NB: This information was intended to help OVC researchers decide on whether to apply to NSERC or CIHR based on the subject matter of the research proposal. It also provides information on eligibility and appropriate categories for research related to veterinary medicine including clinically related topics (see end of page 4).

General Guidelines for the Eligibility of Subject Matter at NSERC

(Source: http://www.science.gc.ca/default.asp?lang=En&n=FEE7261A-1#NSERC1)

Applications to NSERC as the primary source of research or research training support must meet the following criteria:

1. The program of research must be primarily in the natural sciences and engineering;
2. The intended objectives of the research must be, primarily, to advance knowledge in one of the natural sciences or in engineering.

General Guidelines for Eligibility of Subject Matter at CIHR

Applications to CIHR as the primary source of research or research training support must meet the following criterion:

1. The intended outcomes of the research must, as stated in CIHR's mandate, primarily improve or have an impact on health and/or produce more effective health services and products and/or strengthen the Canadian health care system.

The following are considerations when preparing or assessing the eligibility of the subject matter of applications related to health:

Eligible for NSERC support:

3. Research in animal health and veterinary medicine.
4. Research in nutrition related to food components, nutraceuticals (as defined in Health Canada's Policy Paper – Nutraceuticals/Functional Foods and Health Claims On Foods), or functional foods.
5. Research seeking to further our understanding of fundamental processes in humans.
6. Research whose primary purpose is the development of monitoring and diagnostic technologies (such as health IT, in-vitro diagnostics, diagnostic imaging, patient monitoring, and endoscopic devices) unless it is at the clinical trials stage (as defined by the International Conference on Harmonisation (ICH) Guidelines to Good Clinical Practice). The research challenge must lie within the NSE.
7. Research whose major challenges lie in the NSE (materials science, engineering, computer science, chemistry, etc) which could eventually lead, among other applications, to the treatment or prevention of human disease.

Not eligible for NSERC support:

2. Research involving the refinement of already existing technology for facilitating clinical therapies or health delivery systems.
3. Research whose primary purpose is the investigation or development of vaccines, active pharmaceutical ingredients (API), or other therapeutic agents for human applications.
4. Research whose primary purpose is the investigation/treatment of injuries or human performance.
5. Research seeking to develop animal models of human diseases in order to study primarily the disease state, or treatments for injuries or diseases represented by the model.
6. Applied research for disease treatment, diagnosis or prevention
7. Research involving clinical trials (as defined by the International Conference on Harmonisation (ICH) Guidelines to Good Clinical Practice).

CIHR:

CIHR considers applications across the full spectrum of health research. CIHR categorizes health research in four broad themes: bio-medical research; clinical research; research respecting health systems and services; and research into the health of populations, societal and cultural dimensions of health, and environmental influences on health. Four broad definitions of the CIHR themes are included below for reference purposes. These areas of research are not mutually exclusive; therefore the definitions are intended as guides and not as descriptions of eligible areas of research.

- **Bio-medical Research** Research with the goal of understanding normal and abnormal human functioning, at the molecular, cellular, organ system and whole body levels, including development of tools and techniques to be applied for this purpose; developing new therapies or devices that improve health or the quality of life of individuals, up to the point where they are tested on human subjects; studies on human subjects that do not have a diagnostic or therapeutic orientation.
- **Clinical Research** Research with the goal of improving the diagnosis and treatment (including rehabilitation and palliation) of disease and injury; improving the health and quality of life of individuals as they pass through normal life stages; research on, or for the treatment of, patients.
- **Health Services Research** Research with the goal of improving the efficiency and effectiveness of health professionals and the health care system, through changes to practice and policy. Health services research is a multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviours affect access to health care, the quality and cost of health care, and, ultimately, Canadians' health and well-being.
- **Social, Cultural, Environmental and Population Health** Research with the goal of improving the health of the Canadian population, or of defined sub-populations, through a better understanding of the ways in which social, cultural, environmental, occupational and economic factors determine health status.

List of NSERC Evaluation Groups and Research Topics

(Source: http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DGPList-PSDListe_eng.asp)

Applicants to the Discovery Grants Program are asked to suggest an Evaluation Group, as well as Research Topics that best reflect the subject of their proposal.

Below is a list of two discipline-based **Evaluation Groups** and **research topics** relevant to OVC researchers intending to submit NSERC Discovery Grants:

1501 Genes, Cells and Molecules		
LSA01	Immunology	Host-cell interactions; immune response; antigens; antibodies; host-pathogen interactions; immunogenetics; innate immunity; cytokines and antimicrobials; antigen presentation; inflammation; lymphocyte; neutrophil; monocyte; macrophage; sinus; thymus epithelium; lymph node; spleen; chemokine; interleukin; dendritic cell; B cell; T cell; plasma cell; mucosal immunity; immunoglobin; ecological immunology; Toll-like receptors; evolution of immune responses
LSA02	Microbiology	Microbial ecology: bacteriology, virology and protozoology; bioremediation; phytoremediation; environmental microbiology; parasitology; mycology; phycology; microbiome; mixed microbial populations; biofilms; differentiation of microbial populations; bacterial physiology; microbial metagenomics; microbial genomics; infectious agents; microbial pathogenesis; microbial epidemiology; microbial communities; virology; classification and identification of viruses; evolution of viruses; viral structure and function; role of viral proteins in viral gene regulation; symbiosis and beneficial interactions
LSA03	Organelle Function and Intracellular Trafficking	Cell-cell interactions; exocytosis; endocytosis; cell shape and movement; membrane transport mechanisms; mechanisms of cytotoxicity; cell secretion; extracellular matrix; membrane biogenesis; thermodynamics of membrane fusion; phagocytosis; glycosylation; intracellular trafficking; nuclear envelope; inner nuclear membrane proteins; cytoskeleton; intracellular matrix; organelle movements; intracellular targeting; endoplasmic reticulum; Golgi apparatus, transport vesicles
LSA05	Molecular Genetics	Gene and chromosome structure; gene regulation and expression; signal transduction for gene expression; transcription factors; genome structure; DNA replication; meiosis; mitosis; DNA repair; genetic interactions; genome integrity; chromatin; quantitative genetics; genomics; linkage analysis; single nucleotide

		polyphormism (SNP); copy number variation; epigenetics; genome sequencing; genomic analysis; metagenomics; functional genomics; phylogenomics; gene regulation; small RNAs; gene silencing
LSA07	Cell Signals and Electrical Properties	Signal transduction for protein expression; intercellular communication; membrane receptor; signalling pathways; protein-protein interactions; second messengers; ion channels; ion regulation; calcium regulation
LSA09	Biochemistry	Metabolic pathways; biochemical technique development; protein structure and function; enzymology; metabolomics; metabonomics; lipidomics; proteomics; glycomics; glycobiology; protein-protein interactions; nucleic acids; amino acids; peptides and proteins; lipids; enzymes; carbohydrates; X-ray crystallography; NMR spectroscopy; bioassays; bioimaging; biochemical techniques; membrane protein structure and function; biophysics; structural biology; chemical genetics
LSA10	Cell Cycle	Cytokinesis apparatus; cell cycle regulation; apoptosis; cell division; proliferation; stress response; chromosome structure and localization; cell division; senescence; regulation of cell differentiation; cytoskeleton

1502 Biological Systems and Functions

LSB02	Food Science	Food chemistry and analysis; nutraceutical; functional foods; structure-function relationships; food colloids; gels; emulsions; foams; food microbiology; food bacteriology; food virology; food mycology; food safety and risk analysis; food rheology; food texture; sensory evaluation; bioactives; nutraceuticals; functional foods
LSB04	Animal Physiology	Endocrinology; animal physiology and metabolism; animal circulation; animal respiration; environmental stress; thermoregulation; ionic regulation; acid-base regulation; endocrine disruptors
LSB05	Animal Production	Animal reproduction; animal breeding; animal welfare; animal nutrition; feeds and feeding; animal disease: pathology; etiology; toxicology; pharmacology; epidemiology; animal modeling
LSB09	Nutritional Sciences	Nutritional biochemistry; dietetics; nutrigenomics; community nutrition