Asian American Engineer of the Year Award
Dr. Guozhu Long

Huawei Fellow, Network Broadband Access
Huawei Technologies

Dr. Guozhu Long has led Huawei's advanced copper broadband access technology research and development on innovative system architecture, advanced modulation/coding and signal processing techniques and their efficient implementation, resulting in high-performance, cost-effective products which enabled Huawei to become the global leader in copper broadband access market, technology and standardization.

Dr. Long was born in 1945 in Shanghai, China. He completed high school in Shanghai, and received B.S. and M.S. degrees in Electrical Engineering from Tsinghua University in Beijing, China in 1968 and 1981, respectively, and Ph.D. degree in Electrical Engineering from Northeastern University in Boston, MA in 1989. He then joined Motorola Codex in Boston as a principal engineer where he did advanced R&D on high-speed voice band modems such as V.34. He joined Cirrus Logic in Raleigh, NC in 1994 as the advisory engineer where he continued R&D work on voiceband modem such as V.34 and V.90. In 1997, he became the first employee of a start-up Centillium Communications in Fremont, CA as Vice President of Advanced R&D, focusing on DSL technologies, standard and ASIC chipsets. His innovations led to the company's unique ADSL product which successful dominated Japan ADSL market and accounted for the company's over 90% revenue. In 2005, he became Vice President of advanced research and development with Mediaphy, working on mobile TV. Since 2006, Dr. Long has been with Futurewei Technologies, which is the US R&D center of Huawei Technologies.

Dr. Long has been heavily involved in leading R&D activities for developing innovative techniques for digital communications systems and signal processing, and in the international standardization committees (such as ITU-T, ATIS, TIA and Japan TTC) in the areas of DSL transceivers, voiceband modems, mobile TV and other digital communications systems. His carrier has been closely coupled to the copper access industry evolution in the last 30 years from voiceband modems of only a few KBPS to today's fast DSL up to 1 GBPS. Examples of his innovations include echo canceller fast initialization, delay LMS algorithm, DC compensation algorithms for V.90 modems, low power mode for ASDL modems, loop diagnostics techniques, emergency rate adjustment for VDSL2, efficient and robust crosstalk cancellation techniques, effective clock synchronization techniques, accurate distribution of time through DSL network, power efficiency improvement techniques, and various efficient product implement techniques. Dr. Long holds 43 US patents and has published numerous articles including journal and conference papers, and standard contributions, in the area of digital communications systems and signal processing techniques. He is a senior member of IEEE.

Dr. Long is married to Xiuhua Zhang. They have 2 daughters Helen and Sherry, and 4 grand children Logan, Lillian, Grace and Lucas.

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