

EDUCATION:

Ph.D in Animal Reproductive Physiology

08/1995 – 08/1998

College of Wildlife Resource, Northeast Forestry University, China

B.Sc. in Animal Science

08/1981 – 07/1985

Department of Animal Science, Heilongjiang Agriculture University, China

HONOURS AND AWARDS:

- 2008/2009, Technical Supervisor (TS) certificate, American Board of Bioanalysts (ABB).
- 02/2003, Post-Doctoral Scholarship supported by McGill University
- 12/2001, Kato excellent research award in Kato Ladies Clinic
- 08/1999, Visiting Scientist supported by STINT-Foundation Scholars, Sweden
- 03/1999, STA Fellowship supported by Japanese Science and Technology Agency
- 07/1996, Research project supported by Natural Science Foundation, China

PROFICIENCY IN LABORATORY TECHNIQUES:

- Human oocyte handling, identification, fertilization, culture of resultant embryo, and embryo transfer.
- Cryopreservation of Human oocyte, cleavage and blastocyst (slow freezing and vitrification).
- Proficient in microtool fabrication (microinjection and holding needles) for micromanipulation purpose.
- Sperm suspension preparation/recovery from human semen for IVF, IUI, ICSI, etc.
- Spermatid and testicular sperm preparation from human testes biopsies for ICSI.
- In vitro maturation of human, mouse, cattle and pig oocytes.
- In vitro spermatogenesis in human and mouse.
- Enucleation and nuclear reprogramming procedures.
- Parthenogenetic activation for mouse, cattle and pig oocytes
- Evaluation of ICM and trophoctoderm cell number in the mouse, cattle and pig blastocysts.

- Detection of DNA strand break in mouse, cattle and pig embryos using TUNEL (end-labeling tailing) test.
- Recombinant DNA techniques, such as DNA replication, enzyme restriction, DNA ligase, vector construction.
- Basic molecular biology techniques, such as PCR, RT-PCR and nucleic acids isolation.

SELECTED RESEARCH PUBLICATIONS (1999-2009)

YZ Bing, LM Che, A Robichaud, S Nadeau, C Rivet, N McLaughlin, J Mercier and R Ouellette. Preimplantation embryo development in a woman with insulin dependent diabetes: a case report. 55th Annual meeting on Canadian Fertility and Andrology Society (Canada), 2009.

YZ Bing, X Zhao, SL Tan and RC Chian. Dynamics of apoptosis during the pre-implantation development of mouse blastocysts in vitro and in vivo. 53rd Annual meeting on Canadian Fertility and Andrology Society (Canada), 2007; 114:FB1

YZ Bing, RC Chian, SL Tan and X Zhao. Apoptosis in mouse pre-implantation embryos produced in the different systems. 38th Annual Meeting on Society for the Study of Reproduction (Canada), 2005; 228: T668. .

YZ Bing, JT Chung, SL Tan and RC Chian. Effects of maternal age on oocyte and embryo quality: mouse model study. 18th World Congress on Fertility and Sterility (Canada), 2004.

F Aono, **YZ Bing**, M Kuwayama and O Kato. In vitro development of human secondary spermatocytes and round spermatids of maturation arrest patients by the calcium alginate encapsulation three dimension culture method (CA3-DCM). *Biology of Reproduction* 2004; 71: 702 (Canada)

YZ Bing, Y Hirao, N Takenouchi, LM Che, H Nakamura and J Yodoi and T Nagai. Effects of thioredoxin (TRX) on the pre-implantation development of bovine embryos fertilized in vitro. *Theriogenology* 2003; 59: 863-873.

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.

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.

- YZ Bing**, T Nagai and H. Rodriguez-Martinrez. Effects of Cysteamine, FSH and Oestradiol-17 β on in vitro maturation and fertilization of porcine oocytes. *Theriogenology*, 2001; 55: 867-876.
- 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.
- YZ Bing**, LM Che, Y Hirao, N Takenouchi, M Kuwayama and T Nagai. Effects of calcium in the medium on the activation of porcine oocytes after the puncture using piezo-electric elements. *Theriogenology* 2003; 59(1): 470 (New Zealand).
- YZ Bing**, Y Hirao, N Takenouchi, LM Che, H Nakamura, J Yodoi and T Nagai. Effects of thioredoxin on the preimplantation development of bovine embryos. *International Symposium for Redox Signaling and Stress Disease*, 2002, 11 (Japan).
- 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 maturation culture period. *Cloning and Stem Cell*. 2002, 3, 290 (Japan)
- YZ Bing**, F Aono, M Kuwayama and O Kato. In vitro development and differentiation of spermatogenic cells from testicular tissues of patients with azoospermia in a three dimensional (3D) culture system. *Fertility and Sterility* 2002, 76, S60-61 (USA).
- YZ Bing**, Y Hirao, N Takenouchi, LM Che, M Kuwayama and T Nagai. In vitro maturation of denuded porcine oocytes in the presence of cysteamine under the conditions of different oxygen environments. *Theriogenology*, 2002: 57: 713 (Brazil)
- 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 (USA)
- T Nagai, **YZ Bing** and H. Rodriguez-Martinrez. Effects of cysteamine and FSH on in vitro maturation of porcine oocytes. *Theriogenology* 2000; 53: 461 (The Netherlands)
- YZ Bing**, Y Hirao, N Takenouchi, H Nakamura J Yodoi and T Nagai Effects of thioredoxin (TRX) on the developmental competence of bovine oocytes matured and fertilized in vitro. *Proc. 14th Int Congr Anim Reprod* 2000; 18: 19 (Sweden).
- YZ Bing**, Y Hirao, N Takenouchi, LM Che, N Nismodo and T Nagai. Effects of culture conditions on the development of porcine oocytes matured and activated in vitro. *5th Asian Symposium on Animal Biotechnology* 2000; 27 (Japan).

- YZ Bing**, Y Hirao, N Takenouchi, LM Che, N Nishimoto and T Nagai. In vitro maturation of porcine oocytes under the conditions of different oxygen concentrations: effect of cumulus cells. *93rd Confer of Anim Reprod* 2000; 57 (Japan).
- YZ Bing**, Y Hirao, N Takenouchi, LM Che, N Nishimoto and T Nagai. Lower rates of activation of pig oocytes in a calcium-free medium than in the medium with calcium after the puncture by injection-pipette. *3rd Int Confer on Transgenic Animal*, 2000; 13 (China).
- 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 (Japan).
- N Takenouchi, Y Shioya, M Geshi, **YZ Bing**, Y Hirao, N Nishimoto and T Nagai. Subsequent effects of ultrasound-guided follicular aspiration at estrus on ovaries activation in cattle. *93rd Confer of Anim Reprod*. 2000; 112 (Japan).
- Y Bing**, F Sun and L Che. Early embryo development in the Silver Fox (*Vulpes vulpes*). *8th World Confer of Anim Prod*. 1999; 910-911. (Korea)

Book Chapter:

- YinZhong Bing** and Rodney J. Ouellette. **Fertilization In Vitro**. In: Human Embryogenesis : Methods and Protocols, Editors: Julie Lafond, Cathy Vaillancourt. The Humana Press, New Jersey, USA. Chapter 16, 2009.