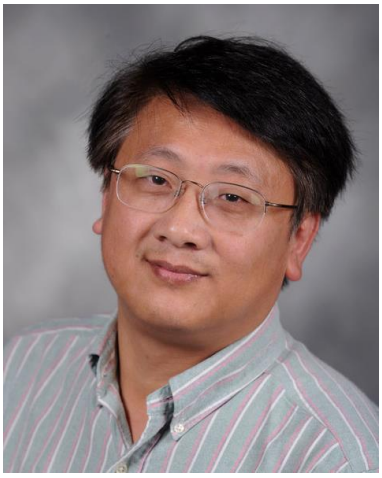
Departments of Physics Colloquium

Photopatterning of Molecular Orientation in Liquid Crystals



Dr. Qi-Huo Wei

Liquid Crystal Institute

Chemical Physics Interdisciplinary Program

Kent State University

Friday, April 15, 2016
1:30 – 2:30 PM
Venue: GL100A, MMC

Abstract: Liquid crystals (LCs) are everywhere around us, as exemplified by the LC displays. Controlling the molecular orientation in LCs is at the heart of fabrication and operation of all LC devices. Emerging applications beyond LC displays require arranging molecular orientations in spatially non-uniform patterns. Recently we developed a new photopatterning technique based on plasmonic metamasks which allows for aligning LC molecular orientation in complex patterns. In this talk, I will present the concept, design and fabrication of metamasks, photoalignment and reconfigurations of topological defects in LCs, and their potential applications of LCs as a template for self-assembly.

Biography: Dr. Qi-Huo Wei is an associate professor in the Liquid Crystal Institute, and Department of Chemical Physics at Kent State University. He received his PhD in Physics from Nanjing University. Before Joining Kent State University, he worked in multiple places, including the Biodesign Institute at Arizona State University and University of California at Los Angeles. He received NSF CAREER award in 2010. The research of his group at the Liquid Crystal Institute is multidisciplinary, covering soft and active matter, plasmonic nanophotonics, micro/nanomanufacturing.

The event is free and open to the public.

Future seminars can be found at http://physics.fiu.edu/seminars/