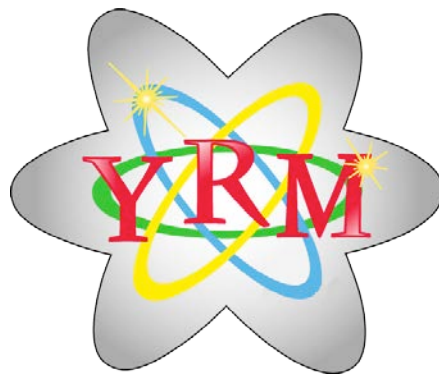


Young Researcher Meeting, L'Aquila 2015

F Agostini, C Antolini, M Bossa, G Cattani, S Dell'Oro, M D'Angelo, M Di Stefano, G Fragnone, M Migliaccio, L Pagnanini, D Pietrobon, E Pusceddu, M Serra, F Stellato

PREFACE



The Young Researcher Meeting (www.yrmr.it) has been established as a forum for students, postdoctoral fellows and young researchers determined to play a proactive role in the scientific progress. Since 2009, we run itinerant, yearly meetings to discuss the most recent developments and achievements in physics, as we are firmly convinced that sharing expertise and experience is the foundation of the research activity. One of the main purposes of the conference is actually to create an international network of young researchers, both experimentalists and theorists, and fruitful collaborations across the different branches of physics.

The format we chose is an informal meeting primarily aimed at students and postdoctoral researchers at the beginning of their scientific career, who are encouraged to present their work in brief presentations able to provide genuine engagement of the audience and cross-pollination of ideas.

The sixth edition of the Young Researcher Meeting was held at the Gran Sasso Science Institute (GSSI), L'Aquila. The high number of valuable contributions gave rise to a busy program for a two-day conference on October 12th-13th. The event gathered 70 participants from institutes all around the world. The plenary talk sessions covered several areas of pure and applied physics, and they were complemented by an extremely rich and interactive poster session.



This year's edition of the meeting also featured a *lectio magistralis* by Prof. E. Coccia, director of the GSSI, who discussed the frontiers in gravitational wave physics, commemorating the International Year of Light on the centenary of Einstein's theory of general relativity.

On October 14th, the participants to the conference took part to a guided tour of the Gran Sasso National Laboratories (LNGS), one of the major particle physics laboratories in the world.

In this volume, we collect part of the contributions that have been presented at the conference as either talks or posters. They cover topics in astrophysics and cosmology, particle and theoretical physics, soft and condensed matter, biophysics, medical physics, and instrumentation. Advancements in theoretical, experimental and data analysis fields are well balanced across the contributions. Marking the year of the Nobel Prize *for the discovery of neutrino oscillations, which shows that neutrinos have masses*, several contributions detail the recent results from ANTARES, an experiment optimised for the detection of muons from high-energy astrophysical neutrinos. As the meeting was held at the GSSI, a number of papers focus on the cutting-edge experimental developments for the experiments at the LNGS (e.g. LUNA, XENON). Moreover, interesting updates have been delivered by young researchers involved in experiments at other major facilities in the world, such as the Elettra Synchrotron, Sieroszowice Underground Laboratory, Fermilab and Jefferson Laboratory.

YRM Organising and Editorial Committee

Fabio Agostini

(fabioagostini31@gmail.com)

NAIS, Italy

Claudia Antolini

(cla.antolini@gmail.com)

Maria Bossa

(maria.bossa@gssi.infn.it)

Gran Sasso Science Institute

Giordano Cattani

(giordano.cattani@gmail.com)

Stefano Dell'Oro

(stefano.delloro@gssi.infn.it)

Gran Sasso Science Institute

Marco Di Stefano(marco.distefano@cnag.crg.eu) Centre
Nacional d'Anàlisi Genòmica - Centre de
Regulació Genòmica (CNAG-CRG)**Marta D'Angelo**

(marta.dangelo@gssi.infn.it)

Gran Sasso Science Institute

Giacomo Fragione

(giacomo.fragione90@gmail.com)

Physics Department, "La Sapienza"
University of Rome**Marina Migliaccio**

(mm858@ast.cam.ac.uk)

Institute of Astronomy and Kavli Institute for
Cosmology, University of Cambridge**Lorenzo Pagnanini**

(lorenzo.pagnanini@gssi.infn.it)

Gran Sasso Science Institute

Davide Pietrobon

(daddeptr@gmail.com)

HERE, California

Emanuela Pusceddu

(emanuela.pusceddu@gmail.com)

Institute of Biometeorology CNR

Matteo Serra

(serra@mat.uniroma1.it)

Mathematics Department, "La Sapienza"
University of Rome**Francesco Stellato**

(francesco.stellato@roma2.infn.it)

INFN Roma Tor Vergata

ACKNOWLEDGMENTS

The organisers of the 6th Young Researcher Meeting, held in L'Aquila, would like to thank all the scientists who participated in the meeting.

We thank the Gran Sasso Science Institute (GSSI) and Laboratori Nazionali del Gran Sasso (LNGS) for hosting the conference, covering the organizational costs and the expenses for the publication of the proceedings, and providing travel grants to the speakers. We are grateful to Prof. Eugenio Coccia, director of GSSI, Prof. Francesco Vissani, coordinator of the Astroparticle Physics Ph.D. course at GSSI, Prof. Stefano Ragazzi, director of LNGS, and Dr. Alba Formicola, head of LNGS research division, for their invaluable support and advice.

The event was broadcast live on the GSSI website.

