

## Ohtsura NIWA, Ph.D.



Dr. Ohtsura spent his early life in rural areas which help developing his interest in living organisms. He received a B.Sc from Kyoto University in 1966 majoring in zoology, and a Ph.D. in 1975 from Stanford University for his research on radiation induced leukemia virus of the mouse. He started his research career at Kyoto University in 1975, and then moved to Hiroshima University Research Institute of Radiation Biology and Medicine in 1984. He moved to Kyoto University Radiation Biology Center in 1997. After retirement from Kyoto University in 2007, he took a position of deputy director of Research Center for Charged Particle Therapy, National Institute of Radiological Sciences, Chiba and then served as a CEO of BioMedics Japan in Tokyo. One year after the Fukushima nuclear reactor accident, he moved to Fukushima Medical University where he was involved in local people to listen to their concerns. Since June 19 of 2015, he is the Representative Director of Radiation Effects Research Foundation in Hiroshima and Nagasaki. He became a member of ICRP Committee 1 in 2001, and became a member of the ICRP Main Commission in 2009.

Dr. Niwa's research has centered on radiation effects on living organisms, and the subjects he studied cover a wide range including: host cell reactivation of UV irradiated herpes simplex virus in tissue culture cells; involvement of DNA methylation in radiation activation of endogenous retrovirus and its silencing in embryonal stem cells; the p53 dependence of radiation induced instability at the minisatellite locus and the pink-eyed unstable allele in one cell stage mouse embryos by fertilization with radiation exposed sperm; long lasting DNA damage memory in *Schizosaccharomyces pombe*; and the mechanism of p53 dependent S checkpoint in preimplantation stage mouse embryos.

In addition to the subjects of basic radiation biology, Dr. Niwa took interest in the mechanism of radiation carcinogenesis while working in Hiroshima where he became acquainted with epidemiologists at the Radiation Effect Research Foundation. Age dependence of radiation carcinogenesis is a fascinating subject of study, and as for the mechanism he is currently focusing on the role of stem cell competition in adult stem cell niche. Stem cell competition is a dynamic process to eliminate rogue stem cells in a niche and is the underlying mechanism for the age dependence and low dose rate effects. In addition to all the above scientific accomplishments, he is interest shifted toward the impact of nuclear accident on the everyday life of residents living in the affected lands which can only be managed by deep understanding of human nature.

Dr. Niwa has published more than 130 papers in international peer reviewed journals. These works are original and well received by the radiation research communities. He received the Roentgen Medal in 2005, the Dr. Nagai Peace Memorial Nagasaki Prize in 2014 and the Henry S. Kaplan Distinguished Scientist Award in 2015.