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He received his BS, MS and PhD. degree in electronic engineering from Tohoku University, Sendai, Miyagi, Japan in 1979, 1981 and 1984 respectively. His interest was chemical micro sensors based on Si semiconductor device technology and he developed tens micron tip size Ion Sensitive Field Effect Transistor (ISFET) for detecting biological cell level ion concentrations. He had been an assistant professor in Faculty of Engineering of Tohoku University from 1984. In the middle of 1980's, he developed micro flow devices, microvalves and micropumps, using Si micromachining technologies and applied the microvalves for a micro blood gas analysis system. He was a researcher of the University of Neuchatel, Switzerland from 1990 to 1991 and a visiting scientist at Massachusetts Institute of Technology, USA in 1991. During his stay in Neuchatel, he was involved in the Swiss national research program on Micro Total Analysis Systems. He was an associate professor of Tohoku University from 1992.

Nationality: Japanese

In 1994 he moved to Faculty of Science and Engineering of Waseda University as an associate professor. His main interests were micro flow devices for chemical and biochemical applications and fabrications of 3D microstructures. From 1997 he is a professor of Waseda University. He was conference general Co-chairs of IEEE Micro Electromechanical Systems: MEMS in 1997 and Micro Total Analysis Systems: MicroTAS in 2002. He is currently a professor of Department of Electronic & Photonic Systems, and Major in Nano-science and Nano-engineering, Waseda University. He is an international stirring committee member of International Conference on Solid-State Sensors, Actuators and Microsystems: Transducers and served as a Program Vice-Chair (Asia region) for Transducers'2011 which held in Beijing.

His current interests are fabrications of 3D micro/nano structures of Si, Glass, polymers etc. and integration of these structures for functional systems. Main applications of these technologies are chemical/biochemical and medical applications. He developed micro flow devices and systems for singles cell level detection and analysis. Also, low emission micro/nano fabrication technologies for electronics are his new interested topics. He is one of the frontiers of MEMS and MicroTAS, specially a reading researcher of micro flow devices and systems. He has over 130 international scientific journal papers, about 300 international conference presentations including 36 plenary and invited talks and 8 books (co-author).