



**THE CHINESE UNIVERSITY OF HONG KONG**  
Department of Information Engineering

*Seminar*

***Freedom to explore***

by

**Dr. Randy Giles**  
Bell Labs  
Alcatel-Lucent  
U.S.A.

**Date : 6 December, 2012 (Thur.)**  
**Time : 4:30 - 5:30pm**  
**Venue : Room 1009 William M.W. Mong Engineering Building**  
**The Chinese University of Hong Kong**

*Abstract*

Innovations in photonic technologies for optical networks have kept pace with traffic growth - so far. Data compression, error correction, wavelength-division multiplexing, optical amplification, dispersion compensation, wavelength-selective switching, and advanced modulation formats are examples of technologies contributing to optical network performance. However, these existing technologies are improving at a decelerating rate, leading to the question as to what's next. To address the question, this talk will introduce several emerging photonic transport and switching technologies that are being explored at Bell Laboratories and show how they may contribute to an ongoing cost-effective growth of optical networks.

*Biography*

Dr. Randy Giles focuses on researching broadband services and enabling technologies. He pioneered the modeling and application of erbium-doped fiber amplifiers, leading to their widespread commercial use in lightwave systems. Dr. Giles developed optical network applications of micromachines, including scalable optical crossconnects and add/drop multiplexers. He led innovative programs in new optical network architectures, 100Gb/s transport technology, optical signal processing, and mobile multimedia projector technologies. Dr. Giles is a Laureate of the Millennium Technology Prize awarded in 2008 by the Finnish Government and he is the recipient of the 2010 John Tyndall Award from the OSA and the IEEE Photonics Society.

**\*\* ALL ARE WELCOME \*\***