



THE CHINESE UNIVERSITY OF HONG KONG

Seminar Co-organized by
Department of Information Engineering and
IEEE Photonics Society Hong Kong Chapter



Evolution of Telecommunications and The Great Broadband Transformation —
Impact of Photonics R and D

by

Professor Chinlon Lin

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Date : 4 Sept., 2012 (Tue.)
Time : 11:00am - 12:00noon
Venue : Room 833, Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

Over the last 50+ years, worldwide R and D activities in lasers, photonics and optoelectronics devices as well as various lightwave systems technologies have successfully developed very-high-capacity optical fiber communications networks for global broadband information infrastructures. Today broadband optical access and FTTH (Fiber-to-the-Home) are becoming a reality in many regions of the world. This has started the great broadband transformation of the modern societies. Broadband high-speed access to Global Internet has now changed the world beyond expectations. This talk will present a high-level view and a historical perspective on the R and D efforts in photonics over the last 50 years leading to this broadband transformation. Potential impact of new emerging photonics R and D on the future of Broadband ICT will also be discussed.

Biography

Professor Lin is semi-retired after 40+ years of research and teaching in the field of laser photonics technologies and broadband optical fiber communications systems. He now resides in Holmdel, New Jersey, USA, where he was with AT&T Bell Labs and Bellcore for many years.

He received his Ph. D. from University of California, Berkeley in 1973 where he received an IBM Graduate Fellowship. In 1974 he joined AT&T Bell Labs' Laser Sciences Research Department in Holmdel, New Jersey. His research was on advanced lasers and photonics technologies, nonlinear optical fiber transmission properties. He was the first to originate the idea and experimental demonstration of dispersion-shifted single-mode fibers (DSF) as well as dispersion-compensation fibers (DCF). He was also the first to report a nanosecond wideband supercontinuum generation in optical fibers. In 1984 he was on leave from Bell Labs as a Visiting Guest Professor at the COM Center (now Department of Photonics), Tech. Univ. of Denmark in Lyngby, Denmark.

He joined Bellcore in 1986, as Director of Broadband Lightwave Systems Research and directed a team of researchers working on Erbium-doped optical fiber amplifiers (EDFAs), DWDM photonics systems for lightwave video distribution and transmission for FTTH and Hybrid-Fiber-Coax (HFC) Cable TV's broadband networks. In 1997 he joined Tyco Submarine Systems R & D Labs (formerly AT&T Submarine Systems) as Technical Director of Advanced Lightwave Technologies and work on DWDM systems technologies including dispersion-slope compensation and ultra-wideband hybrid Raman/EDFA amplifiers and related photonics technologies for ultra-high-capacity global long-haul undersea fiber networks.

From 2003 to 2007 he was with Chinese University of Hong Kong (CUHK) as Chair Professor of Photonics and Director of Center for Advanced Research in Photonics, and as a Professor of both the Electronic Engineering and Information Engineering departments. At CUHK he worked on broadband WDM-PON optical access networks, and established a small team to explore Biophotonics Sensors and Bioimaging.

From April 2008 to April 2010 he was a Nanyang Professor at the School of EEE and also served as Director of Photonics Research Center, at Nanyang Technological University (NTU) in Singapore which has research activities in Biophotonics, Green Photonics, High-Power and Femtosecond Fiber Lasers, Nanophotonics and Lightwave Technologies for Broadband Communications.

In 2011, from August to October, he was a Visiting Professor at KTH (Royal Institute of Technology), at Kista, Stockholm, Sweden. In 2012, from April to July 2012, he was a Visiting Professor at Technical University of Berlin, Germany.

Prof. Lin is a Life Fellow of IEEE's Photonics Society and Fellow of the Optical Society of America. He is also a Fellow of the Photonics Society of Chinese Americans (USA) and served as its President in 1994.

**** ALL ARE WELCOME ****

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