Laser Seminar / NCCR MUST Seminar
Monday, November 16, 2015

Time	16.45
Location	ETH Zurich, Hönggerberg, HPF G6
Speaker	Robert Boge, ELI Beamlines, Institute of Physics, Prague, Czech Republic
Title	ELI: Providing Unprecedented Laser Technology to the Research Community
Abstract	The Extreme Light Infrastructure (ELI) project aims to host some of the most intense lasers world-wide, develop new interdisciplinary research opportunities with light from these lasers and secondary radiation derived from them, and make them available to an international community of scientific users. Three laser centers, ELI Beamlines in Czech Republic, ELI Attosecond in Hungary, and ELI Nuclear Physics in Romania, are currently being put into operation with the possibility of a fourth center still being discussed. After a brief introduction of the ELI project, the user facility ELI Beamlines located near Prague, Czech Republic will be presented. Here, a new generation of laser-driven secondary sources for interdisciplinary applications in physics, medicine, biology and material sciences is being created. These secondary sources consist of various laser-driven X-ray sources as well as laser-accelerated particles, i.e. electrons, protons, and ions. The driving lasers provide extremely intense pulses at high repetition rates, such as 1 PW at 10 Hz based on DPSSL technology or up to 10 PW at one shot per minute based on flashlamp pump technology. Following a general overview of the experimental stations and the different laser systems, the focus of the presentation will be placed on the laser system L1, which is being completely developed in-house. It is conceived as a high repetition rate, femtosecond beamline with pulse energy exceeding 100 mJ to be primarily used for molecular and biomedical science by generating coherent XUV and X-ray radiation. Based on OPCPA technology and pumped by upconverted thin disk lasers, the system will provide pulses with durations as short as 20 fs, at 1 kHz and 800 nm.
Host	Ursula Keller, Ultrafast Laser Physics, IQE
More Info	http://www.opteth.ethz.ch/news/laser_seminar

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Contact Daniela Hansen, hansenda@phys.ethz.ch, 044 633 36 02