Seminar

Novel Photonics Technologies for Biomedical Applications

Jing Yong Ye

Department of Biomedical Engineering
University of Texas at San Antonio

Time: 4:00pm, May. 21, 2013 (Tuesday)

时间：2013年5月21日 （周二）下午4:00

Venue: Room 607, Science Building 5

地点：理科五号楼607会议室

Abstract

Biophotonics has emerged in recent years as a multidisciplinary research field that is leading to revolutionary advances in biomedical sciences and clinical applications. I will present an overview of several research projects being performed in my group. First, I will talk about the development of a novel two-photon optical fiber fluorescence (TPOFF) probe and discuss its applications for *in vivo* biosensing, such as real-time monitoring nanoparitcle-based drug delivery in a live mouse model. I will then talk about ultrafast laser interactions with nanoparticle targeted cancer cells. Lastly, time permitting; I shall briefly cover several other exciting projects, including whole-spectrum fluorescence detection of biomarkers using supercontinuum excitation, photonic crystal biosensors for label-free bioassays, novel optoacoustic sensors for high frequency ultrasound detection, and the development of two-photon *in vivo* flow cytometry.

About the Speaker

Dr. Jing Yong Ye is an associate professor in the Department of Biomedical Engineering at University of Texas, San Antonio. The primary focus of his research is to develop cutting-edge ultrasensitive and ultrafast laser-based technologies to address critical issues at the frontiers of biomedical research and applications. He has led multiple exciting research programs including *in vivo* fiber-optic biosensing and imaging of a multifunctional nano-device for targeted cancer drug delivery, photonic crystal biomolecular assays, ultrafast laser interaction with nanoparticle-targeted cancer cells, development of a novel optoacoustic sensor for high-frequency photoacoustic imaging, *in vivo* two-photon flow cytometry, adaptive optical