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THE CHINESE UNIVERSITY OF HONG KONG

Department of Information Engineering

Seminar

Wonders of Photonics and Optical Fiber Communications
--- Stories of Photonics and Nobel Prizes (Physics) from 1907 to 2009

by

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Date : 28 January, 2010 (Thur.)

Time : 2:30-3:30pm

Venue : Room 833, Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

The 2009 Nobel Prize in Physics was awarded to Prof. Charles K. Kao for his pioneering effort in optical fiber telecommunications, and to Dr. W. Boyle and Dr. G. Smith for their invention of the CCD imaging device. Both are important photonics or optoelectronics technologies invented over 40 years ago that have now significantly changed the modern societies in a very fundamental way. In this talk a personal and subjective view on the impact of lasers, photonics technologies and optical fiber communications will be presented. A historical view of the stories of photonics as seen from the Nobel Prize (physics) awards related to light and photonics from 1907 to 2009 will also be given. Looking into the future, the European view of the 21st century being the Photonics Century will also be discussed.

Biography

Professor Chinlon Lin received his BSEE from National Taiwan University, MS from University of Illinois, Champaign-Urbana, and Ph.D. from University of California, Berkeley. He received an IBM Graduate Fellowship at UC Berkeley. In 1974 he joined AT&T Bell Labs' Laser Sciences Research Department, Electronics Research Laboratories of the Communications Sciences Division, in Holmdel, New Jersey, USA. His research is on lasers and photonics technologies, and nonlinear optical fiber transmission for high-speed long-distance optical communications. He invented tunable fiber Raman lasers and dispersion-shifted fiber as well as dispersion compensation fiber, and studied nonlinear mixing in optical fibers. In 1984 he was on leave from Bell Labs as a Visiting Guest Professor at the Tech. Univ. of Denmark.

Dr. Lin joined Bellcore (Bell Communications Research) in 1986, as Director of Broadband Lightwave Systems Research and worked on optical fiber amplifiers, tunable optical filters, DWDM (dense-wavelength-division-multiplexing) photonics systems and advanced lightwave video transmission for Hybrid Fiber Coax Cable TV's broadband video networks where his team pioneered many new advances in DWDM photonics technologies for Fiber-to-the-Home broadband access systems. 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 and wideband fiber amplifier photonics technologies for DWDM-based ultra-high-capacity global long-haul undersea optical fiber networks that formed the infrastructure network foundation of today's high-speed Global Internet.

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 research interest included Photonic Crystal fibers (PCF) for nonlinear optical signal processing, and advanced WDM PON (Passive Optical Networks) for Next-Generation Optical Broadband Access Networks. He also initiated a Biophotonics research program at CUHK. Since April 2008 he has been a Nanyang (Visiting Chair) Professor of School of EEE and also Director of Photonics Research Center at Nanyang Tech. University in Singapore.

Professor Lin has been an Associate Editor for IEEE Journal of Lightwave Technology and IEEE Photonics Technology Letters, and served on the technical program committees for several international conferences including OFC (in the US), ECOC (in Europe) and OECC (in Asia). He has served on several Advisory Boards including ITRI in Hsinchu, Taiwan and ASTRI in Hong Kong. He is also a Bao Yu-Kang Chair Professor at Zhejiang University, Hangzhou, and a Guest Chair Professor of National Chiao-Tung University in Hsinchu, Taiwan.

He is a Fellow of both IEEE's Photonics Society and Optical Society of America. He was President of the Photonics Society of Chinese Americans (USA) in 1994.

**** ALL ARE WELCOME ****

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