



The Galileo Galilei Institute for Theoretical Physics  
Arcetri, Florence

# Frontiers in Nuclear and Hadronic Physics School

Arcetri, Florence, February 22 – March 4, 2016

The lectures are primarily addressed to Ph.D. students in Theoretical Nuclear and Hadronic Physics. Participation of experimentalists and post-docs is also encouraged. The goal of the lectures is to provide a pedagogical introduction to the basic concepts and tools needed for research in nuclear structure and nuclear reactions. Different facets of the nuclear many-body problem will be highlighted this year: the shell model and its many applications, including beta- and double beta decay; cluster models with their strong connection with reactions in light nuclei and astrophysics; the role of strangeness and the progress in the physics of hypernuclei; heavy-ion collisions and the information one can deduce on the nuclear equation of state.

## Lecturers and Topics

- **Pawel Danielewicz (Michigan State University, East Lansing, USA )**  
**Heavy Ion Collisions and Nuclear Equation of State**
- **Avraham Gal (The Hebrew University, Jerusalem, Israel)**  
**Progress in Strangeness Nuclear Physics, I**
- **Assumpta Parreno (Universitat de Barcelona, Spain)**  
**Progress in Strangeness Nuclear Physics, II**
- **Alfredo Poves (Universidad Autonoma de Madrid, Spain)**  
**The Shell Model**
- **Peter Schuck (LPMMC Grenoble and IPN Orsay, France)**  
**Cluster phenomena in Nuclei (structure effects)**
- **Alexander Volya (Florida State University, Tallahassee, USA)**  
**The compound nucleus model, resonance states, reactions with clusters**

## Organizing Committee

Francesco Becattini (University of Firenze)  
Ignazio Bombaci (University of Pisa)  
Angela Bonaccorso (INFN, Pisa)  
Maria Colonna (LNS, INFN, Catania)  
Giovanni Salmé (INFN, Roma)  
Elena Santopinto (INFN, Genova)  
Enrico Vigezzi (INFN, Milano)