Optical Communication Technology

Certified by IEEE

by Prof. Dr. Sahbudin Shaari

Participant		4 Days Fees (RM)
Industry		1300
Lecturer	IPTS/IPTA	1000
	UKM	800
	UNIMAP	800
Student	IPTA/IPTS	700
	UKM	500
	UNIMAP	500

Date: 9-12 April 2012 (4 Days)
Venue: Universiti Kebangsaan Malaysia

School of Microelectronic Engineering, UniMAP is organizing a four-day course on Optical Communication Technology for academicians, researchers and engineers. This course is designed to provide foundation for optical communication principles and its technology. Participants will be exposed to the fundamental aspects and the current status of optical fiber communications. It starts with the characteristics of optical fiber, transmitters and receivers. Point to point optical link, power and rise time budget, optical networks, WDM technologies are discussed in detail including their subsystems, components and devices. Fiber local area networks are also covered followed by access networks including FTTH. With extensive discussion on current technology, participants will be better equipped to pursue either in their research or career development. Test and measurement such as power and loss measurement, power and bandwidth budgets, fiber splicing, OTDR, measurements using various type of sources, TLS, OSA and RSA are covered. In the afternoon session on the final day of the course, an optical network simulator will be used by all participants to study the transmission performance of a network.

Day 1

- Background and overview of optical fiber communications
- Optical fiber technology
- Light sources and transmitter design

Day 2

- Photodetector and receiver circuits
- Passive components
- Optical signal modulation
- Digital and analog transmission systems
- Optical interconnects
- Point to point links
- Power and bandwidth budgets

Day 3

- WDM technology and components.
- Optical amplifiers
- Long haul transmission links with dense WDM, metropolitan, distribution and access optical network.
- FTTH networks.

Day 4

- Fiber optic test and measurement.
- Test equipment and measurement standards
- Optical network simulation

Instructor's Profile: Professor Dr. Sahbudin Shaari (UKM)

Sahbudin Shaari received M.Sc degree in Quantum Electronics from Essex University and Ph.D degree in Microelectronics from University of Wales in 1980 and 1989 respectively. From 1978 to 2003 he was with the Department of Electrical, Electronic and System Engineering, Universiti Kebangsaan Malaysia as an academic staff where he founded the Optical Fiber Communication Research Laboratory in 1984 and as a co-founder of Semiconductor and Microelectronics Laboratory in 1992. He was the first in the country who introduced and taught the subject of optical fiber communications at UKM. He was appointed as professor in microelectronics and photonics in 2002. In 2003, he joined the Institute of Micro-Engineering and Nanoelectronics (IMEN) of the same university as Professor and Principal Research Fellow, and as the head of Photonics and Nanophotonics Technology Laboratory. The laboratory is focusing on various research activities including optical fiber communication networks and components, optical amplifiers, nanophotonics and silicon photonics. He was the conference chairperson of 2008 and 2010 IEEE International Conference on Semiconductor Electronics and 2011 IEEE Regional Conference on Micro and Nano-Electronics.

Registration & Inquiries :

1) Shamsul Amir (+60194029215) (shamsulamir@unimap.edu.my)
2) Arif Mawardi (+60194728144) (arifmawardi@unimap.edu.my)

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