

## Preface

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We are pleased to bring out this special issue of Transactions of the Indian Institute of Metals containing the proceedings of some of the papers presented in the Sixth International Conference on Solidification Science and Processing (ICSSP6-2015), being held in Hyderabad during November 24–27, 2015. To take stock of the current trends in solidification of materials, International Conference on Solidification Science and Processing (ICSSP), a triennial international conference is being organized since 2001. In this series, the ICSSP6-2015 is organized by Defence Metallurgical Research Laboratory (DMRL), Hyderabad, belonging to the Defence Research and Development Organisation (DRDO), Ministry of Defence, Govt. of India. The conference is chaired by Professor Lars Arnberg, Norwegian University of Science and Technology (NTNU), Trondheim, Norway and convened by Professor Amol A. Gokhale, Indian Institute of Technology-Bombay, Mumbai (formerly, Director of DMRL, Hyderabad).

The ICSSP6-2015 is scheduled to have 72 oral presentations, the largest thus far, by eminent personalities of international acclaim and 57 poster presentations by young researchers. This conference has made no exception to the unwritten rule followed thus far in the series of having *invited* oral and *contributed* poster presentations. The primary objective of the conference is to bring together engineers, scientists, academicians, and research scholars from various countries working in different areas of solidification, and promote mutual interaction to review new challenges in this field. Such an interaction is expected to improve synergy between diverse research groups based on complimentary interests and catalyze collaborative research.

The ICSSP6 proceedings, which are brought out as a special publication of Transactions of Indian Institute of

Metals (TIIM), supported by Springer, consists of 40 manuscripts from the papers presented at the conference. These manuscripts have been accepted for publication after a thorough scrutiny by a panel of distinguished international reviewers. This special issue is also made available on-line from TIIM website. We hope that by publication in the Transactions, ICSSP6-2015 proceedings too achieve the archival value that it merits.

The topics covered in this issue include fundamentals of solidification, microstructural evolution and modification during solidification, application of computational tools to understand solidification science and advanced solidification processing, in situ observations during solidification, solidification of Al alloys, Mg alloys, metal matrix composites, metal foams, bulk metallic glasses, nanocrystals and high entropy alloys, rapid solidification and semi solid processing. As you go through this issue, you will see articles covering different aspects of solidification starting from fundamentals to advanced applications.

Thanks are due to all the authors for contributing their latest work. Special thanks go to reviewers for their critical review, which has helped in maintaining the high standards of the journal. We express our sincere gratitude to all the editorial staff of the Trans. IIM and Springer for their immense support in making this special issue possible within a very short period of time for distribution during the conference.

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