

Research Seminar on “Ultrafast Light Manipulation in a Single Nanowire”

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Date : 26 June 2017 (Monday)

Time : 4:00 p.m.

Venue : CD634, The Hong Kong Polytechnic University

Abstract:

Integration of miniaturized elements has been a major driving force behind modern ultrafast photonics. One-dimensional optical nanowires or nanofibers have emerged as potential building blocks for miniature photonic circuits and devices for light manipulation. We demonstrate here ultrafast light propagation, modulation and correlation on the single-nanowire scale. Based on nonlinear responses of light waveguided in these 1-dimensional structures, we show ultrafast optical modulation in graphene-activated nanofibers/nanowires and chip-integrated CdS nanowires. Also, by imaging the transverse second harmonic generation (TSHG) from CdS and CdTe nanowires, and converting the TSHG spatial image into the temporal profile of the pulses, we demonstrate ultrafast optical correlation with pulse energy down to femto-joules.

About the speaker:

Prof. Limin Tong received his PhD from Zhejiang University, China in 1997, and is currently a professor and Dean of the College of Optical Science and Engineering at Zhejiang University. His research interests are in nanophotonics and fiber optics, with an emphasis on nanofiber/nanowire photonics and devices. He received the Chang Jiang Scholars (Ministry of Education, China) in 2012, the WANG Daheng Optics Prize (Chinese Optics Society) in 2007, and the National Science Foundation for Outstanding Young Scholars (China) in 2004, respectively. He is a fellow of the Optical Society of America, and an Associate Editor of *Optica*.

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