

# New Trends in Optical Communications

**Date:** Tue. 11<sup>th</sup> Dec.

**Time:** 1:10 pm

**Location:** Building 59, Room 2016

## Speaker:

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Electronics and Communications Engineering Department,

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## Abstract:

The presentation starts with the importance of optical communication networks and their maps around globe. This is followed by definitions of light, optics, optical communications and its types. The main components of the optical fiber communication systems are explained including the optical amplifier and fiber Bragg grating (FBG) which are considered as a revolution in this field. Different multiplexing techniques are explained to increase the network capacity reaching to the Fiber-To-The-Home (FTTH). The free space optics (FSO) system is defined and introduced leading to visible light communications (VLC) in indoor and outdoor applications. The general ideas of fiberscopes are illustrated with medical and industrial applications.

Some videos are provided to help understanding the main concepts. This includes: fiber cables, Alcatel fiber systems and networks, fiber repairing, laser concept an FSO, and VLC and its applications.

## Bio:

**Moustafa H. Aly** was born in 1953, Alexandria, Egypt. He received his B.Sc., M.Sc. and Ph.D. from Faculty of Engineering, Alexandria University, Alexandria, Egypt, respectively, in 1976, 1983 and 1987. He was a co-supervisor of 125 M.Sc. and Ph.D. students and published 250 journals and conference papers. His research area includes optical communications, optical amplifiers and optical networks. He is a member of Optical Society of America (OSA). (Former Dean of Engineering and Former Vice President for Training and Community Service Affairs). Arab Academy for Science, Technology and Maritime Transport, Alexandria, Egypt.