



Recipient of the 2006 IETS Pioneer Award: Duane Carl Kraemer, DVM, PhD

Dr Duane C. Kraemer was born and raised on a modest dairy farm near Reedsburg, Wisconsin, USA and obtained a B.S. degree in Animal Husbandry from the University of Wisconsin in 1955. He recalls how his parents were so disappointed when they learned that he did not want to remain to run the family farm, but that he needed to pursue his dream of continuing his graduate education. Little did anyone know at that time how this would affect the advancement of reproductive technologies in livestock, laboratory and companion animals, as well as non-domestic and endangered species.

He then moved from Wisconsin and entered the graduate programme at Texas A&M University where his mentor was Dr R. O. Berry, who from 1932 was the first to perform embryo transfers intra- and interspecifically in sheep and goats. Dr Berry greatly influenced his interest in the field of embryo transfer technology and this led to his obtaining an M.S. degree in Physiology of Reproduction in 1960, a B.S. degree in Veterinary Science in 1965, a D.V.M. degree in Veterinary Medicine and a Ph.D. degree in Physiology of Reproduction in 1966 at Texas A&M University. Since 1959, his research has focused on various aspects of embryo transfer and related technologies. In 1971, he performed bovine embryo transfers that resulted in the first purebred calves to be produced by a commercial embryo transfer company. He worked for 8 years at the South-western Foundation for Research and Education in San Antonio, Texas, on the development of contraceptive agents and embryo transfer in baboons and reported the birth of the first non-human primate (*Papio anubis*) by embryo transfer in the journal *Science* in 1976. He has served in the capacity of an adjunct and clinical professor and scientist at five academic and research institutions. In 1975, Dr Kraemer returned to Texas A&M University where he continues to serve as an active member of the Department of Veterinary Physiology and Pharmacology in the College of Veterinary Medicine (tenured in 1980), the Department of Animal Sciences, and the Faculties of Genetics and Reproductive Biology. He served as the Associate Director of the Texas Agricultural Experiment Station and the Associate Dean for Research and Graduate Programs in the College of Veterinary Medicine in the Texas A&M University system.

Dr Kraemer has received several awards for his achievements including the Texas Veterinary Medical Association Faculty Achievement Award and the United States Department of Agriculture Superior Service Award for Outstanding

Research, and has been recognised as an Honorary Diplomate of the American College of Theriogenologists. He is a member of five Honour Societies and nine Professional Societies and served as President of the International Embryo Transfer Society, Chairman of the Morris Animal Foundation Scientific Advisory Board and has been a member of the Scientific Advisory Boards of several companies specialising in the fields of embryo transfer technology and genetic engineering. Over his prolific career as a researcher in the field of embryo technology, he has generated close to six million dollars as the Principal or Co-Principal Investigator of numerous grants awarded by academic, governmental and private research institutions.

Dr Kraemer, his students and colleagues have published over 200 reports on the application of embryo technology in a diverse array of laboratory and livestock species including mice, rats, rabbits, rhesus macaques, cattle, sheep, goats, swine and horses (the first foal produced by embryo transfer in the USA), companion animals such as cats and dogs (the first offspring produced by embryo transfer), as well as pioneering research on non-domestic and endangered species such as addax, desert bighorn sheep, blackbuck antelope, suni antelope, klipspringer antelope, American bison, white-tailed deer, axis deer, fallow deer, Armenian red sheep, chimpanzees, western lowland gorillas, killer whales, bottlenosed dolphins, Asian elephants, African lions, giraffes and okapis. Dr Kraemer's research interests in the field of embryo technology in these various species include: gamete physiology and cryopreservation; comparative reproductive physiology; theriogenology; animal breeding; transgenesis; embryo transfer; artificial insemination; endocrinology; the genetics of atherosclerosis and infertility; and stem cell and nuclear transfer technologies.

Probably the most notable and admirable characteristic of Dr Kraemer is his unrelenting commitment and dedication to the professional development of his students. To date, he has faithfully served as the Advisor or a Graduate Committee Member of 54 Ph.D., 87 M.S. and 15 M.Agr. programmes. Most of these students have continued their careers in some aspect of embryo transfer technology, whether it be in livestock, humans and/or non-domestic and endangered species and are sincerely grateful to Dr Kraemer for giving them the necessary training, guidance and confidence to pursue their career desires. Perhaps the inevitability of this outcome is best endorsed and reflected by a quote made by Dr Kraemer

himself that none of his students will ever forget: 'Our goal is to help make your dreams come true. So please, dream great dreams.' (D. C. Kraemer)

Therefore, in recognition of the significant contributions he has made in nearly half a decade to the international scientific, academic, medical, veterinary, conservation and biotechnology communities, the IETS is proud to award Dr Duane C. Kraemer with the 2006 Pioneer Award.

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