

Preface

The international conference on “Algebra and its Applications” was organized by the Department of Mathematics, Aligarh Muslim University, Aligarh, India, and was held during December 15–17, 2014, under the UGC-DRS (SAP-II) programme. The conference was sponsored by Aligarh Muslim University (AMU), Science and Engineering Research Board (SERB), Department of Science and Technology (DST), New Delhi and the National Board of Higher Mathematics (NBHM), Mumbai.

The purpose of the conference was to bring together algebraists from all over the world working in Algebra and related areas to present their recent research works, exchange new ideas, discuss challenging issues and foster future collaborations in Algebra and its applications. An important aim of the conference was to expose young researchers to new research developments and ideas in Algebra via the talks presented and the research interactions the conference provided.

This research volume based on the proceedings of the conference consists of research literature on latest developments in various branches of algebra. It is the outcome of the invited lectures and research papers presented at the conference. It also includes some articles by invited algebraists who could not attend the conference. This includes Professors Jae Keol Park, Busan National University, Busan, South Korea; Akihiro Yamamura, Akita University, Japan; Shuliang Huang, Chuzhou University, China; Shervin Sahebi and V. Rahmani, Islamic Azad University, Tehran, Iran; Shreedevi K. Masuti and Parangama Sarkar, IIT Bombay, Mumbai; C. Selvaraj, Periyar University, Salem, Tamil Nadu; T. Tamizh Chelvam, Sundarnar University, Tamil Nadu; S. Tariq Rizvi, The Ohio State University, Ohio, Lima, USA; N.K. Thakare, Pune University, Pune; A. Tamilselvi, Ramanujan Institute for Advanced Study in Mathematics, Chennai; and V.S. Kapil, Himachal Pradesh University, Shimla.

To maintain the quality of the work, all papers of the research volume are peer-reviewed by global subject experts. As Algebra continues to experience

tremendous growth and diversification, these articles highlight the cross-fertilization of ideas between various branches of algebra and exhibit the latest methods and techniques needed in solving a number of existing research problems while provide new open questions for further research investigations. These will cover a broad range of topics and variety of methodologies. It is expected that this research volume will be a valuable resource for young as well as experienced researchers in Algebra.

Professor Asma Ali was the convener of the conference and Professor M. Mursaleen, the coordinator of the DRS programme. The conference had Professor Patrick W. Keef, Whitman College, Walla, Walla, USA, the chief guest and Professor Ashish K. Srivastava, Saint Louis University, St. Louis, USA, the guest of honor. The enriching programme contained a keynote address on computer-aided linear algebra by no less a mathematician than Professor Vasudevan Srinivas of a premier research centre of India, the Tata Institute of Fundamental Research (TIFR). Professor Vasudevan is also the recipient of Indian National Science Academy (INSA) Medal for Young Scientists, elected Fellow of Indian Academy of Science (IAS) and has received the B.M. Birla Science Award, Swarnajayanthi Fellowship Award, Bhatnagar Prize, J.C. Bose Fellowship, and TWAS Mathematics Prize.

A total of 13 plenary talks and 20 invited talks on current topics of algebra and its applications were delivered by distinguished algebraists. The speakers included, Professors Luisa Carini; Vincenzo De Filippis, Italy; Nanqing Ding, China; Sudhir R. Ghorpade, IIT Bombay; Jugal K. Verma, Tony Joseph and Ananthanarayan, IIT Bombay; Manoj Kummini, Chennai Mathematical Society, Chennai; Sarang Sane, Indian Institute of Science, Bangalore; Kapil Hari Paranjape, IISER Mohali, Chandigarh; M.K. Sen, University of Calcutta; B.N. Waphare, University of Pune, Pune; A.R. Rajan, University of Kerala, Kerala; B.M. Pandeya, Banaras Hindu University; P.G. Romeo, Cochin University of Sciences and Technology (CUSAT), Kerala; Manoj Kumar Yadav, Harish-Chandra Research Institute (HRI), Allahabad; R.P. Sharma, Himachal Pradesh University, Summerhill, Shimla, and others. Another 44 research papers were presented by young researchers in algebra. Overall, the conference was greatly successful in its aims and objectives.

The organizing committee, for the first time in mathematics conferences held at A.M.U. Aligarh, initiated the best paper presentation award. The award was initiated to motivate and inspire the young talents below the age of 32 years, and carried a participation certificate and a modest prize in cash.

We thank all our colleagues who contributed papers to this research volume and those who graciously accepted to serve as referees of the submitted papers. We also thank the organizing team, the members of the department and the student workers who actively helped in making the conference a success. The conference could not be so successful without their active help and participation. The financial support

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