

# Departments of Physics Special Seminar

## Chiroptical Activity of Nanospirals and Molecular Modulation

Dr. Zhifeng Huang

Department of Physics, Hong Kong Baptist University

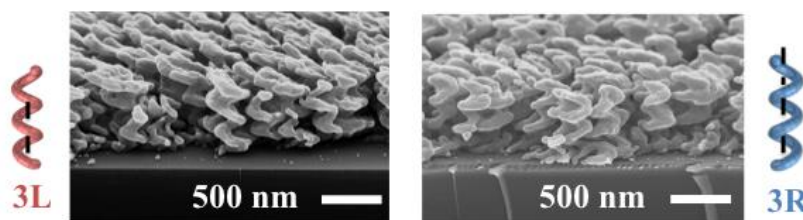


Tuesday, August 4, 2015

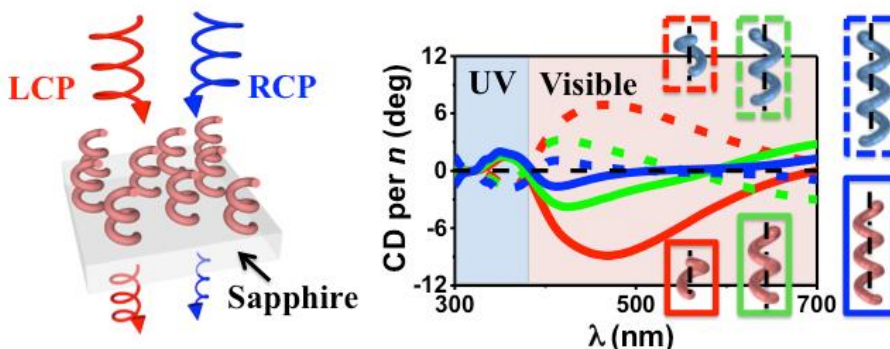
2:00 – 3:00 PM

Venue: CP 220, MMC

**Abstract:** Chirality does naturally exist from the macro (e.g. your left and right hands) to atomic scale. Recently, it is of increasing interest to impose a new degree of freedom (i.e., optical chirality) onto nanoplasmon, with an objective to explore new applications in enantioselection, chiral catalysis, enantiomer trace detection, enantiomer differentiation, and monitoring in food safety, pharmaceuticals and environmental pollution. However, it is still in its infancy to study the chiroptical activity of a typical example of 3D chiral metamaterials, that is, nanospirals. In this seminar, I will talk about the fabrication of chiral nanospirals, the engineering of chiroptical activity via flexibly controlling a wide range of spiral structures, and the preliminary study in what effects the grafted molecules have on the chiroptical activity.



**Biography:** Dr. Zhifeng Huang is an Associate Professor in the Department of Physics at Hong Kong Baptist University (HKBU). He received his BSc and MSc in Chemistry at Xiamen University (PR China, 2000 and 2003), and PhD in Materials Science and Engineering at Arizona State University in 2007. Then he worked as a postdoctoral fellow in the Department of Electrical and Computer Engineering at University of Alberta (Canada), before he joined HKBU as an Assistant Professor in 2009. Presently, his main research interests are in glancing angle deposition, chiral spectroscopy, molecular trace detection, functional optical coating, molecular electronics and nanobiotechnology. He published ~30 peer-reviewed research papers in journals of Nat. Nanotech., Nano Lett., Adv. Mater., JACS, Nanoscale, etc. He is a member of American Chemical Society and Materials Research Society. He serves as an Associate Editor for ScienceJet (Cognizure).



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