GUEST EDITORIAL

High energy materials (HEMs) form an integral part of all arms, ammunitions, and weapon systems. The science and technology of HEMs has undergone a lot of transformation in the last two decades in terms of synthesis/scaling-up of exotic energetic materials, newer synthetic routes and their characterisation and performance evaluation. Some of these HEMs are: CL-20 (high-performance explosive), BTDAONAB (most thermally-stable explosive), NTO (insensitive high explosive), TNAZ (melt-castable explosive), GAP, NHTPB, poly (NMMO), poly (GLYN) [energetic binders], BDNP A/F, Bu-NENA9 energetic plasticisers) and ADN and HNF (eco-friendly and high-performance oxidisers) are of recent origin and hold tremendous potential for large-scale production and use in near-future. It is in this context that the High Energy Materials Society of India (HEMs) commenced organisation of a 3-day International High Energy Materials Conference and Exhibit (HEMCE) since November 1996.

The first HEMCE in this series was held at High Energy Materials Research Laboratory (HEMRL), Pune, during 19-21 November 1996 in collaboration with other scientific organisations (DRDO, Ordnance Factory Boards, ISRO, DST, CSIR, public and private sector companies, and academic institutions) with the aim of bringing together experts working in the field of advanced and state-of-the-art HEMs all over the globe and share the latest information in their areas of research. Subsequently, second, third, and fourth HEMCE were held at the Indian Institute of Technology Madras, Chennai (1998), Vikram Sarabai Space Centre, Thiruvananthapuram (2000), and again at HEMRL, Pune (2003), respectively. A total number of oral and poster presentations, which were deliberated in the fourth HEMCE were more that 125, both by Indian and foreign experts.

It was decided to bring out a Special Issue of *Defence Science Journal* (DSJ) containing some of the important papers presented and deliberated at the fourth HEMCE. This Special Issue contains 14 research and review papers: Seven papers deliberated in the HEMCE-2003 and updated by the authors and seven recently accepted in *Defence Science Journal* after their review by experts. I sincerely thank

all the authors for their special efforts in research activities pursued and translating the data to valuable manuscripts for the benefit of HEMs community. I am sure that all the segments of HEMs community would be benefited from this Special Issue of the Journal.

I greatly appreciate and value the initiative taken by Dr A.L. Moorthy, Editor-in-Chief, DSJ and Director, DESIDOC and the pains taken by his Editorial Team of DSJ in bringing out this Special Issue.

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