



**DIPARTIMENTO DI FISICA "E.Fermi"**  
UNIVERSITÀ DI PISA  
**CORSO DI DOTTORATO IN FISICA**  
Largo B.Pontecorvo, 3 - Edificio B-C  
56127 PISA - ITALY

## **Ciclo di lezioni per il CORSO DI DOTTORATO IN FISICA**

**Prof. B. Heinemann**  
*Univ. of California – Berkeley*

# **"Particle physics from Tevatron to LHC: what we know and what we aim to discover"**

Hadron colliders have played a pivotal role in establishing the theory of particle physics that gives an excellent description of the fundamental particles in the Universe and their interactions. In the past 20 years the Tevatron proton-antiproton collider has operated near Chicago in the US as the world's highest energy collider, and this year it will pass the torch to the Large Hadron Collider (LHC) near Geneva in Switzerland. I will review the scientific advances made by the Tevatron and give an outlook of what we might expect from the LHC. I will cover both the established theoretical predictions that have been tested to great precision and the speculative predictions for the LHC that may or may not be discovered in the next few years.

**Lunedì 8, Martedì 9, Mercoledì 10,  
Giovedì 11 e Venerdì 12 Febbraio 2010**

**Aula 131 - Piano Terra - Ed. C**

V.Cavasinni