



Department of Electronic Engineering and IEEE Photonics Society Hong Kong Chapter  
Jointly Present a Seminar on

**Tight focusing of light beams with polarization and /or  
phase modulation**

by

**Prof Jixiong Pu  
Huaqiao University  
Xiamen, Fujian, China**

In this talk, the light beams with different polarization distribution and /or helical wavefront are introduced. Some special examples are given, such as a light beam with radial polarization, or azimuthal polarization, et al. The light beams with helical wavefront are called as vortex beams, which possess orbit angular momentum (OAM). The tight focusing of light beams can generate the most sharply focused light spots, and the property of a focal spot depends strongly on polarization distribution of the focused light beams. It has been shown a radially polarized light beam is easier to focus into a tight spot than a linearly polarized beam. Tight focusing of different types of light beams is employed to produce the desired focal spots. In addition, the tight focusing of vortex beams is used to produce desired focal spots. Moreover, the vortex beams can be used as an optical spanner, due to having OAM. Some potential applications of vortex beams in atmospheric propagations etc are also mentioned.

Prof. Jixiong Pu obtained a Master degree in Optics at Fujian Normal University, in 1986. And he has been a faculty member at Huaqiao University since 1986. He did research at University of Tsukuba (Japan) in the period from 1998 to 1999 as a visiting scholar, and from 2001 to 2002 as a JSPS research fellow, respectively. He obtained a Ph. D degree from University of Tsukuba. His main research interests include propagation and focusing of laser beams, optical tweezer, and nonlinear optics, et al. Until now he has published over 200 research papers. He is now a member of editorial advisory board of international book series Progress in Optics.

Date : March 8, 2012 (Wednesday)

Time : 11.00 a.m.. - 12.00 noon

Venue : G6315 (Green Zone)

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

For further information please contact Dr ST Chu at 3442-4968