



SUN YAT-SEN UNIVERSITY
中山大學

7th International Symposium on Fish Endocrinology
September 03-06, 2012 Buenos Aires, Argentina

The 7th International Symposium on Fish Endocrinology
is honored to recognize the Life-time Achievement of

Professor. Lin Haoran
School of Life Sciences
Sun Yat-sen University

Major Area of Scientific Contributions

Professor Lin Hao-Ran carried out basic and applied research in the fields of fish physiology, comparative endocrinology and molecular endocrinology of fish, particularly neuroendocrine regulation of pituitary functions in teleosts, and endocrine regulation of reproduction, growth and metabolism in cultured fish, particularly carp, eel, tilapia and grouper. His work focused on the roles and actions of neurohormones and neurotransmitters, particularly gonadotropin-releasing hormone (GnRH), catecholamines and catecholaminergic drugs, in regulation of gonadotropin and growth hormone secretion, actions and interactions of releasing and releasing-inhibitory. Research areas for which he is well known include:

- (1) Clarified the neuroendocrine regulation of luteinizing hormone (LH; formerly GH) secretion in carps and loach is mainly under a dual neurohormonal system, GH release is stimulated by gonadotropin-releasing hormone (GnRH) and inhibited by dopamine, which functions as a release-inhibitory factor (GRIF);
- (2) Collaborated with Professor R.E. Peter, University of Alberta, Canada, developed a new high effective technique for induced ovulation and spawning in cultured fish by the combination of a GnRH analogue and a dopamine antagonist. This technique has been named the "Linpe Method" by international academic circles using Prof. Lin's surname and the first syllable from Prof. Peter's name. The Linpe Method has been applied into practice extensively in fish farm for induced spawning of freshwater cultured fish in China, India and other countries throughout the world. The International Development Research Centre of Canada (IDRC), who sponsored this collaborative research program, has cited the Linpe Method as one of the high impact "101 Technologies" whose development was supported by IDRC;
- (3) Clarified the action mechanisms of hormonal regulation of the brain-pituitary-gonad of the Japanese eel, developed new technique for stimulation of GnRH an LH secretion and gonadal development and maturation in eel by serial implantation of steroids (methyltestosterone or androstenedione);
- (4) Clarified the neuroendocrine regulation of growth hormone (GH) secretion and body growth in carps, developed a practical approach to accelerate the growth of cultured fish by feeding a number of neuropeptides (e.g. GHRF, GHRH, Ghrelin) and/or neurotransmitters (e.g. dopamine), as well as recombinant fish GH and neuropeptides;
- (5) Clarified the action mechanisms of neuroendocrine regulation on the reproduction and growth of grouper, an important maricultured fish, developed induced breeding and larviculture techniques for large-scale production of grouper fingerling.

Prof. Lin has supervised 58 M.Sc. and 71 Ph.D. students. Many of his former students are now highly successful researchers themselves, working in several different countries.

Highlights of Recognition by Peers & Service to the Scientific Community

- ▲ Member of the International Society of Comparative Endocrinology (1985)
- ▲ Academician of the Chinese Academy of Engineering (Since 1997)
- ▲ Chairman of the Asian and Oceania Society for Comparative Endocrinology (2005-2009)
- ▲ Member of the Board of Editors of General and Comparative Endocrinology (Since 2007)
- ▲ State Scientific and Technical Progress Award (1989), Ministry of Science and Technology of the People's Republic of China
- ▲ State Education Committee/Ministry of Education of Scientific and Technical Progress Award (1988, 1989, 1997, 2006, 2007, 2010), China
- ▲ Guangdong Outstanding Provincial Scientific and Technical Progress Award (2010), Guangdong Provincial Department of Science and Technology, China



Major Significant Publications

Prof. Lin has published over 310 articles in professional journals and conference proceedings as well as six books. Publications for which he is well known includes:

- Lin HR, Peng C, Van der Kraak G, Peter RE and Breton B. 1986. Effects of [D-Ala⁶, Pro⁹-NET]-LHRH and catecholaminergic drugs on gonadotropin secretion and ovulation in the Chinese loach (*Paramisgurnus dabryanus*). *Gen Comp Endocrinol.* 64(3):389-395.
- Lin HR, Van der Kraak G, Zhou XJ, Liang JY, Peter RE, Rivier JE and Vale WW. 1988. Effects of [D-Arg⁶, Trp⁷, Leu⁸, Pro⁹NET]-luteinizing hormone-releasing hormone (sGnRH-A) and [D-Ala⁶, Pro⁹NET]-luteinizing hormone-releasing hormone (LHRH-A), in combination with pimozone or domperidone, on gonadotropin release and ovulation in the Chinese loach and common carp. *Gen Comp Endocrinol.* 69(1):31-40.
- Lin HR, Zhou XJ, Van Der Kraak G and Peter RE. 1991. Effects of gonadotropin-releasing hormone agonists and dopamine antagonists on gonadotropin secretion and ovulation in Chinese loach, *Paramisgurnus dabryanus*. *Aquaculture.* 95:139-147.
- Zhang WM, Lin HR and Peter RE. 1994. Episodic growth hormone secretion in the grass carp, *Ctenopharyngodon idellus* (C. & V.). *Gen Comp Endocrinol.* 95(3):337-341.
- Lin HR and Peter RE. 1996. Hormones and spawning in fish. *Asian Fisheries Science.* 9: 21-33
- Lin HR, Xie G, Zhang LH, Wang XD and Chen LX. 1998. Artificial induction of gonadal maturation and ovulation in the Japanese eel (*Anguilla japonica* T. et S.). *Bull. Fr. Pêche Piscic.* 349 : 163-176.
- Xiao D and Lin HR. 2003. Cysteamine—a somatostatin-inhibiting agent—induced growth hormone secretion and growth acceleration in juvenile grass carp (*Ctenopharyngodon idellus*). *Gen Comp Endocrinol.* 134(3):285-95.
- Li GL, Liu XC and Lin HR. 2006. Effects of aromatizable and nonaromatizable androgens on the sex inversion of red-spotted grouper (*Epinephelus akaara*). *Fish Physiol Biochem.* 32(1):25-33.
- Cui M, Li W, Liu W, Yang K, Pang Y and Lin HR. 2007. Production of recombinant orange-spotted grouper (*Epinephelus coioides*) luteinizing hormone in insect cells by the baculovirus expression system and its biological effect. *Biol Reprod.* 76(1):74-84.
- Zhang Y, Li SS, Liu Y, Lu DQ, Chen HP, Huang XG, Liu XC, Meng ZN, Lin HR, Cheng CH. 2010. Structural diversity of the GnIH/GnIH receptor system in teleost: its involvement in early development and the negative control of LH release. *Peptides.* 31(6):1034-1043.