

Università degli Studi di Pavia
**SCUOLA DI DOTTORATO IN SCIENZE E
TECNOLOGIE**

DOTTORATO DI RICERCA IN FISICA
CORSO “SEMINARI DI STRUTTURA DELLA MATERIA”
A.A. 2006/2007

**Venerdì 23 Marzo 2007, alle ore 11.00 presso
l’Aula di Dottorato dei Dipartimenti Fisici, via Bassi 6, il**

Prof. Fulvio PARMIGIANI
dell’Università di Trieste

terrà un seminario dal titolo

**“FRONTIERE DELLA SCIENZA CON
IL FEL”**

Abstract

The FERMI@Elettra free electron laser will be realized in two principal phases. FEL-1 is designed to operate in the time domain and with two complementary operating modes: a) high stability and b) high intensity. FEL-2 is designed to operate in the frequency domain (high energy resolution) and relatively long photon pulses (~ 1 ps). These design choices will yield a FEL source quite unique among the other FELs under construction or proposed for construction in Europe, USA and Japan.

The initial FERMI science program is structured to allow experiments with different and increasingly more demanding photon parameters. This plan will allow performing high quality experiments from the very beginning of the FEL1 and FEL2 commissioning. For these reason we plan the following order of experiments.

- Single Shot Experiments (High Peak Brilliance Experiments)
- Pump-Probe Experiments (Experiments in both the time and frequency domains)
- High Energy Resolution Experiments (Experiments in the Frequency and Time Domain, non-linear spectroscopy experiments).

Il Titolare del Corso
e Direttore della Scuola
A. Rigamonti