



# *Astrophysical Probes of Fundamental Physics*

*A PhD School at University of Ferrara  
(Department of Physics and Earth Science)*

*Ferrara, Italy, 5-9 September 2016*

**Lectures will cover:**

- \* Recent developments in cosmology and astro-particle physics, including dark matter and dark energy
- \* High-density matter and extreme physics, which can be probed with compact objects and high-energy transient phenomena, as well as gravitational waves
- \* Formation and demography of supermassive black holes in the early Universe and the mass spectrum of stellar-mass black holes, critical for gravitational wave astronomy

**Lecturers:**

L. Amati, C. Burigana, R. Gilli, C. Guidorzi, M. Meneghetti, M. Mapelli,  
P. Natoli, M. Orlandini, G. Pagliara, P. Rosati

