

## Preface

The DAE–BRNS National Laser Symposium, held under the auspices of the Board of Research in Nuclear Sciences, Department of Atomic Energy, is an annual event that brings together eminent scientists and engineers from India and abroad for intense discussions on science and technology related to lasers. The 21st edition of National Laser Symposium (NLS-21) was organized by the Bhabha Atomic Research Centre, and was held in Mumbai during February 6 to 9, 2013.

Ever since the NLS was held for the first time at IIT Madras in 1992, it has been growing both in size and stature. As a matter of fact, a record number of manuscripts were submitted this year for consideration of presentation in NLS-21. The symposium was inaugurated by Shri Sekhar Basu, Director, Bhabha Atomic Research Centre and the keynote address was delivered by Dr Ajoy K Ghatak, formerly professor of Physics, Indian Institute of Technology, Delhi, an eminent laser physicist, and author of many books that have become popular among both the student and research communities. The symposium this year had 10 regular scientific sessions comprising 7 plenary and 17 invited talks by both senior and young researchers, 3 poster sessions consisting of a total of 277 contributory papers selected through a rigorous process of reviewing from the submitted 348 papers, 2 Ph.D. thesis sessions with a total of 11 oral presentations of recent Ph.D. theses on related topics, and an industrial session with six presentations made by industrial participants dealing with lasers and related products.

This special issue of *Pramana – J. Phys.* has stemmed from the summary of plenary and invited talks and 48 contributed papers selected from those presented as posters during the symposium. The Symposium Organizing Committee, in its first meeting itself, recommended publication of the symposium proceedings as it was felt that this would stimulate improvement in the scientific and the technical content of the contributions. The authors and their institutions also stand to benefit from a wider exposure of their work to both national and international communities. Needless to say, this special issue of *Pramana* would also serve as a reference for future research that has its genesis in this symposium.

The selection of the contributory papers for the proceedings was carried out in two steps. A bunch of papers was first shortlisted by the scientific committee that were then critically reviewed by a panel of experts constituted in consultation with Dr S M Sharma, editorial board member of *Pramana*. The reviewer panel comprised Prof. A K Nath (IIT Kharagpur), Prof. G Ravindra Kumar (TIFR), and Prof. D N Rao (University of Hyderabad) and we very sincerely acknowledge the stupendous effort put in by each one of them, in spite of their busy schedule, while selecting these 48 contributory papers for publication. We also would like to convey our special thanks to the members of the scientific committee for their painstaking effort in shortlisting the papers for final reviewing.

We express our heartfelt gratitude to all the NLS-21 reviewers for accomplishing the monumental task of judging the submitted papers for their suitability for presentation in the symposium, all the invited speakers for participating in the symposium and sharing their knowledge with the laser community, and the

authors who have enthusiastically responded to our call for submission of papers. Prof. Ravindra Kumar also deserves special thanks for his significant contribution in enriching the scientific quality of the symposium. We also thank all the members of National Advisory Committee and the Symposium Organizing Committee for their valuable suggestions, guidance and support. We are thankful to DAE–BRNS for the financial support that also includes financial assistance to deserving students to enable their participation in the symposium. We also thank all the industrial participants for their enthusiastic interaction with the research community during the symposium. Finally, we gratefully acknowledge the constant support received from Dr A K Das, Head, Laser and Plasma Technology Division, BARC throughout this endeavour.

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