Editorial

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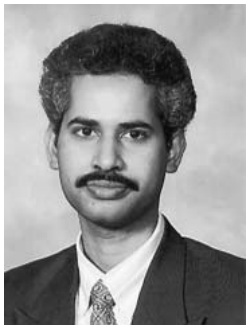
Dr. James C. Malas



Dr. Seshacharyulu Tamirisakandala

This is a special focus issue of the *Journal of Materials Engineering and Performance* devoted to application of processing maps to design and control of metal forming processes. The special papers included in this issue are selected from the original presentations made at the *Discussion Meeting on Processing Maps and Their Applications* held at the Indian Institute of Science, Bangalore, on 28 April 2003. This event was held in honor of Professor Y.V.R.K. Prasad, who initiated and pioneered an innovative approach for developing processing maps. This meeting was co-sponsored by the Indian Institute of Metals, Indian Institute of Science, and ASM International. The papers were peer-reviewed by members of the JMEP International Board of Review prior to publication.

Important process design objectives of forming engineering materials are to control the microstructure and attain the desired shape on a repeatable basis in an economical fashion. Processing maps provide a useful framework for selecting safe windows of processing conditions for achieving microstructure and workability goals. These maps have replaced the costly trial and error methods on the shop floor and led to innovations in process design. The collection of papers presented in this special issue document the recent advances in the science and technology of materials processing. These papers provide insights on the applications of processing maps in terms of understanding the deformation mechanisms, optimizing the material workability and manufacturing process parameters, seeking elegant and cost-effective solutions to critical processing issues, and integrating process modeling, optimization, and control methodologies with the material behavior information. We gratefully acknowledge all the authors who have made efforts to prepare manuscripts.

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