

Preface

The 2015 La Rábida International Scientific Meeting on Nuclear Physics was held from June 1 to 5, 2015 in the campus of the International University of Andalucía (UNIA) at La Rábida (Huelva, Spain).

The name of La Rábida has a special significance for the nuclear physics community. Since the beginning of the eighties, professors from the University of Seville have been organizing summer schools on nuclear physics, which were first named as “La Rábida Summer Schools” and later as “Hispalensis Summer Schools”. The first edition took place in 1982, that is, 33 years ago. After eight editions and a gap of some years, in 2009 we revived this event by organizing a new edition, which was named *International Scientific Meeting on Nuclear Physics*. This present edition follows closely the two previous ones, with the same general title, i.e., “Basic concepts in Nuclear Physics: theory, experiments and applications”. The opening ceremony was presided over by the Director of the International University of Andalucía (UNIA) at La Rábida, Prof. Yolanda Pelayo Díaz, with the presence of the Vice-rector of Research of the University of Huelva, Prof. Antonio Jesús Díaz Blanco, and the Director of the Meeting, Prof. José Enrique García Ramos.

The objective of the school has been to provide the attendance (students and young postdocs) a wide and solid education in the field of nuclear physics. The course was divided into three main topics: theory, experiments, and applications. Six experienced and well-known researchers have participated in the event, each giving four-hour lectures covering the topics of interest. In addition, young participants have also presented their own research works through seminars and posters. Most of the lectures and contributions have been published in this special number of Springer Proceedings in Physics.

The topics presented by the speakers in their lectures covered the whole field of nuclear physics, from applications with a great social impact as nuclear wastes and medicine, to fundamental topics in basic research, theory, and experiment. Here we list the speakers and topics:

- Prof. L.E. Herranz, CIEMAT (Spain). *Severe accidents in Nuclear Power Plants.*
- Prof. Iain Moore, University of Jyväskylä (Finland). *Laser spectroscopy.*
- Prof. Juan M. Nieves, IFIC-CSIC (Spain). *Neutrinos in Nuclear Physics.*
- Prof. Dieter Schardt, GSI (Germany). *Hadrontherapy.*
- Prof. José J. Valiente Dobón, INFN Laboratori Nazionali di Legnaro (Italy). *Gamma ray spectroscopy of exotic nuclei.*
- Prof. Dario Vretenar, University of Zagreb (Croatia). *Nuclear structure, relativistic mean field theory.*

The number of registered Ph.D. students and postdocs has been around 55 coming from different countries: Brazil, Bulgaria, China, Colombia, Cuba, India, Italy, Germany, Jordania, Libya, Morocco, Nigeria, Poland, Rumania, Russia, Spain, Turkey, UK, and Ukraine. In the particular case of Spain, participants came from 8 different universities and research centers, covering basically all institutions where active nuclear physics groups are working.

Grants covering partly lodging and boarding were supplied to 35 participants. This has been possible and thanks to the economical support received from CPAN (Center of high energy particles, astroparticles and nuclear physics) and Cátedra AIQBE (Asociación de Empresas Químicas, Básicas y Energéticas de Huelva, Universidad de Huelva).

Lectures given by the speakers and the contributions of the young participants have undoubtedly shown the interest and the impact of nuclear physics on many brilliant students working in fundamental research as well as in very diverse applications of nuclear physics.

We would like to conclude with a special gratitude to the students and the young postdocs who have helped us with the daily work. Organizing this event would have been impossible without their support.

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Seville
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Huelva

José-Enrique García-Ramos
Clara E. Alonso
María Victoria Andrés
Francisco Pérez-Bernal

Basic Concepts in Nuclear Physics: Theory, Experiments
and Applications

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García-Ramos, J.-E.; Alonso, C.E.; Andrés, M.V.;
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