



**DIPARTIMENTO DI FISICA "E.Fermi"**  
UNIVERSITÀ DI PISA  
**CORSO DI DOTTORATO IN FISICA**  
VIA BUONARROTI,2 - Edificio B-C  
56127 PISA - ITALY

# **CORSO DI DOTTORATO IN FISICA**

**Giovedì 16 Giugno 2005**  
ore 15:30

**Dipartimento di Fisica**  
**Via Buonarroti, 2**  
**Sala Seminari (248) I piano - Ed. C**

**Prof. Gernot Akemann**  
*Dept. of Math. Sciences - Brunel University - U.K.*

**terrà un seminario su:**

## **"Chemical potential in QCD -like theories versus complex Matrix Models"**

**Abstract: In the low energy phase QCD lattice simulations encounter serious problems when introducing a chemical potential, due to the complex phase of the action. Random Matrix Models with complex eigenvalues provide an efficient tool to describe the lowest Dirac operator eigenvalues.**

**Analytical predictions are presented including dynamical fermions. These are successfully compared to Lattice simulations without sign problem in two and three colour QCD.**

**K.Konishi**