

North America

	University name	Departments	Specialization	Subjects
Canada	<p style="text-align: center;">McGill University https://www.mcgill.ca/</p>	<p style="text-align: center;">Faculty of Agricultural and Environmental Sciences: Department: Animal Science, Institute: Institute of Parasitology Research centre: Avian Science and Conservation Centre. Faculty of Science: School and department: Biology, Affiliated departments: Anatomy and Cell Biology Biochemistry Microbiology and Immunology Pharmacology and Therapeutics Physiology, Interdisciplinary program: Neuroscience Research centre, research institute, other: Developmental Biology Research Initiative, McGill Centre for Research on Pain, Quebec Centre for Biodiversity Science.</p>	Parasites, birds, pigs	<p>The Institute of Parasitology is one of the oldest recognized centers of interdisciplinary research in Canada. They focus on parasitic organisms, the relationship with their host and the means to limit the impact of parasitic disease on health and wellbeing. Research at the Institute of Parasitology is centered around the main themes of pathogenesis/host defense mechanisms and the molecular basis of drug resistance/drug target discovery. The Avian Science and Conservation Centre's purpose is to foster a greater understanding of the biology, conservation, and management of birds through a multipurpose program of research and education. Major areas of research include behaviour, ecology, nutrition, toxicology, reproductive physiology, and parasitology of captive and wild birds, as well as captive breeding and management of endangered species. Animal Science: teaching and research in modern animal agriculture and biology, advanced studies into the physiology and genetics of fertility, or the examination of new forage sources for lactating dairy cows, the development of on-farm software for decision making, or the production of transgenic pigs for use in medicine, researchers are at the forefront of their respective fields, many of them internationally renowned experts. Applications for various domains range from traditional livestock production to the use of animal biotechnology for the betterment of human health, and provide an ideal training ground for the researchers of tomorrow.</p>
	<p style="text-align: center;">University of Guelph https://www.uoguelph.ca/</p>	<p style="text-align: center;">College of Biological Science Ontario Veterinary Science</p>	Amphibians, Aquatic organisms, fish (<i>Kryptolebias marmoratus</i>), vertebrates, songbirds, small mammals, mouse, planarians (flat worms)	<p>Discoveries about health, nutrition, ecology, evolution, genetics, neuroscience physiology and more. Jim Ballantyne's current research examines the biochemistry of aquatic organisms in both an adaptive and an evolutionary context. Nicholas Bernier - focused on understanding the physiological and endocrine mechanisms that help fish cope with hypoxia and hypotension, my post-doctoral research at the University of Alberta dealt with the neuroendocrine pathways that regulate both appetite and the stress response. Now as a faculty member in the Department of Integrative Biology, studying the neuroendocrine pathways in fish by which stressors are perceived, processed, and transduced to further our understanding of how environmental stressors affect food intake, growth, and embryonic development. Todd Gillis - the biochemical and physiological adaptations that allow animals to live under extreme environments. Mechanisms that enable cardiac function in trout at their comparatively low physiological temperature. This work specifically focused on the structure-function relationships of a protein called troponin C that enable it to work at low temperatures. the vertebrate heart and the mechanisms that regulate its function. The underlying theme of this work is the evolution of protein structure and function and the role this plays in determining the physiological scope of organisms. Andreas Heyland - research focuses on understanding molecular and physiological mechanisms underlying life history transitions and their evolution in marine invertebrates with particular emphasis on metamorphosis and the role of hormonal signaling systems in this process. Moreover placing this question back into the context of how the environment modulates such mechanisms on a molecular-cellular level. He had employed experimental, physiological and more recently functional genomics approaches. Currently his lab is pursuing research in the following fields: 1) Iodine & Thyroid Hormone Signaling in Marine Ecosystems 2) Functional Genomics of Larval Development, Metamorphosis and Settlement in <i>Aplysia californica</i> 3) Function and Evolution of Sensory Signaling Systems in Selected Marine Invertebrate Groups. Frédéric Laberge - Animal cognition and its neural correlates Understand how variation in brain structure and size influences organismic function, and identify the factors that drive evolution and plasticity of the nervous system. To this aim, they study variation in structure and size of vertebrate brains, the proximate mechanisms generating this variation, and the functional consequences of this variation. Investigations focus on amphibians and fishes in both laboratory and field settings. Their integrative lab-based approach involves behavioural assays, anatomy and histology work, and molecular methods. Field sampling in collaboration with ecologists allows to combine our lab efforts with quantitative ecological methods to explore the influence of ecology and environmental factors on the brain, a discipline sometimes referred to as 'neuroecology'. Such investigations can inform them of the cognitive abilities needed by wild animals to thrive in their natural environment. Ecophysiology Using a highly collaborative approach, they try to develop novel indicators of performance in aquatic wildlife for improved environmental monitoring of watersheds. Current work on this topic focuses on indicators of ecological performance and chronic stress in wild fish (e.g. organ sizes, enzyme assays, gene expression, hormone content of fish scales) and</p>

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				<p>neurotoxicology.</p> <p>Amy Newman - the impact of a wide range of stressors using wild songbirds and small mammals as animal models. She investigates proximate and ultimate questions related to the effects of naturally relevant stressors at the molecular and neuronal level and how these effects translate to neuroendocrine development and function and, finally, the subsequent effects on adult neuroplasticity, behaviour and, fitness.</p> <p>Glen Van Der Kraak - Multifactorial Regulation of Ovarian Function in Teleosts, Evaluation of Reproductive Fitness in Fish, Ecotoxicological Effects of Atrazine on Amphibians.</p> <p>Patricia Wright - Environmental Physiology</p> <p>Research focused on osmoregulation and respiration in aquatic animals, how animals maintain homeostasis with changes in the external environment. We study the interaction between the animal and its environment from early development to adults in fish and amphibians.</p> <p>Dr. Jasmin Lalonde -</p> <ul style="list-style-type: none"> • Regulation and function of Store-Operated Calcium Entry (SOCE) in brain development and disease • Post-transcriptional and -translational control of neuroplasticity effector Arc/Arg3.1 • Study of the molecular basis of bipolar disorder and schizophrenia with patient-derived iPSCs differentiated in neural progenitor cells (NPCs) and neurons • Brain tumour biology and cancer neuroscience • Cannabis-derived molecules and their influence on neurobiology <p>Their laboratory uses a multidisciplinary approach to explore these questions, which includes primary neuron cultures, genetic perturbations, calcium and live-cell imaging, confocal microscopy, gene expression profiling, proteomic techniques, as well as patient-derived models of neurodevelopmental disorders.</p> <p>Dr. Ray Lu - Unfolded Protein Response and Human Diseases, These proteins play key roles in animal stress responses, specifically the Unfolded Protein Response (UPR) that is caused by stress in the endoplasmic reticulum. The UPR has been linked to animal development, cell differentiation, as well as a variety of human diseases such as Alzheimer's, diabetes, cancer and viral infection. They are currently using gene knockout mouse models, combined with molecular and cellular biology techniques to study. Molecular Mechanisms of Aging - new and exciting field that they have recently undertaken is to study of the mechanisms of aging using planarians (flat worms). The planarians are potentially a better model system than traditional fruitflies and C. elegans (round worms), both of which have undergone extensive gene loss during evolution and are largely post-mitotic in their adult life.</p> <p>Robert McLaughlin - research program is diverse, but the overarching theme involves using the movements of animals to assess the significance that individual behaviour has for the biology of populations and communities and, ultimately, biodiversity.</p> <p>Dr. Melissa Perreault - multiple advanced techniques to take an integrative approach to research that involves combining cell and systems research with animal behaviour to help us gain insights into the mechanisms of disease, with a particular focus on neuropsychiatric and neurodegenerative disease.</p> <p>Dr. P. David Josephy - research program focuses on molecular and genetic toxicology. They study environmental mutagens and the enzymes that catalyze their metabolism, including nitroreductases, P450 enzymes, and glutathione transferases.</p>
	<p>University of Manitoba</p> <p>http://umanitoba.ca/</p>	<p>Faculty of Agricultural and Food Sciences Faculty of Science: Biological sciences</p>	<p>Aquatic northern ecosystems: freshwater and marine.</p>	<p>Ned (Nediljko) Budisa - teamwork is based on the vision to create artificial biodiversity with new genetic codes to elucidate life on a molecular level and to develop related technologies.</p> <p>Gary Anderson - focus on the physiology of ancient fish.</p>

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The United States of America	Alabama A&M University https://www.aamu.edu/	The College of Agricultural, Life and Natural Sciences (CALNS): The Department of Biological and Environmental Sciences, The Department of Food and Animal Sciences	Broilers, turkeys, pigs, boars, stallions, rats, domestic chickens (Gallus domesticus), beef cows, beef heifers	The Animal Bio-Health Sciences (ABHS) Program encompasses the science and management of domestic species, including physiology, reproduction, genetics, nutrition, and health of livestock and pets. Animal Nutrition. Dr. Jorge Vizcarra - central hypothesis is that ghrelin is a key hormone involved in feed intake, energy homeostasis, spatial short-term memory and cardiovascular function in birds. Using complementary experimental strategies that have been validated in their laboratory, they aim to up- and down-regulate the activity of ghrelin in broiler chickens and turkeys to evaluate the effect of this gut-brain hormone in animal health.
	Arkansas Tech University https://www.atu.edu/	Russellville Campus: Biological Science Department of Agriculture: AGBU ANIMAL SCIENCE	Cow, pigs, sheep	The Animal Science option includes a group of specific courses involving animal science and livestock production in conjunction with a solid foundation in Agricultural Business. Specific animal science courses include: Reproduction in Farm Animals, Beef and Swine Management, Feeds and Feeding, Forage and Pasture Management, Animal Nutrition, Animal Breeding and Genetics and a Poultry elective.
	California Polytechnic State University https://www.calpoly.edu/	Research and Economic Development Department of Animal Science Department of Biological Sciences Department of Dairy Science	Rats, fishes: copper rockfish (Sebastes caurinus), small animals, Iberian Pigs, ruminants, cattle	Animal physiology, marine ecology, endocrinology, animal nutrition, fisheries science, fish ecology, Endocrine and metabolic impacts of warming aquatic habitats: differential responses between recently isolated populations of a eurythermal desert pupfish, Northern Pikeminnow Management Program, Interactions of long-term food ratio variation and short-term fasting on insulin-like growth factor-1 (IGF-1) pathways in copper rockfish (Sebastes caurinus), Leptospirosis Vaccine: Search for Subunit Candidates, Comparison of High Fructose Corn Syrup Versus Sucrose Consumption on Non-Alcoholic Fatty Liver Disease in Juvenile Iberian Pigs, Effects of Western Diet on Histological Characteristics of Muscle in Leptin Resistant Pigs, Ovulatory Response of Weaned Sows to an Altered Ratio of Exogenous Gonadotrophins, Circadian rhythms and time course of adaptive sodium and potassium excretion in rats after uninephrectomy, Lamb bacon: How the method of brine distribution and addition of a dry rub influences yields, Functional variation in endogenous and exogenous immunoglobulin binding to bovine neutrophils relative to parturition, Functional competence and monoclonal antibody reactivity of neutrophils from cows injected with Escherichia coli endotoxin, N-acetyl-beta-D-glucosaminidase activities, milk somatic cell counts, and blood leukocyte and erythrocyte counts in cows after heat-induced stress or after intravenous administration of adrenocorticotrophic hormone.
	Colorado State University https://www.colostate.edu/	College of Agriculture Sciences: Department of Animal Sciences	Horses, cattle,	Animal science and equine science, beef management systems, breeding & genetics, dairy management systems, livestock behavior & welfare, meat safety & quality, nutrition, reproduction, development and implementation of genetic evaluation and improvement programs for economically relevant traits related to reproduction, maternal productivity, efficiency of feed utilization, feedlot health, environmental adaptability (high altitude via pulmonary arterial pressure (PAP), and carcass merit, polygenic and candidate gene or marker approaches to improving accuracy of genetic evaluation, genetics of resistance to bovine respiratory and feedlot diseases, and development of methods for genetic evaluation of animal health traits, utilizing genomic technologies to characterize microbial communities of gastrointestinal health for horses, profiling tissue specific gene expression for identification of candidate genes for traits of interest, identification of single nucleotide polymorphisms (SNP) for relevant traits for genetic improvement, development and deployment of distributed online learning courses in animal breeding, leg conformation problems in feedlot cattle, assessment of handling practices at US feedlots, examination of captive bolt stunner length on brain damage and post-mortem kicking in cattle, observations of pen stocking capacities for overnight of fed cattle at harvest facility, factors impacting bruising in cattle, survey of cow-calf producers to understand management techniques impacting animal welfare. applied animal nutrition, nutritional energetics, rumen metabolism, mineral and vitamin metabolism, lipid and protein metabolism, zoo and companion animal nutrition, equine nutrition, cellular biochemistry, advanced cell biology, techniques in molecular biology and genetics, equipment and instrumentation, laboratory methods, theory and practice of animal biotechnology, metabolism, waste management and range management. The Nutrition Program is committed to providing quality animal nutrition research and education in the State of Colorado by integrating resources, expertise, and outreach programs across departments, colleges and universities. The program strives to: improve nutrient utilization in animal production systems; enhance animal health and well-being; increase production efficiency and product quality and safety; integrate grazing management and nutrient supplementation with forage availability and quality; reduce the environmental impacts of animal production systems and; explore the dynamics of how feedstuffs affect animal metabolism. The program offers several graduate nutrition courses in both the applied and basic sciences. The Department of Animal Sciences's Nutrition program

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			is comprised of faculty members whose disciplines include animal and nutritional energetics, whole animal and rumen metabolism, rumen microbiology, feedlot nutrition, heifer development, cow/calf nutrition, alternative livestock and captive animal nutrition, equine nutrition, nutritional biochemistry, and mineral and vitamin metabolism.
<p>Cornell University https://www.cornell.edu/</p>	<p>College of Agriculture and Life Sciences College of Veterinary Medicine: Departments: Biomedical Sciences</p> <p>Clinical Sciences</p> <p>Microbiology and Immunology</p> <p>Molecular Medicine</p> <p>Population Medicine and Diagnostic Sciences Centers: Center for Veterinary Business and Entrepreneurship</p> <p>Cornell Dairy Center of Excellence</p> <p>Cornell Feline Health Center</p> <p>Cornell Wildlife Health Center Cornell Veterinary Biobank Institutes: Baker Institute The Sprecher Institute for Comparative Cancer Research Summer Dairy Institute</p>	<p>Small animals (dogs, cats), dairy cows, calves, New Zealand White Rabbits, poultry</p>	<p>Discover and develop new techniques and information to benefit animals, agriculture and human health, animal management, breeding, genetics, physiology, nutrition, growth biology and microbiology, Sled dogs lead the way in quest to slow aging, Activity-Based Profiling of Bile Salt Hydrolases in the Gut Microbiome in Health and Disease, Uncovering Mechanisms of Feline Lower Urinary Tract Disease (FLUTD): Use of Urine Metabolomics to Investigate Androgen Levels in Cats with Urethral Obstruction, Characterize MicroRNAs with a Potential Role in Feline Mammary Cancer Pathogenesis, Experimental Metritis Induction Model Development on Post Parturient Primiparous Dairy Cows, Comparing the Effect of Entyce (Capromorelin) and Mirtazapine on Appetite in New Zealand White Rabbits, Development of Novel Avipoxvirus-Based Vaccine Delivery Platforms for Use in Poultry, Mechanisms Underlying Asymmetric Rotation and Vascular Development of the Midgut, Equine Gammaherpesviruses and Equine Gastric Ulcer Syndrome (EGUS) -- Is There a Link?, Observational Prospective Study Assessing Variations in Intestinal Wall Thickness in Dogs and Cats Presenting with Intestinal Obstruction, Effects of Receiving Two Initial Feedings of Colostrum on Growth and Health of Holstein Calves.</p>
<p>Florida A&M University https://www.famu.edu/</p>	<p>College of Agriculture and Food Sciences</p>	<p>Cattle, poultry, rabbits</p>	<p>Livestock production, nutrition, meat and poultry processing, food safety, animal health, herd health, reproductive physiology and environmental science. Presentation on the effects of dietary fish oil supplementation on performance, meat quality, and cecal fermentation of growing rabbits.</p>
<p>Iowa State University https://www.iastate.edu/</p>	<p>College of Agriculture and Life Sciences College of Liberal Arts and Sciences College of Veterinary Medicine</p>	<p>Ruminants, cows, poultry, chickens, Japanese Quail, pigs, rabbits, cattle, rats</p>	<p>Animal nutrition, animal physiology, animal nutrition, dairy science, ruminant nutrition, reproductive biology, reproductive endocrinology, neuroendocrinology, genetics, Energetic metabolism, milk production, and inflammatory response of transition dairy cows fed rumen-protected glucose, Effects of maintaining eucalcemia following immunoactivation in lactating Holstein dairy cows.</p> <p>Effects of Live Yeast Supplementation on Growth Performance and Biomarkers of Metabolism and Inflammation in Finishing Pigs during Heat Stress, An efficient, scalable and environmentally friendly separation method for ovoinhibitor from chicken egg white, Cross-Species Transmission of Swine Hepatitis E Virus Genotype 3 to Rabbits, Insights into the Nanobiology of Growth Hormone Secretion, Response of swine divergently selected for feed efficiency to a glucose tolerance test, Evaluation of the responsiveness of swine divergently selected for feed efficiency to an exogenous adrenocorticotropin hormone (ACTH) challenge, Hypothalamic deafferentation in prepuberal beef heifers: Effects of gonadotropin-releasing hormone and estradiol benzoate on luteinizing hormone secretion, Lack of Estrogenic or Antiestrogenic Actions of Soy Isoflavones in an Avian Model: The Japanese Quail, Effects of Dietary Macronutrients on Appetite-Related Hormones in Blood on Body Composition of Lean and Obese Rats</p>
<p>Illinois State University https://illinoisstate.edu/</p>	<p>College of Applied Science and Technology College of Arts and Sciences</p>	<p>Marbled crayfish, (<i>Procambarus virginalis</i>), <i>Drosophila melanogaster</i>, <i>C. elegant</i>, fishes, birds, turtles, Japanese quail embryos (<i>Coturnix japonica</i>)</p>	<p>Veterinary medicine, animal research, genetics, reproduction, nutrition, entomology, physiology, wildlife biology, animal ecology, behavioral neuroendocrinology, Current Opinion in Neurobiology, Methamphetamine-Induced Neurotoxicity Disrupts Pharmacologically Evoked Dopamine Transients in the Dorsomedial and Dorsolateral Striatum, Inbreeding depression and partitioning of genetic load in the invasive biennial <i>Alliaria petiolata</i> (Brassicaceae), Mgat1-dependent N-glycosylation of Membrane Components Primes <i>Drosophila melanogaster</i> Blood Cells for the Cellular Encapsulation Response, <i>Drosophila</i>, Sheep and <i>C. elegans</i> SUP-26 are RNA-binding proteins that play diverse roles in nervous system development, Social cichlid fish change behaviour in response to a visual predator stimulus, but not the odour of damaged conspecifics, Effects of predation risk on egg steroid profiles across multiple populations of threespine stickleback, Characterizing the timing of Yolk Testosterone Metabolism and the effects of</p>

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<p>Kansas State University https://www.k-state.edu/</p>	<p>College of Agriculture: Animal Sciences and Industry Entomology College of Arts and Sciences: Biology College of Veterinary Medicine: Anatomy and Physiology Clinical Sciences Diagnostic Medicine/Pathobiology</p>	<p>Horses, cattle, sheep, goats, pigs, birds, poultry, ruminants</p>	<p>Genetics, equine reproduction management, animal breeding, bovine reproductive technologies, beef science, horse science, sheep and meat goat science, anatomy and physiology, swine science, animal disease, applied animal biotechnology, endocrinology and lactation, equine breeding and genetics, dairy cattle management, gamebird production and management, poultry products technology, behavior of domestic animals, animal growth and development, monogastric nutrition, avian nutrition, equine nutrition, swine nutrition, equine nutrition, ruminant nutrition, dairy cattle nutrition, nutrition of feedlot cattle, stress physiology of livestock, nutritional physiology, neuroendocrine physiology, molecular reproductive endocrinology, energy utilization in domestic livestock, protein and amino acid utilization in domestic livestock, vitamin and mineral nutrition of domestic livestock.</p>
<p>Kentucky State University https://kysu.edu/</p>	<p>College of Agriculture, Communities, and the Environment College of Natural, Applied, and Health Sciences</p>	<p>Goats, cattle, fishes (paddlefish)</p>	<p>Agricultural productivity, preserve animals, protect the environment, molecular genetics and genomics, fish and aquaculture genetics, animal science, fish diseases, aquaculture production, Effects of a blend of Saccharomyces cerevisiae-based direct-fed microbial and fermentation products on plasma carbonyl-metabolome and fecal bacterial community of beef steers, Effects of a blend of Saccharomyces cerevisiae-based direct-fed microbial and fermentation products in the diet of newly weaned beef steers: Growth performance, whole-blood immune gene expression, serum biochemistry and plasma metabolome, Biomarker of Aflatoxin Ingestion: 1H NMR-Based Plasma Metabolomics of Dairy Cows Fed Aflatoxin B1 with or without Sequestering Agents, Monensin Alters the Functional and Metabolomic Profile of Rumen Microbiota in Beef Cattle, Role of glutamine 148 of human 15-hydroxyprostaglandin dehydrogenase in catalytic oxidation of prostaglandin E2, Average daily gain divergence in beef steers is associated with altered plasma metabolome and whole blood immune-related gene expression, Comparative effects of two multi-species direct-fed microbial products on energy status, nutrient digestibility, and ruminal fermentation, bacterial community and metabolome of beef steers, Integrating 16S rRNA Sequencing and LC-MS-Based Metabolomics to Evaluate the Effects of Live Yeast on Rumen Function in Beef Cattle, Cryopreservation of paddlefish sperm in 5-mL straws.</p>
<p>Mississippi State University https://www.msstate.edu/</p>	<p>College of Agriculture and Life Sciences College of Arts and Sciences College of Veterinary Medicine.</p>	<p>Small animals (cats and dogs), broilers, horses, rats, mice, catfish (Ictalurus Punctatus), pigs, guinea pigs</p>	<p>Clinical Medicine, epidemiology, infectious diseases, toxicology, aquatic medicine, avian medicine, production animal medicine, reproductive biology, animal husbandry, Protection Conferred By Coarse Spray Vaccination Against the Challenge With Infectious Bursal Disease Virus In Commercial Broilers, Molecular Characterization of Infectious Bursal Disease Virus from Commercial Poultry in the United States and Latin America, Modeling the pasture-associated severe equine asthma bronchoalveolar lavage fluid proteome identifies molecular events mediating neutrophilic airway inflammation, Novel Brain-Penetrating Oxime Acetylcholinesterase Reactivators Attenuate Organophosphate-Induced Neuropathology in the Rat Hippocampus, A Case-control Study: The Association of Serum Paraoxonase 1 Activity and Concentration with the Development of Type 2 Diabetes Mellitus, Comparison of Inhibition Kinetics of Several Organophosphates, including Some Nerve Agent Surrogates, using Human Erythrocyte and Rat and Mouse Brain Acetylcholinesterase, A survey of five commercial ponds to determine the prevalence and time of acquisition of internal and external parasites in channel catfish (Ictalurus Punctatus), The effects of glucuronic acid and N-acetyl-D-glucosamine on <i>in vitro</i> fertilisation of porcine oocytes, An optimized five-color/seven-parameter flow cytometry panel for immunophenotyping Guinea pig peripheral blood lymphocytes, Placental immunopathology and pregnancy failure in the FIV-infected cat, Comparative repeatability of pancreatic lipase assays in the commercial and in-house laboratory environments, Effects of pentoxifylline on whole blood IL-2 and IFN-gamma gene expression in normal dogs, Evaluating the Incidence of Gastrocnemius Tendon Rupture in Broiler Chickens</p>

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<p>Montana State University https://www.montana.edu/</p>	<p>College of Agriculture: Department of Animal & Range Sciences</p>	<p>Horses, rainbow trout, chickens, Montana ram lambs, beef cows, heifers, Western lowland Gorillas</p>	<p>Biological and natural sciences, animal breeding, reproductive physiology, nutrition, and livestock production and management, equine science, Water system is a controlling variable modulating bacterial diversity of gastrointestinal tract and performance in Rainbow trout, A landscape perspective on rates of multiple paternity and brood parasitism among prairie-chickens across Kansas, Blood serum mineral element concentrations of weaned Montana ram lambs and their relationship with water quality characteristics, Influence of vaccination with a combined chemically altered/inactivated BHV-1/BVD vaccine or a modified-live BHV-1/BVD vaccine on reproductive performance in beef cows and heifers, Relationships between gastrointestinal parasite infections and the fecal microbiome in free-ranging Western lowland Gorillas.</p>
<p>New Mexico State University https://www.nmsu.edu/</p>	<p>College of Agricultural, Consumer and Environmental Sciences (ACES) Department of Animal and Range Sciences</p>	<p>Beef cattle, horses, swine, goats, and sheep</p>	<p>Livestock nutrition, genetics, physiology, endocrinology, meat science, wool, toxicology, watershed and rangeland ecology, weed and brush control, plant systematics, grazing management, surface Water - Groundwater Interactions in Irrigated Floodplains in Northern New Mexico, management of Cattle Behavior to Achieve Specific Goals: Use of Adapted Animals and Prescribed Grazing, targeting Cattle Grazing: Manipulating Distribution with Genetic Selection and Other Techniques. Scientists at the Clayton Livestock Research Center conduct research on shipping protocols for cattle, particularly evaluating the health and performance of newly received cattle and nutrition and management from feedlot to slaughter. Other research involves irrigated pastures and native grasslands, including grazing and stocking densities on locoweed-infested pastures.</p>
<p>North Carolina State University https://www.ncsu.edu/</p>	<p>College of Agriculture and Life Sciences: Agricultural and Human Sciences Animal Science Biological and Agricultural Engineering Food, Bioprocessing, and Nutrition Sciences Molecular and Structural Biochemistry Prestage Department of Poultry Science College of Sciences: Biological Sciences Marine, Earth, and Atmospheric Sciences College of Veterinary Medicine: Clinical Sciences Molecular Biomedical Sciences Population Health and Pathobiology</p>	<p>Cattle, swine, horses, sheep, goats, mice, companion animals and exotic animals</p>	<p>Research areas cover everything from genetics and genomics to reproductive physiology. Animal Well-Being: research in the area of animal well-being is typically incorporated within other focus areas such as genetics or physiology, the genetic basis of behavior, the effect of breeding behavior on the reproductive efficiency of swine and the effect of housing conditions on stress-related hormones in captive primates. Todd See's research includes evaluation of heterogenous variance amongst swine herds in genetic evaluation programs. The physiology group conducts activities in two major areas: reproductive physiology and lactational physiology. Research projects range from basic molecular studies to applied research projects in a variety of animal systems. In the reproductive physiology area, research projects include investigations of gamete and embryo development, fertility markers in fresh and frozen livestock semen, interaction of nutrition and puberty onset in heifers, use of ultrasonography to improve management of pregnancy in livestock, estrus and ovulation synchronization programs for livestock management and the effect of extensive management systems on the reproductive efficiency of dairy cattle. In the lactation area, research projects focus on the investigation of the interaction of mastitis on reproduction and the effect of diet on breast tissue function.</p>
<p>Oklahoma State University https://go.okstate.edu/</p>	<p>College of Agriculture: Department of Animal and Food Sciences College of Arts and Sciences: Department of Integrative Biology College of Veterinary Medicine: Veterinary Clinical Sciences Physiological Sciences Veterinary Pathobiology</p>	<p>Ruminants, beef and dairy cattle, horses, calves, pigs, small animals (dogs)</p>	<p>Both basic and applied research: animal health and well-being, breeding and genetics, food safety, meat science, nonruminant nutrition, physiology, and ruminant nutrition, physiological mechanisms that contribute to feed efficiency of ruminants using techniques ranging from feeding trials, digestion/metabolism trials, endocrinology studies, RNA-seq, and phosphoproteomics: the role of glucose metabolism in contributing to nutrient utilization efficiency; repeatability of feed efficiency measurements across diets and stages of growth and production; identifying factors that contribute to appetite regulation in beef and dairy cattle; the role of fatty acid metabolism in gut inflammation and nutrient utilization efficiency; understanding factors that contribute to a healthy and productive transition into lactation for dairy cows. The interactions between nutrition and health in high-risk receiving calves. Ancillary therapies and the supplementation of trace minerals in calves experiencing both natural and induced bovine respiratory disease (BRD) challenges; evaluation of currently accepted technologies and management and production practices, improving calf performance and health in the stocker and receiving phases, improving cattle efficiency and well-being during the finishing period, and utilizing nontraditional feeds and innovative management practices to improve overall beef production. Animal genomics, including genome sequence analysis and functional annotation as well as the development of models and algorithms to better classify functional interactions: functional annotation of animal genomes. Beef cattle nutrition and management with an emphasis on genetic environment interactions in beef production systems. Dr. Lalman's program goals are to provide producers with information and decision making tools to facilitate production system profitability, improve cow herd efficiency, and to improve product quality. Development of effective strategies to control foodborne pathogens at pre-harvest and post-harvest levels. Environmental adaptability of domestic animals and minimizing stress in animal production environments in order to improve animal well-being, health, and productivity of farm animals: developing a prenatal stress model; maternal-fetal</p>

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				<p>immunomodulation of immune, behavior and welfare of the offspring; social rank and dietary modulation on immune, behavior, and well-being of the weaned pig; welfare implications of length of tail dock in lambs; projects in both dairy and beef cattle. Gather industry input on the optimal learning objectives for equine laboratory classes, determine the differences in student's backgrounds on their perceptions of equine affective states, and the existing social capital between emergency managers and Extension educators relative to disasters and large animals; partner in a canine nutrition project comparing raw fed and kibble fed dogs; studying the effects of therapy dogs on wellness. Dr. Spicer's research endeavors involve a wide range of in vivo and in vitro approaches to study nutritional and hormonal control of ovarian function and follicular development: Experimental approaches span from evaluating control of steroidogenesis, mitogenesis and gene expression in ovarian cells to determining the effect of nutritional supplements on ovarian function and milk production in dairy cattle. Genomic changes and animal production: microbiomes of the canine and equine reproductive tracts; the role of microbiomes in animal production and health. Impact of diet on nutrient excretion and gaseous emissions; effect of alternative feedstuffs on growth performance and carcass traits; and effects of feed additives on growth performance and carcass traits: impact of mineral supplements on growth and health; determination of the efficacy of water soluble zinc on growth performance and immune response of nursery pigs.</p>
	<p>Oregon State University https://oregonstate.edu/</p>	<p>Carlson College of Veterinary Medicine College of Agricultural Sciences College of Science</p>	<p>Small animals (dogs - Irish water spaniel, cats), amphibians and reptiles, garter snakes (Thamnophis), horses, ewes, zebrafish (Danio rerio), llamas (Lama glama), lambs, camels</p>	<p>A perineal cystic hamartoma causing constipation in an intact female Irish water spaniel, Effect of Selenium Yeast Supplementation on Naturally Acquired Parasitic Infection in Ewes, Modification and further evaluation of a fluorescein-labeled peanut agglutinin test for identification of Haemonchus contortus eggs, Mycobacteriosis in zebrafish (Danio rerio) research facilities, Late fall transmission of Nematodirus battus (Nematoda: Trichostrongyloidea) in western Oregon, Redescription of Trichuris tenuis Chandler, 1930, from Llamas (Lama glama) in Oregon with a Key to the Species of Trichuris Present in North American Ruminants, First report of Ostertagia leptospicularis (Nematoda: Trichostrongyloidea) in calves (Bos taurus) from North America, Anthelmintic efficacies of fenbendazole, ivermectin, and levamisole against Nematodirus battus infections in lambs, Physiological effects of endophyte-infected perennial ryegrass straw on female camels in the Middle East, Prolactin and growth hormone immunoactivity in canine mammary adenomas and adenocarcinomas, Feeding Microbiome-Targeting Ingredients Increases Fecal Plant-Origin Antioxidants and Anti-Inflammatory Compounds, and Decreases Branched-Chain Amino Acids in Cats, Effects of feeding pregnant beef cows selenium-enriched alfalfa hay on selenium status and antibody titers in their newborn calves.</p>
	<p>Pennsylvania State University https://www.psu.edu/</p>	<p>College of Agricultural Sciences: Department of Animal Science Department of Veterinary and Biomedical Sciences The Eberly College of Science: Department of Biology</p>	<p>Deer, horses, beef cattle, swine, meat goats, sheep, poultry, wildlife and fishes</p>	<p>Animal Products and Human Health: research projects are centered on the modification of meat, eggs, and milk, with the overarching goal of enhancing human health. Dairy: research focuses on dairy management, genetics and genomics, and nutrition and physiology. Deer: research in the Department of Animal Science includes the reproduction, nutrition, and management of deer. Equine Research: research that advances our understanding of factors that link health, nutrition and management with athletic and reproductive performance in horses, ensure the continued improvement of equine health and reproduction, nutrition and performance, capability of studying the impact on the equine industry of critical issues like economics, nutrient management and the national animal identification system. Penn State is uniquely suited to study these topics due to our faculty's expertise in these areas. Livestock: animal science research on beef cattle, swine, meat goats, and sheep. Poultry: research topics include avian management, nutrition and physiology, environmental management, and modification of egg composition. Reproductive Biology and Fertility: research topics include Regulation of Biological Clocks, Ovarian Biology, Avian Reproduction, Ovarian Function and Follicle Development, and Molecular Endocrinology. Animal Diagnostics: the Animal Diagnostic Laboratory (ADL) fulfills its mission by providing in depth, rapid diagnostic information to support disease control, health management and performance of livestock, poultry, wildlife and fish, and by ensuring the safety of foods of animal origin. Immunology and Infectious Disease: specialize in cancer immunology, immune-mediated diseases, infectious disease pathology, infectious disease dynamics, as well as viral, bacterial and parasitic pathogenesis. Molecular Toxicology and Carcinogenesis: a wide range of chemicals and conditions, including dioxins, tobacco, pesticides, breast cancer and neurological disorders. Veterinary Extension: applied and translational research, investigating various aspects of animal disease prevention and pre-harvest food safety. Many of the projects are collaborative efforts with faculty from other Penn State departments, faculty from other institutions, or personnel from other agricultural organizations.</p>
	<p>Purdue University</p>	<p>Campuses: Purdue Northwest, Purdue Fort Wayne College of Agriculture:</p>	<p>Peahens, horses, cattle, llamas, lambs, small animals (dogs), ruminants, cows, pigs, broiler</p>	<p>Microbiology, immunology, infectious disease, neuroscience, physiology, evolutionary biology, cell and molecular biology. Biology Research in the Department of Biological</p>

University name	Departments	Specialization	Subjects
https://www.purdue.edu/	Department of Agricultural & Biological Engineering Department of Animal Sciences College of Sciences Department of Biology College of Veterinary Medicine	chickens, German black-head mutton sheep and Boer goats, Japanese quail (Coturnix japonica)	Science contributes to developing personalized medicine, unraveling how the human brain functions, combating infectious diseases, understanding genomes at levels never before imagined, and understanding the complex ecosystems that keep our planet healthy. Artificial light pollution increases nocturnal vigilance in peahens, A review of Johnson's Behavior System Model and its alignment with the behavior of hospitalized equine patients, Isolation and Genetic Analysis of Bovine Viral Diarrhea Virus from Infected Cattle in Indiana, Pulmonary Histoplasmosis in a Llama, Sarcocystosis with Involvement of the Central Nervous System in Lambs, Bilateral ovotestes in an intersex, mixed breed dog, Differential Stem and Progenitor Cell Trafficking by Prostaglandin E2, Chronic ethanol exposure during late gestation produces behavioral anomalies in neonatal lambs, Endocrine and Neural Control of Estrus in Dairy Cows, Estrous Behavior and Detection in Cattle, Effect of dietary crude protein content on skatole concentration in boar serum, Influence of exogenous adrenocorticotrophic hormone on estrous behavior in cattle, Relationship between endogenous estradiol-17 beta and estrous behavior in heifers, Influence of Cortisol and Dexamethasone on Estrous Behavior of Estradiol-Treated Ovariectomized Cows and Heifers, Induction of Estrus in Ovariectomized Cows and Heifers: Effects of Estradiol Benzoate and Gonadotropin Releasing Hormone, Effect of Using Garlic on the Economical and Physiological Characteristics of Broiler Chickens, Cold or warm water awassi sheep prefer under heat stress?, Effect of water restriction on drinking behaviour and water intake in German black-head mutton sheep and Boer goats, Prolactin-releasing peptide increases food intake and affects hypothalamic physiology in Japanese quail (Coturnix japonica), The anorexigenic effect of neuropeptide K in chicks involves the paraventricular nucleus and arcuate nucleus of the hypothalamus, Alpha-melanocyte stimulating hormone-induced anorexia in Japanese quail (Coturnix japonica) likely involves the ventromedial hypothalamus and paraventricular nucleus of the hypothalamus, A high fat diet enhances the sensitivity of chick adipose tissue to the effects of centrally injected neuropeptide Y on gene expression of adipogenesis-associated factors, Dietary macronutrient composition affects hypothalamic appetite regulation in chicks, Stimulation of food intake after central administration of gonadotropin-inhibitory hormone is similar in genetically selected low and high body weight lines of chickens, Genomic analyses for predicted milk fatty acid composition throughout lactation in North American Holstein cattle, Estimation of Genetic Parameters for Pork Quality, Novel Carcass, Primal-Cut and Growth Traits in Duroc Pigs.
University of Arkansas https://www.uark.edu/	Dale Bumpers College of Agricultural, Food and Life Sciences J. William Fulbright College of Arts and Sciences	Ruminants, cattle, calves, pigs, broilers, goats, lambs, horses	The effect of peptide product and ZnO on growth performance in nursery pigs fed different levels of crude protein diets, inactivation of gene α -1,3-galactosyltransferase in bovine aortic smooth muscle cells using CRISPR-Cas9, Influence of growth rate on the occurrence of white striping in broiler breast fillets, Processing evaluation of random bred broiler populations and a common ancestor at 55 days under chronic heat stress conditions, effect of presynchronization using prostaglandin F2 α prior to a shortened progesterone exposure in fixed-timed AI of crossbred beef cows nursing calves, The efficacy of extended-release eprinomectin for the reduction of horn flies, face flies, and fecal egg counts of parasitic nematodes in replacement beef heifers, Longitudinal Investigation of the Gut Microbiota in Goat Kids from Birth to Postweaning, Effect of rearing system on meat quality, lipid, and amino acid profiles of lambs, Effect of weaning liquid diet at different level of creep feed intake on growth and development of lambs, Effects of forage species and poultry litter application timing on forage preference by horses.
University of Kentucky https://kysu.edu/	College of Agriculture, Food and Environment: Central Kentucky Farms, Department of Animal & Food Sciences, Department of Microbiology, Immunology and Molecular Genetics, Department of Physiology, Department of Veterinary Science, Rodent Behavior core, Veterinary Diagnostic Laboratory.	Alpacas, horses, mice, goats, pigs, beef cattle, cattle, chicken, turkeys, ducks, geese, pigeons, guinea fowl, quail (Bobwhite or Japanese), ostrich, emus	Immunology, molecular genetics, animal sciences dealing with meat animals, dairy, poultry, and horses. Early courses related to Veterinary Science were taught under one of the umbrellas of Animal Husbandry. POULTRY refers to a group of domesticated birds kept for food (meat and/or eggs), fiber (feathers), entertainment (racing, exhibition, hunting) or work (messenger pigeons). Horse: Infectious disease, pathogenesis, diagnosis, and treatment of Nocardioform placentitis in horses, equine proliferative enteropathy (Lawsonia intracellularis infection), Rhodococcus equi: model development, therapeutic approaches, and vaccine evaluation, Rhodococcus equi antibiograms, Equine protozoal myelitis, equine leptospirosis national seroepidemiological study. Musculoskeletal - Investigations of catastrophic musculoskeletal injuries (breakdown) in Kentucky racehorses - Investigation into the pathogenesis of wobbler's syndrome in horses Toxicology - Normal brain sodium concentrations in bovine brain tissue - Possible unusual milkweed associated neuropathy in horses - Pesticide residues in barn owl tissues

	University name	Departments	Specialization	Subjects
				<ul style="list-style-type: none"> - Establishment of regional reference ranges for metals and minerals in equine serum <p>Therapeutics</p> <ul style="list-style-type: none"> - Effects of antibiotics on gastrointestinal flora in the horse - Adverse effects of anthelmintics in horses - Treatments of inflammatory airway disease in horses <p>Miscellaneous</p> <ul style="list-style-type: none"> - Improving diagnostic methods for diagnosis of placentitis in horses - Comparison of gross findings and MRI imaging in horses with PPID - Risk factors and characteristics of uterine artery rupture in mares - Investigations into a possible genetic basis for Equine Protozoal Myeloencephalitis <p>Other:</p> <ul style="list-style-type: none"> - Evaluation of efficacy of trace mineral supplementation in goats - Pathology of infectious respiratory and enteric diseases in pigs - Animal models of disease - Using DART-MS (Direct Analysis in Real Time Mass Spectrometry) in toxicant screening methods - Methods of evaluation for cyanide in forages - Dairy cattle health and behavior monitoring - Physiological response to stressors in cattle - Continuous health monitoring in cattle via radio-frequency ear tag - Mobile application to assist field diagnostics and sample collection for food animal practitioners <p>Conduct reliable and validated mouse behavior tests for investigators at University of Kentucky. The RBC offers validated and reliable testing of mice over a broad range of physiological and behavioral domains, including general health, cognitive, emotional, sensory, and motor function.</p> <p>Ensure that qualified and trained investigators have access to state-of-the-art instrumentation and expertise necessary to perform behavior tests.</p> <p>Provide assistance in the design, implementation and analysis of behavioral experiments in mice.</p>
	<p>University of Maine https://umaine.edu/</p>	<p>College of Natural Sciences, Forestry, and Agriculture: The School of Biology and Ecology, The School of Marine Sciences</p>	<p>Mice, rats, rabbits, miniature swine, cows, heifers, horses, sheep</p>	<p>Entomology, zoology, biological sciences, aquaculture, marine biology. Animal Sciences may be earned for a program of study in reproductive physiology, animal health, nutrition or management.</p> <p>The Maine Animal Health Laboratory, the Maine Aquatic Animal Health Laboratory, a ruminant parasitology lab, aquaculture research facilities, and a histopathology service lab. Laboratory animals (mice, rats, rabbits, miniature swine) are housed for research in the nearby Laboratory Animal Research Facility. Research laboratories in Rogers Hall are dedicated to nutrition and reproductive physiology. The J. F. Witter Teaching and Research Farm is at the heart of the Department's livestock teaching and research programs and is home to: 50 Registered Holstein dairy cows and heifers, 15 Standardbred horses, 20 Registered Icelandic sheep.</p>
	<p>University of Vermont https://www.uvm.edu/</p>	<p>The College of Agriculture and Life Sciences</p>	<p>Cattle, horses</p>	<p>The College of Agriculture and Life Sciences offers dynamic programs in the life sciences, with a focus on nutrition and food science, human and animal health and the complex web of food systems. Explore our diverse portfolio of majors: Biochemistry, Animal Sciences, Biology, Molecular Genetics.</p> <p>The subjects at hand are as varied and fascinating as the world itself—from spiders in Madagascar to river dolphins in Brazil, from the world's strongest silver to sustainable small farms.</p> <p>The Animal and Veterinary Sciences program deals with a range of options from basic sciences through companion and zoo animal care to farm management. Although programs are highly individualized by students working with the advisors, there are four basic focus areas: Dairy Production, Equine Science, Zoos, Exotics and Companion Animals and Pre-Veterinary/Pre-Professional.</p>
	<p>University of Wisconsin – Madison https://www.wisc.edu/</p>	<p>College of Agricultural & Life Sciences, Animal & Dairy Sciences, Department of Entomology, School of Veterinary Medicine</p>	<p>Milking cows, dry cows, calves, sheep and lambs (Hampshires, Targhees, Polypays and Rambouillets), pigs, insects, zebrafish, <i>C. elegans</i>, mouse</p>	<p>Genetics and genomics, animal physiology, animal nutrition, reproductive physiology, beef cattle production, livestock production, nutritional physiology, animal welfare, mammary physiology, immunology, lactation biology, metabolism, insect biology in both basic and applied contexts.</p> <p>The facility allows for completion of pen based nutrition work, mammary and reproductive physiology research, calf growth studies, transition cow management projects and individual animal intakes.</p> <p>These sheep are used for teaching and extension, as well as research geared towards improving production genetics and reproductive techniques. In addition, sheep bred through these programs are exhibited and consigned to numerous state and national shows and sales</p>

	University name	Departments	Specialization	Subjects
				<p>annually. Research is conducted to solve problems related to swine genetics, reproduction, behavior and management. Alan Attie - Genetics of type 2 diabetes and related metabolic diseases</p> <p>Audrey Gasch - Genetics and Medical Genetics, elucidating the role, regulation, and evolution of eukaryotic stress responses Yevgenya Grinblat – Neuroscience, pattern formation, neural development, zebrafish developmental genetics Jeff Hardin - Using <i>C. elegans</i> to study cell movement and adhesion during embryonic development Akihiro Ikeda - Identifying genes involved in aging, cell proliferation and neovascularization using mouse genetics</p>
	University of Wisconsin – River Falls https://www.uwrf.edu/index.cfm	The College of Agriculture, Food and Environmental Sciences (CAFES): Animal and Food Science, The College of Arts and Sciences (CAS): Biology	Cows, calves, horses	The companion animal option prepares students for all aspects of animal management and care including physiology, nutrition, welfare, behavior and training, and health and veterinary care. The major provides a balance of science-based curriculum and hands-on experience with animals. The University of Wisconsin-River Falls has one of the strongest equine programs in the nation, with more than 70 well-bred horses. Animal science is an applied science that prepares students for all aspects of farm animal production including feeding, breeding, health and management as well as the processing of food and fiber products derived from animals. The meat animal option focuses on the production of beef cattle, swine and sheep. Pre- and postweaning performance and health of dairy calves fed milk replacers with differing protein sources, Slow-release urea and highly fermentable sugars in diets fed to lactating dairy cows
	West Virginia University https://www.wvu.edu/	School of Agriculture and Food	Ruminant (sheep), mice, cows, cattle, broiler chickens	Animal & Nutritional Science, pre-Veterinary, knowledge in the areas of reproduction, nutrition, health, training methods. Dr. Bowdridge's research interests are centered around improving small ruminant production. His basic research program is focused on identifying immune mechanisms necessary to clear helminth parasite infection using parasite-resistant St. Croix sheep as a model. Dr. Bowdridge works with a team of faculty across the School of Food and Agriculture to evaluate grazing practices that will reduce the impact of gastrointestinal parasitism of grazing livestock. Dr. Robert Dailey is the Davis-Michael Coordinator and helps chairs the reproductive physiology program. Dr. Felton's primary research is in forage systems, ruminant production efficiency and feedstuff assessment. His collaborative research are in the areas of biomass/bioenergy generation and organic production. Dr. Jianbo Yao is a professor of animal biotechnology and genomics and faculty member in the reproductive physiology, and genetics and developmental biology programs at the West Virginia University. The major focus of his research is to discover novel oocyte-specific genes and determine their functional contributions to early embryonic development in cattle.