

## Recipient of the 2007 IETS Pioneer Award: Akira Iritani, PhD

In 1953, just after graduating from Kyoto University, Akira Iritani was appointed as a research associate at the University, where he continued to work for the next 40 years. In 1964, he received his PhD degree from the Kyoto University Graduate School of Agriculture. In 1976, he was promoted to professor at Kyoto University, and he retired from the University in 1992. He then moved to Kinki University as professor in the College of Biology-Oriented Science and Technology. Since then he has worked as college dean, director of the Institute of Advanced Technology, and trustee of the University.

Dr Iritani has twice been a member of the Board of Governors for the Society, first in 1984–1985 and again in 1994–1995. He is currently serving as chairman of the Local Organizing Committee for the 33rd Annual Meeting of the IETS in Kyoto in 2007. He has made a tremendous effort to ensure that the first IETS meeting to be held in Asia is a success.

Dr Iritani has made a significant contribution to the field of animal reproduction, having published more than 300 research papers, book chapters and abstracts, and participating frequently in many international meetings. His scientific work was originally aimed at developing new and effective ways of breeding livestock, and this is one of his main practical objectives. Highly important works during his tenure at Kyoto University include the world's first successful reports of *in vitro* sperm penetration into *in vitro*-matured oocytes in domestic animals such as pigs (Iritani and Niwa 1977) and cattle (Iritani *et al.* 1978). These pioneering papers resulted in the *in vitro* production of embryos in pigs and cattle worldwide. Since then, he and his colleagues have continued their research on understanding mammalian development and the manipulation of early embryos in ways that have activated the commercial use of embryo transfer in domestic species.

Dr Iritani's interest in animal biotechnology is extensive, with a wide range of applications. He has succeeded in producing offspring by intra-cytoplasmic sperm injection in rabbits (Iritani and Hosoi 1989) and has recently produced a transgenic pig expressing the spinach plant gene *FAD2* (Saeki *et al.* 2004). The former technique has been used clinically in human assisted reproduction, and the latter represents the first successful attempt at functional expression of a plant gene in a complex mammalian system. These results are useful for their contribution not only to basic science but also to the animal industry; thus, this research area has expanded beyond the field of domestic animal reproduction to human medicine.

In addition to these pioneering works, Dr Iritani has been working to produce a woolly mammoth from frozen DNA sampled from an extinct creature found in Siberia by using the

advanced biotechnological process of somatic cell cloning. Dr Iritani turned 78 years old in 2006, yet this research has challenged his spirit, and he has visited Siberia many times. It is not surprising that although some of the students who accompanied him on his travels were afraid to fly in a specially chartered small plane to reach the spot to find samples, Dr Iritani had no fear at all because of his 'samurai spirit'.

Because of his outstanding achievements, Dr Iritani has been awarded honors by many different societies in Japan and elsewhere. Since 1999, he has been a member of The Japan Academy, and last year he was awarded one of the highest prizes for scientists in Japan, The Order of the Sacred Treasure, Gold and Silver Star, by the Japanese government at the Imperial Palace.

Dr Iritani has been actively involved in several academic societies, including serving as president of the Japanese Society of Embryo Transfer since 1989. He was also elected as vice president of the International Congress of Animal Reproduction at the Standing Committee meeting (1992–2000). As mentioned, he has been elected twice as a member of the Board of Governors of the IETS.

In training young scientists, he has supervised a large number of graduate students and 34 PhD students. Over the years, he has worked very hard to help his PhD students be able to live as scientists and has encouraged some of them to travel abroad to open their eyes to the world. His warm-hearted care for his students has created a sort of 'Iritani family' in the field of Japanese animal reproduction, and in turn, this 'family' has kept him 'forever young'!

Dr Akira Iritani is a worthy recipient of the 2007 IETS Pioneer Award because of his invaluable contribution to embryo transfer and the advancement of embryo technologies in domestic animals.

### References

- Iritani, A., and Hosoi, Y. (1989). Microfertilization by various methods in mammalian species. *Prog. Clin. Biol. Res.* **294**, 145–149.
- Iritani, A., and Niwa, K. (1977). Capacitation of bull spermatozoa and fertilization *in vitro* of cattle follicular oocytes matured in culture. *J. Reprod. Fertil.* **50**, 119–121.
- Iritani, A., Niwa, K., and Imai, H. (1978). Sperm penetration *in vitro* of pig follicular oocytes matured in culture. *J. Reprod. Fertil.* **54**, 379–383.
- Saeki, K., Matsumoto, K., Kinoshita, M., Suzuki, I., Tasaka, Y., *et al.* (2004). Functional expression of a  $\Delta^{12}$  fatty acid desaturase gene from spinach in transgenic pigs. *Proc. Natl Acad. Sci. USA* **101**, 6361–6366. doi:10.1073/PNAS.0308111101