

**Tingye Li, Optical Communications Visionary,
to Receive 2009 IEEE Edison Medal**

*One of the Most Well-Known Individuals in Optical Fiber Communications, Work Has Shaped the
Lightwave Network Infrastructure We Know Today*

PISCATAWAY, N.J. – 22 June 2009 – Tingye Li, an engineer whose technical contributions, insight and leadership over the past 50 years have led to innovations and advancements in optical fiber communications resulting in high-speed commercial telecommunication transmission systems, is being honored by IEEE with the 2009 IEEE Edison Medal. IEEE is the world's leading technical professional association.

The medal, sponsored by Samsung Electronics Company Ltd., recognizes Li for leadership, vision and pioneering contributions in the field of broadband optical fiber communications. The award will be presented on 25 June 2009 at the IEEE Honors Ceremony in Los Angeles, Calif. For the first time, the IEEE Honors Ceremony will be broadcast live on the Web through IEEE.tv (www.ieee.tv).

Optical fiber technology facilitates the transmission and distribution of the huge amounts of data generated by today's electronic components and software. Prior to the invention of optical fiber technology, copper wire and radio waves were used for transmission and were limited to only a few Gigabits/second per link, or about one million telephone conversations. Optical fiber technology enables a huge increase in transmission capacity and also at a reduced cost, and it also provides the capacity to accommodate the ever-increasing amounts of Internet traffic. Li and his colleagues pioneered, further advanced and helped commercialize the optical fiber communications technology, which is a mainstay of the information age.

Among Li's many technical contributions was his work with Gardner Fox in the early 1960s that formulated the fundamental concepts of laser resonator modes, demonstrating that an electromagnetic wave bouncing back and forth between a pair of mirrors can resonate for a number of modes of energy distribution. This work was the first to show that an open-sided resonator containing a laser medium has unique transverse modes of resonance, which was fundamental to laser theory and practice.

Since the late 1960s Li led several research groups at AT&T Bell Labs that demonstrated the first optical repeaters and experimented with systems showing the potential of new optical fiber technology, which can be found in all areas of today's telecommunications. Li was the chief proponent of adopting Erbium-doped fiber amplifiers (EDFAs) and amplified wavelength-division multiplexing (WDM) technology during the 1990s. These technologies allow a single optical fiber to carry multiple channels of signals, by using different wavelengths of laser light for the different channels, thus enhancing greatly transmission capacity. EDFAs and WDM

revolutionized high-speed long-distance communication by upgrading capacity over a hundred-fold.

An IEEE Life Fellow, Li is also a Fellow of the Optical Society of America (OSA) and the American Association for the Advancement of Science, the Photonic Society of Chinese-Americans and the International Engineering Consortium. He is a member of the National Academy of Engineering and the Academia Sinica (Taiwan) and a foreign member of the Chinese Academy of Engineering. He is a recipient of the 1975 IEEE W.R.G. Baker Prize, the 1979 IEEE David Sarnoff Award, the 1995 OSA/IEEE John Tyndall Award, the 1997 OSA Frederic Ives Medal/Jarus Quinn Endowment, the 1997 AT&T Science and Technology Medal and the 2004 IEEE Photonics Award.

He obtained a bachelor's degree in electrical engineering from the University of Witwatersrand, Johannesburg, South Africa, in 1953 and master's and doctorate degrees from Northwestern University, Evanston, Illinois, in 1955 and 1958, respectively. Li retired from AT&T Labs in 1998 as a division manager in the Communications Infrastructure Laboratory and is currently an independent consultant who serves on the board of directors of several optical component and systems companies.

About IEEE

IEEE, the world's largest technical professional association, is commemorating its 125th anniversary in 2009 by Celebrating 125 Years of Engineering the Future around the globe. Through its more than 375,000 members in 160 countries, IEEE is a leading authority on a wide variety of areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics. Dedicated to the advancement of technology, IEEE publishes 30 percent of the world's literature in the electrical and electronics engineering and computer science fields, and has developed nearly 900 active industry standards. The organization annually sponsors more than 900 conferences worldwide. Additional information about IEEE can be found at <http://www.ieee.org>.