



The Galileo Galilei Institute for Theoretical Physics Arcetri, Florence



Workshop at the Galileo Galilei Institute in Spring 2006

May 2nd - June 30th

New Directions Beyond the Standard Model in Field and String Theory

The beginning of the LHC experimental program in 2007 makes it urgent to undertake a detailed study of possible extensions of the Standard Model that offer an explanation for the origin of the electroweak scale and its connection with other scales in particle physics. In recent years new ideas on the hierarchy problem have been proposed with a great impact in particle phenomenology and cosmology. On the formal side, the gauge-string duality conjecture has led to new computational methods for studying strongly-coupled gauge theories, and D-brane engineering has provided new realisations of gauge symmetry and supersymmetry breaking. Moreover recent compactifications of string theory have also showed the possibility of stabilising all moduli fields, opening the way to a thorough phenomenological analysis. The purpose of the workshop, which includes a short conference, is to bring together leading string and field theory experts to share ideas and stimulate the interaction between these communities in preparation for the exciting LHC experimental results.

Jo Galileo Galilei

The main topics of the workshop include:

1. Electroweak symmetry breaking.
2. Supersymmetric models and supersymmetry breaking.
3. String vacua and model building.
4. Warped compactifications and holography.
5. Modifications of gravity and cosmological implications.

Organisers: **Carlo Angelantonj** (University of Torino), **Emilian Dudas** (Ecole Polytechnique, Paris and LPT-Orsay), **Tony Gherghetta** (University of Minnesota), **Alex Pomarol** (Universitat Autònoma de Barcelona).