

Curriculum Vitae

EMPLOYMENT AND CAREER PROFILE:

- 1. Embryologist** **09/2006 – 08/2010**
Moncton, Canada
Conceptia Clinic, Dr. Georges Dumont Regional Hospital.

- 2. Research Scientist** **06/2003 – 08/2006**
Montreal, Canada
Laboratory of Reproductive Biology, Department of Animal Sciences, McGill University

- 3. Research Scientist** **03/2003– 05/2003**
Montreal, Canada
Division of Reproductive Biology, Department of Obstetrics and Gynecology, McGill University.

- 4. Research Scientist** **10/2001 – 03/2003** **Tokyo, Japan**
Laboratory of Development Biology, Department of Bioscience, Tokyo University of Agriculture

- 5. Research Scientist** **03/1999 – 02/2001** **Iwate, Japan**
Laboratory of Animal Reproduction, Department of Animal Production, National Agriculture Research Center for Northeast Region.

- 6. Associate Professor** **05/1995 – 02/1999** **Harbin, China**
College of Wildlife Resource, Northeast Forestry University.

- 7. Assistant Professor** **09/1988 – 04/1995** **Harbin, China**
College of Wildlife Resource, Northeast Forestry University.

EDUCATION:

- Master's Degree** **08/1985 – 08/1988** Department of Animal Medicine, Northeast Agriculture University, CHINA
- Bachelor's Degree** **08/1981 – 07/1985** Department of Animal Medicine, Heilongjiang Agriculture University, CHINA

QUALIFICATION HIGHLIGHTS:

Experiences in Human Reproductive and Developmental Biology

Embryology and Andrology

- Oocyte retrieval, Conventional in vitro fertilization (IVF), Intracytoplasmic sperm injection (ICSI) and Assisted hatching
- Fertilization assessment, cleavage embryo and blastocyst culture, embryo grading and selection for transfer.
- Oocyte, cleavage embryo and blastocyst cryopreservation (Controlled freeze and vitrification).
- Work on laboratory quality control and quality assurance procedure.
- Maintain and adjust the IVF laboratory equipment, such as CO₂/O₂ incubator, micromanipulation, laser system, etc.
- Conduct standard semen analysis and sperm preparation for IVF/ICSI and IUI cycles.
- Preparation and freezing of sperm sample from TEST, TESA and MESA.

General management of Embryology and Andrology Laboratory

- Manage the clinical sperm bank, sperm inspection and quality control.
- Work on clinical data statistical analysis and management.
- Carry out data entry programmed for the Canada Assisted Reproductive Technologies Register (CARTR).

Experiences in Reproductive and Developmental Biology (Domestic and Experimental animals)

- In vitro fertilization (IVF), Micromanipulation (nuclear transfer, intracytoplasmic sperm, round spermatid injection).
- Oocyte parthenogenetic activation and development; Oocyte and embryo cryopreservation (slow freezing and vitrification).
- Tissue, follicle, oocyte and embryo culture, including regular and 3-dimensional culture.

Experiences in Cellular and Molecular Biology

- Experiences in using common methods of molecular biology, such as DNA extraction, RT-PCR.
- Experiences with proteins analysis in tissue, oocyte and embryo by SDS-PAGE and Western blotting.
- Assessment of enzymatic activities and oocyte and embryo quality by a variety of Immunochemical assay methods, such as Comet Assay, TUNEL (DNA fragmentation), cell differentiation to ICM and TE in embryo, Microtubule, actin filament and chromatin in oocyte; germ cell lose and development in ovary; dynamic of H1, H2A.X in oocyte and embryo; etc).

Well developed knowledge in Animal Biotechnology, such as somatic nuclear transfer, transgenic animal production, germ cell transplantation, stem cell culture and oocyte induced haploidization etc.

RESEARCH AND TEACHING EXPERIENCE:

09/2006- 08/2010 a. Comparison of single embryo and group embryo culture. b. Effect of exogenous LH administration on the oocyte and embryo quality and pregnancy. c. The preimplantation embryo development from diabetic patients.

06/2003 –08/2006. a. Chemical activation of porcine oocytes. b. Epigenetic reprogramming (DNA methylation, Histone 1, Histone 2A.X phosphorylation) of porcine embryos reconstructed following somatic nuclear transfer. c. Set up a suitable system of IVM-IVF-IVC in cattle and pig; d. Protein synthesis analysis for a single oocyte by SDS-PAGE. e. Apoptosis analysis of mouse and bovine embryos derived from in vitro culture system by TUNEL. f. Analysis of nuclear reprogramming concerning dynamic of histone 1, 2A, 3 on the nuclear and cytoplasm after nuclear transfer in pig.

04/2001 – 03/2003 a. Set up a suitable in vitro culture system and enucleating methods for Somatic cell nuclear transfer in pig (Micromanipulation). b. Dynamic reprogramming of DNA Methylation of porcine embryos derived from IVF, parthenogenetic activation and somatic nuclear transfer (indirect immunofluorescence staining) assessed by confocal microscope. c. Cell cycle analysis of porcine fetal fibroblast and cumulus cells by Flow cytometry.

03/1999 – 02/2001. Researches focused on IVM-IVF-IVC in pig and cattle; somatic cells culture; parthenogenetic activation of oocytes and somatic nuclear transfer in pig and cattle using regular and Piezo impact micromanipulator.

08/1988 – 02/1999. Courses for teaching undergraduate and graduate students included Zoology, Zootaxy, Entomology and Animal Parasitology. Research projects were conducted including: a. Immunodiagnosis of porcine *Cysticercus cellulose*. b. Studied of *Ascaridae* in the digestive tube of siberian tiger. c. Studied of *Clonorchiasis sinensis* in the silver fox. d. Studied of *Metorchis orientalis* in the anthropoides virgo. e. Discovered of the *Echinostoma chloropodis* in the grus japonicus.

MAIN PUBLICATIONS:

1. **LM.Che**, Lalonde A, Bordignon V, 2007. Chemical activation of Parthenogenetic and nuclear transfer porcine oocytes using ionomycin and strontium chloride. *Theriogenology* 2007, 67, 1297-304.
2. **LM Che**, A Lalonde, SK Thangavelu and V Bordignon. Chemical activation of porcine oocytes matured in vitro. *Regroupement De Recherche En Reproduction in Quebec*, 2003.
3. **LM Che**, H Kimura, K Fuchimoto, T Nagai and T Kato. DNA methylation in early preimplantation porcine embryos. *101st Conference of Animal Science*, Japan 2003; YZ Bing, **LM Che**, Y Hirao, N Takenouchi and T Nagai. Parthenogenetic activation and subsequent embryo development of porcine oocytes induced by electric pulse and Butyrolactone I. *Journal of Reproduction and Development* 2003; 49: 156-166.
5. YZ Bing, Y Hirao, N Takenouchi, **LM Che**, H Nakamura and J Yodoi and T Nagai. Effects of thioredoxin on the pre-implantation development of bovine embryos fertilized in vitro. *Theriogenology* 2003; 59: 863-873
6. YZ Bing, **LM Che**, Y Hirao, N Takenouchi, M Kuwayama and T Nagai. In vitro development of porcine oocytes activated by electric pulse and cytochalasin B treatment: effect of maturational age. *Cloning and Stem Cell*. 2002, 3, 290
7. YZ Bing, Y Hirao, T Iga, N Takenouchi, **LM Che** and T Nagai. In vitro maturation and glutathione synthesis of porcine oocytes matured in the presence or absence of cysteamine under different oxygen concentrations: role of cumulus cell. *Reproduction Fertilization and Development*. 2002; 14: 125-131.
8. YZ Bing, **LM Che**, Y Hirao, N Takenouchi and T Nagai. Development of porcine embryos reconstructed by microinjection of cultured cumulus cells directly into the cytoplasm of oocytes in vitro. *Journal of Reproduction and Development*. 2000; 46: 375-379.
9. YZ Bing, Y Hirao, N Takenouchi, **LM Che**, H Nakamura J Yodoi and T Nagai. Effects of cysteamine and thioredoxin on the development competence of bovine oocyte matured in vitro. *Biology of Reproduction* 2000; 62: 319
10. **LM Che**, YZ Bing, Y Hirao, N Takenouchi and T Nagai. Development of porcine embryos reconstructed by microinjection of cultured cumulus cells directly into the cytoplasm of oocytes in vitro. *93rd Confer of Anim Reprod* 2000; 73
11. YZ Bing, **LM Che** and T Nagai. Progress of nuclear transfer of cattle in Japan. *World Agri*. 1999; 12: 37-39.
12. YZ Bing, F Sun and **LM Che**. Early embryo development in silver fox. *Academic symposium of 8th World Conference of Animal Production* 1998.