

Dr. Simon M. Sze

Dr. Simon M. Sze was born in Nanking, China in 1936. He received the B. S. degree from the National Taiwan University in 1957, M. S. from the University of Washington in 1960, and Ph. D. from Stanford University in 1963, all in Electrical Engineering.

Dr. Sze was with Bell Laboratories in Murray Hill, N. J., from 1963 to 1989 as a member of the Technical Staff, where he was involved in the study of advanced transistors and the development of novel device concepts. He joined the National Chiao Tung University (NCTU) in Hsinchu, Taiwan from 1990 to 2006 as a Distinguished Chair Professor. At present, he is an Honorary Chair Professor at NCTU. Dr. Sze has served as Visiting Professor to many academic institutions including the University of Cambridge, Delft University, Soochow University, Stanford University, Swiss Federal Institute of Technology, and Tokyo Institute of Technology.

He has made fundamental and pioneering contributions to semiconductor devices, especially the metal-semiconductor contacts, microwave devices, and MOSFET technology. Of particular importance is his *discovery* with Dr. Dawon Kahng of the *floating-gate memory (FGM) effect* which has subsequently given rise to a large family of memory devices including EPROM, EEPROM and Flash memory. FGM is a ground-breaking technology for long-term information storage (superseding HDD, optical disk and magnetic tape) and enables the invention of nearly all modern electronic systems such as the digital cellular phone, tablet computer, personal digital assistant, smart IC card, digital camera, digital television, portable DVD, MP3 music player, pacemaker, implantable defibrillator, global positioning system (GPS), and anti-lock braking system (ABS). FGM has also empowered technology for the development of artificial intelligence, big data, cloud computing, internet of things, robotics, and solid-state drive.

Dr. Sze has authored or coauthored over 350 technical papers. He has written and edited 16 books. His book "*Physics of Semiconductor Devices*" (Wiley, 1969; 2nd Ed, 1981; 3rd Ed, with Dr. K. K. Ng, 2007) is one of the *most* cited works in contemporary engineering and applied science publications (over 47,500 citations according to Google Scholar). Dr. Sze has received the IEEE J. J. Ebers Award, the National Endowed Chair Professor Award, the Flash Memory Summit Lifetime Achievement Award, and the National Science and Technology Prize. He is a Life Fellow of IEEE, an ITRI Laureate, an Academician of the Academia Sinica, a foreign member of the Chinese Academy of Engineering, and a member of the US National Academy of Engineering.