



Professor Hong-Bo Sun

**Director, State Key Laboratory on Integrated Optoelectronics
JLU Region**

**Dean, College of Electronic Science and Engineering
Jilin University, China**

Prototyping functional materials into 3D with femtosecond lasers

Due to the huge transient power possessed by an ultrafast laser such as a femtosecond laser, the light-matter interactions show intense nonlinearity, and scattered or emitted photons carry information of fine atomic or molecular structures of materials. These features enable unique application of ultrafast laser on nanofabrication based on various materials from functional polymers to graphene, and nano-optoelectronic conversion dynamics characterization, typically of two-dimensional materials, on the basis of ultrafast spectroscopy. This talk will introduce the recent research progress in my lab along the above lines.

Hong-Bo Sun, received the B.S. and the Ph.D. degrees in electronics from Jilin University, Changchun, China, in 1992 and 1996, respectively. He worked as a postdoctoral researcher in Satellite Venture Business Laboratory, the University of Tokushima, Japan, from 1996 to 2000, and then as an assistant professor in Department of Applied Physics, Osaka University, Osaka, Japan. In 2005, he was promoted as a full professor (Changjiang Scholar) in Jilin University, China. His research interests have been focused on ultrafast optoelectronics, particularly on laser nanofabrication and ultrafast spectroscopy: Fabrication of various micro-optical, microelectrical, micromechanical, microoptoelectronic, microfluidic components and their integrated systems at nanoscale, and exploring ultrafast dynamics of photons, electrons, phonons, and surface plasmons in solar cells, organic light-emitting devices and low-dimensional quantum systems at femtosecond timescale. So far, he has published over 200 scientific papers in the above fields, which have been cited more than 7000 times according to ISI search report. He is currently the topical editor of Optics Letters (OSA), Light: Science and Applications (Nature Publishing Group), and editorial advisory board member of journals like Nanoscale (RSC) and Display and Imaging (Old City Publishing).

Wednesday, February 25

4:00 pm

3:45pm—Refreshments served in Jorgensen Atrium area

**Host:
Dr. Jinsong Huang
Department of
Mechanical &
Materials Engineering**

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