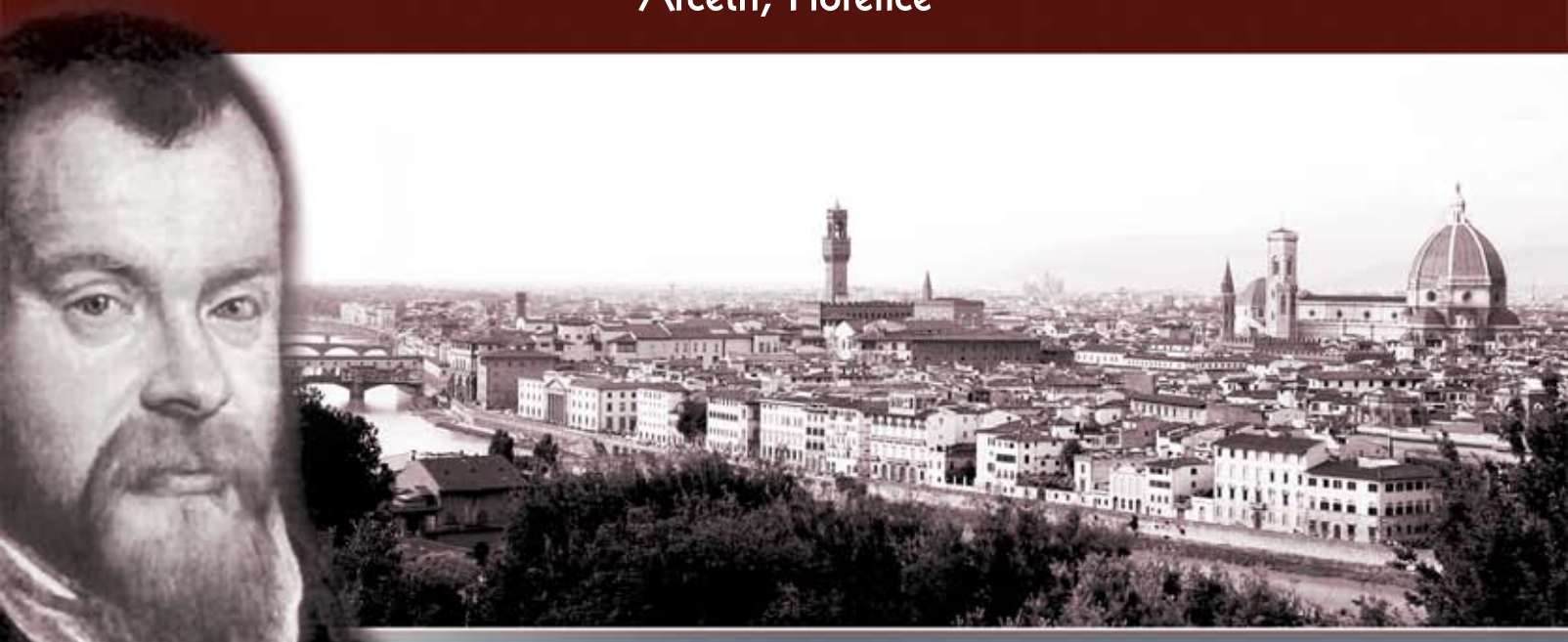
The Galileo Galilei Institute for Theoretical Physics
Arcetri, Florence



New Horizons for Modern Cosmology

19 January - 13 March 2009

The success of the standard cosmological model has many puzzling consequences and raises several key questions which are far from being answered. The observation of dark energy demonstrates that our well established theories of particles and gravity are incomplete if not incorrect. What makes up the dark side of the universe? What created the primordial fluctuations? Is gravity purely geometry as envisaged by Einstein, or is there more to it (such as scalar partners and extra dimensions)? An unprecedented experimental effort is currently being devoted to address these grand-challenge questions in cosmology. This is an intrinsically interdisciplinary issue that will inevitably be at the forefront of research in astrophysics and fundamental physics in the coming decades.

Topics:

- Dark energy
- Dark matter
- Inflation
- Gravity

Organizing Committee:

Marc Kamionkowski (Caltech, USA); Carlos Martins (CAUP, Porto, Portugal)
Alessandro Melchiorri (University of Rome "La Sapienza"); Antonello Polosa (INFN, Rome)
Licia Verde (ICE/CSIC Barcelona, Spain)

GGI: http://ggi-www.fi.infn.it