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# A Message of Condolence: Neuroscientist Dr Murakoshi Has Passed Away

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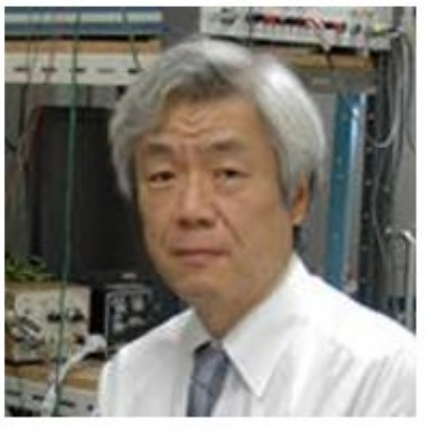

***Figure A***

Renowned Japanese neuroscientist Takayuki Murakoshi died at his home in Tokyo on 14 September 2024. Dr Takayuki Murakoshi was born in Maebashi, Gunma in 1956 and graduated from the School of Medicine at Tokyo Medical and Dental University in 1981 and received his PhD from the Department of Pharmacology at the same university under the supervision of Professor Masanori Otsuka. After working as a research assistant in the same department in several important collaborations [1,2], he was a postdoctoral fellow at Rockefeller University, USA, working with Nobel Laureate Torsten Nils Wiesel from 1988 to 1990. He then returned to Japan as a research associate in his former department of pharmacology and, since 1996, as an associate professor. In 2002 he moved to the Department of Pharmacology at Nippon Medical School and in 2003 to the Graduate School of Arts and Sciences at the University of Tokyo. He was then invited to Saitama Medical University as a professor in the Department of Biochemistry, School of Medicine, and served as dean of the School of Medicine from 2018, and retired in March 2024 to become a professor emeritus. Diagnosed with pancreatic cancer three years ago, he had been recuperating at home while continuing to conduct collaborative research and online research meetings via the Internet and other means. He died peacefully in the early morning of 14 September 2024, surrounded by his family.

His research covers many areas of neuroscience, including the study of synaptic transmission, the effects of anaesthetics, and the modulation of neural activity by neurotransmitters. Among them, his early work with Dr Suzue and others using *in vitro* brainstem spinal cord preparations from newborn rats to study spontaneous respiration-like activity led his interest to spontaneous oscillatory activity in neural networks [3].

In Dr Wiesel's lab, he was doing research on the visual cortex *in vitro*. When he asked Dr Wiesel to co-author the paper, Dr Wiesel kindly said that Takayuki had done all the work almost single-handedly and that he should publish the paper under one name [4].

His subsequent footprints are very diverse, and his professional career and multifaceted interests have led to many research results in collaboration with various people. A few examples are his research on performance anxiety of skilled pianists when he was at the University of Tokyo [5] and his research at Saitama Medical University on spontaneous oscillation in amygdala, which he said had been an issue since his time at Nippon Medical School [6,7]. The latter two made significant contributions to understanding the effects of sleep deprivation on amygdala oscillations and fear memory formation in rats. These studies suggested that sleep deprivation affects amygdala oscillations, potentially impairing fear memory formation, and indicated that slow oscillations may contribute to sleep-related fear memory consolidation.

S.I. and T.M. were alumni of Dr Murakoshi's university days, and in his last months were invited to participate in an on-line research group on the problems of intelligence and consciousness, which were central to his interests in his last years, and soon K.H. joined as a colleague with a common research interest. It is a pity that he died before he could publish with us his research on this subject, which must have been all in his mind.

May his soul rest in peace, we all wish.

***Figure:*** *Photo with Dr T. N. Wiesel.*

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