how tumor cells are detected and eliminated by adaptive cytotoxic T cells. The second research focus deals with designing and optimizing immune assays for non-model animals including wild animals not usually studied by immunologists. Most of the work is laboratory intensive and done in Dryden Hall.
14. **Jean Hall's Lab: Selenium Supplementation of Beef Cows: Effects on Cattle Health and Calf Production**

The objective of the study is to determine the best time during pregnancy to feed beef cows supranutritional organic selenium to optimize cattle health and calf production. *We hypothesize that feeding Se-yeast boluses to pregnant beef cows in each of three trimesters will alter cow and calf performance measures, blood-Se concentrations at parturition, lean muscle gene expression in calves at birth, and assays to assess general health in cows and calves.* Although the calves will have been born there will be assays to work on it the lab next summer.