

Foreword

The 11th International Seminar on Nuclear Physics was held in Ischia from May 12 to May 16, 2014. This Seminar was dedicated to Aldo Covello, who has been the promoter of this series of meetings, which started in Sorrento in 1986 and continued with meetings held every two or three years in the Naples area.

Aldo's idea was to offer to a group of researchers, actively working in selected fields of Nuclear Physics, the opportunity to confront their points of view in a lively and informal way. The choice for the period of the year, Spring, as well as the sites chosen reflected this intent.

The first meeting was of a purely theoretical nature, but it was immediately clear that the scope of these conferences needed to be enlarged calling into play the experimental community. Then, starting from the second meeting, all the following ones have been characterized by fruitful discussion between theoretical and experimental researchers on current achievements and future developments of nuclear structure. This may be read, in fact, as one of the motivating factors for Aldo's election as Fellow of the American Physical Society in 2008 "... *for his outstanding contributions to the international nuclear physics community by providing, for over two decades, a venue for theorists and experimentalists to share their latest ideas.*"

The present meeting, organized by Aldo's former students and with the benefit of his suggestions, has maintained this tradition. The title "Shell model and nuclear structure: achievements of the past two decades" recalls that of the 2nd International Spring Seminar "Shell Model and Nuclear Structure: where do we stand?". The main aim of this 11th Seminar was, in fact, to discuss the changes of the past two decades on our view of nuclei in terms of shell structure as well as the perspectives of the shell model, which has been one of the key points in Aldo's research. This point is well accounted by the Opening Speech of Igal Talmi, one of the fathers of the shell model. Then, as usual, the program of the meeting consisted of general talks and more specialized contributions, which covered five main topics: i) From nuclear forces to nuclear structure; ii) Exploring nuclear structure toward the drip line; iii) Role of the shell model in the study of exotic nuclei; iv) Nuclear structure aspects outside the shell model; and v) Special topics. The main conclusions were drawn in two keynote talks given by Amand Faessler and Franco Iachello.

The Conference had about 90 participants from some 20 countries [please see the list of participants]. This is well in line with the tradition of these meetings, as is the fact that more than 50% of the present participants attended one or more of the previous Seminars.

We received 58 manuscripts out of the 73 invited papers and contributions presented at the Seminar. All of these have been peer reviewed and are collected in this volume. We would like to thank all the colleagues who have acted as referees to assess the suitability of the various articles for publication in the *Journal of Physics: Conference Series*. We are confident that the high quality of both invited and contributed papers contained in these Proceedings will be appreciated by the nuclear physics community.

We gratefully acknowledge the members of the Advisory Committee for their valuable cooperation in preparing the scientific program as well as the financial support of the Istituto Nazionale di Fisica Nucleare, the University of Naples Federico II, and the Dipartimento di Fisica who helped make the Seminar possible.

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