

## **International Symposium on “Ultrapur Materials: Processing, Characterization and Applications”**

### ***FOREWORD***

The demand for ultrapure materials for electronics industry is constantly increasing the world over. The levels of purity achieved as represented in terms of number of nines (say 99.9999...at.%) is also increasing year after year. Such pure materials are required for enhancing the efficiency of electronic devices. This is a specialized and cost intensive research area and only a few research groups across the world are vigorously pursuing it. Recent surge in the studies of ultrapure materials and intensive academic discourse on important issues in the contemporary research areas of Materials Science and Engineering and particularly related to Microelectronics, motivated us to organize an International Symposium on “Ultrapur Materials: Processing, Characterization and Applications”. This symposium was held under the aegis of the Centre for Materials for Electronics Technology (C-MET), during November 22–23, 2004 at Hyderabad, India.

It gives us pleasure to bring out the proceedings of this conference as a special issue of the Bulletin of Materials Science. Most of the papers were invited talks covering all three parts of processing, characterization and applications of ultrapure materials. The technical topics covered include purification of transition, rare-earth and *p*-block elements and compound semiconductors such as HgCdTe and GaN. The applications of high purity materials in physical vapour deposition (PVD) and radio-isotopes have been discussed. The characterization of ultrapure materials using mass spectrometry, glow discharge optical emission spectrometry (GDOES) and certified reference materials (CRMs) have also been presented in detail.

The success of the symposium obviously depended upon many individuals and organizations. We gratefully acknowledge the cooperation of the Department of Information Technology (DIT) in according the timely approvals for organizing the symposium. We wish to acknowledge the support of Dr B K Das, the then Executive Director, C-MET and Chairman of ISUPM and members of the National Advisory Committee, the International Advisory Committee, the Local Organizing Committee and particularly C-MET staff for their unending enthusiasm and hard work. We wish to acknowledge with gratitude the financial support from the co-sponsors of the symposium. We are also grateful to the Editor, Bulletin of Materials Science, Indian Academy of Sciences, Bangalore, for bringing out this special issue.

It is our earnest hope that the present proceedings will provide up-to-date information on many interesting topics on ultrapure materials. It is also hoped that the proceedings will encourage scientists to carry out further research in the interdisciplinary area of “Ultrapur Materials”.

S B Krupanidhi  
*Editor*

T L Prakash  
N R Munirathnam  
*Guest Editors*