

# **ACCELERATOR SEMINAR**

## **“Status of X-Ray Free Electron Lasers (XFELs) and New Directions”**

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After successfully user services of short-wavelength Free Electron Laser (FEL) facilities at SPring-8 (SCSS) in Japan, DESY (FLASH) in Germany, and SLAC (LCLS) in USA, many laboratories around the world are rushing to build their own X-ray FEL (XFEL) facilities, which can supply coherent, ultra-bright, and femtosecond (even attosecond) long hard X-rays. With advanced next generation X-rays, we can open femto-sciences in biology and chemistry and various new research fields in physics, structural biology, and material science where femtosecond temporal resolution and atomic-scale spatial resolution are required. During this talk, speaker will shortly introduce working principles of XFEL and superiorities of coherent XFEL over conventional incoherent X-rays. Then speaker will talk about current status of developing XFEL projects in the world and several new directions to realize more compact (or even table-top) XFELs and storage ring based XFELs.

**Monday, September 13, 2010  
3:30 p.m. – 4:30 p.m.  
CEBAF Center, Room L102/104**