

Preface

The National Conference on Nuclear Physics (NCNP) was held in School of Physics, Sambalpur University, during 1–3 March 2013 under the sponsorship of UGC, DST, CSIR, BRNS and MCL. The conference was inaugurated by Dr S Kailas, Director, Physics Group, Bhabha Atomic Research Centre, Mumbai and the summary talk of the conference was delivered by Dr S K Patra, IOP, Bhubaneswar.

The aim of this Conference was two-fold: (1) to provide a scientific platform to the nuclear physics community of India to present their recent research works and to provide a platform for them to interact with others for the development of their respective fields of nuclear physics and (2) to provide an academic platform to the students to derive inspiration and motivation for their higher studies in nuclear physics.

There was an overwhelming response of nuclear physics researchers from all over the country for the conference. The M.Sc. Physics students of all the Universities of Odisha were also equally enthusiastic to participate in the conference. The members of the Advisory Committee did an excellent job in providing extensive valuable advice on the selection of the plenary speakers and selecting the contributed abstracts for oral presentation. The scientific programme of the conference was planned by the members of the Programme Committee. We are grateful to all the members of Advisory Committee and Programme Committee for their support.

The Conference comprised of 30 invited talks including one Key Note Address on the progress and prospects of hundred years of nuclear physics and 12 oral contributions. Out of the 30 invited talks, 6 were devoted to experiments carried out in (i) Variable Energy Cyclotron Centre, Kolkata, (ii) Inter-University Accelerator Centre, New Delhi, (iii) Indian National Gamma Array, TIFR–BARC Accelerator, Mumbai and (iv) Relativistic Heavy-Ion Collider, CERN, Geneva. The theoretical talks were devoted to a wide spectrum of nuclear structures, nuclear reactions and nuclear astrophysics events. The conference was attended by 130 participants from all over India. The talks by the distinguished speakers were outstanding in both content and presentation. The audience provided valuable discussions and kept attending the session right to the end. We are grateful to all the distinguished speakers and participants of the conference for their valuable and stimulating deliberations and active participation in the conference. We are also grateful to all the chairpersons who succeeded in keeping the conference pretty much on time while encouraging exchange of different ideas through discussions.

One of the special features of this conference was the evening function to felicitate five eminent nuclear physicists of our country: Dr S Kailas (BARC), Dr J N De (SINP), Dr A K Jain (BARC), Dr C R Praharaj (IOP) and Dr C S Shastri (AVV), in honour of their significant contributions towards the advancement of nuclear physics. Prof D R Naik, Ex-Vice Chancellor, Sambalpur University, felicitated these distinguished scientists on behalf of the Local Organizing Committee of the conference.

These proceedings of NCNP 2013 contain only the invited talks received before the extended deadline. We are thankful to the authors for the quality of their contributions and for sending their contributions. We are also very thankful to the reviewers who made peer review of these contributions.

We would like to thank our sponsors whose financial assistance and support made this conference possible. We also thank Prof B C Barik, Vice Chancellor, Sambalpur University and all other members of the Local Organizing Committee for their necessary support to organize the conference successfully. We record our great appreciations for the teachers, students and staffs of School of Physics, whose untiring efforts made possible the successful conduct of the conference.

Finally, we express our gratitude to the members of the Editorial Board, *Pramana – Journal of Physics*, for recommending publication of the invited talks of NCNP 2013 as a special issue.

Keshab C Panda, Zashmir Naik

School of Physics, Sambalpur University, Sabalpur 768 019, India

(Editors)