

**CARINA:**  
**a network to harmonize the nuclear astrophysics research in Europe**

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Nuclear astrophysics has revealed as one of the most exciting areas of interdisciplinary research, in the crossroads of nuclear physics, astrophysics and astronomy. As a driving force for the development of the very first Radioactive Ion Beam (RIB) Facilities, it remains a fundamental research area in many European laboratories and is one of the key research topics in future RIB Facilities in Europe.

Coupled to these innovative experimental efforts are substantial communities of theorists, astrophysicists and observers. Input from all of these sectors is necessary to achieve realistic modeling of stellar environments, the ultimate aim being a thorough understanding of the abundance and evolution of the elements and of the processes of energy generation in the Universe. Although the human potential in Europe is considerable, the effort is still dispersed.

Within the EURONS project (2005-2008), the CARINA network intends to provide coherence to the research activities in nuclear astrophysics in Europe. CARINA stands for Challenges and Advance Research In Nuclear Astrophysics. The main goals of CARINA are:

- To carry out mapping studies of the European situation in terms of projects, facilities and teams in order to identify the offered instrumentation and the available human potential.
- To exploit the research capabilities of existing Large Scale Facilities and of smaller laboratories and to enhance involvement in the future RIB facilities.
- To record the needs for new instrumentation and techniques, by looking also for existing solutions in other fields.
- To coordinate research efforts by defining and proposing common research goals and by encouraging new collaborations and new R&D projects.

Here, the CARINA network will be introduced and the main goals will be presented. More information is available at the website: <http://www.cyc.ucl.ac.be/CARINA>, which is regularly updated.