

# **Sicily-East Asia Workshop - Low Energy Nuclear Physics**

**Monday, 28 July 2014 - Thursday, 31 July 2014**

**Scuola di Architettura Siracusa**

## **Scientific Programme**

In the last years an intense collaboration between our groups in the field of low energy nuclear physics, with a very special emphasis on nuclear astrophysics, was established and confirmed by conducting several experiments together. It is our intention to continue and strengthen this collaboration for long years to come.

To this end, we think it is essential to discuss the subjects that will be the focus of our efforts in the next years in an informal but efficient way and to extend this discussion to interested Colleagues that were not involved in previous experiment and researches as well. A very focused workshop of few days will greatly help to fulfil these goals.

During the workshop we will discuss the key physics issue in low energy nuclear physics to be addressed in collaboration experiments. These will be conducted primarily -but not exclusively- at both CNS/RIKEN and INFN-LNS facilities. Also we should discuss basic ideas on how to perform the proposed experiments and how to manage the needs in terms of equipments, manpower and financial resources that will be necessary to successfully perform them. Last but not least, contributions from theorists will be very welcome and helpful to set new perspectives and goals.

The research themes that we would like to discuss include but are not limited to:

- a) Nuclear processes relevant for astrophysics like quiescent and explosive nucleosynthesis, hot-CNO, primordial nucleosynthesis, AGB stars;
- b) fusion mechanisms at and below the Coulomb barrier with heavy ion beams;
- c) cluster structures in stable and unstable nuclei;
- d) reaction mechanisms;
- e) applications.