



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
SEMINAR

Optical Characterization of Nano-devices and Challenges to Achieve Extreme Spatial and Temporal Resolution

by

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Time: 1:30 - 2:30 p.m.

Place: LG23, Science Centre North Block, CUHK

ALL INTERESTED ARE WELCOME

Abstract

Nano (micro) scale optical devices were the focus of my research in the past two years. In this talk, three different but related sub-areas of photonics (i.e. stroboscopic interferometry for transduction of ultrahigh frequency nanoelectromechanical systems (NEMS), end-fired ultrafast organic optical amplifiers, and extraordinary transmission through metallic nanohole arrays for molecule sensing application) will be presented.

Challenges arising from integrating optical components with ultrahigh vacuum scanning tunneling microscopy to achieve chemical sensitivity at sub-nanometer level and time resolution in the range of picosecond will be discussed. Solutions to overcome these difficulties and new experimental setups are proposed.