

FOREWORD

The last two decades have witnessed tremendous advancements in the instrumentation, techniques and applications of electron microscopy and micro-analysis. It is now possible to obtain structure images with a spatial resolution of about 0.1 nm and to carry out micro-chemical analysis of phases/constituents with a mean size of 5 nm. With a view to taking stock of the subject of electron optical techniques as a whole and its applications to the fields of metallurgy and materials science, a seminar on 'High Resolution and Analytical Microscopy' was organised at the Reactor Research Centre, Kalpakkam during February 18–20, 1982 under the joint auspices of the Metals Sciences Division of the Indian Institute of Metals and the Reactor Research Centre, Kalpakkam.

The Seminar was inaugurated by Shri C V Sundaram, Director, Reactor Research Centre and President, Indian Institute of Metals. The Seminar was a great success in terms of both the technical content and participation. The technical presentations, discussions and the concluding panel discussion were very lively and hopefully, provided a good stimulus for research and development efforts in high resolution and analytical microscopy in this country. I wish to thank Prof. A K Seal, and Prof. M K Banerjee, Chairman and Secretary of the Metals Sciences Division, respectively for their support and guidance in organising this Seminar. I also take this opportunity to thank my fellow members of the National Steering Committee, viz. Dr S Banerjee, Prof. T R Ramachandran, Prof. S Ranganathan, Prof. C N R Rao, Prof. C Suryanarayana and Dr V S Raghunathan for their valuable advice and cooperation.

The Proceedings of the Seminar brought out as an issue of the Bulletin of Materials Science contains 10 invited papers and 6 contributed papers. I am sure that the readers will benefit from these Proceedings as the participants did by attending the Seminar. I wish to convey my appreciation to my colleagues Dr V S Raghunathan, Dr V Seetharaman, Shri D Sundararaman and Shri P Kuppuswamy for assisting me in editing and processing the manuscripts of all the papers. Finally I am grateful to the Indian Academy of Sciences for bringing out the Proceedings of the Seminar as a special issue of the Bulletin of Materials Science.

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