

Foreword

Structural Materials for the Americas Proceedings of the First TMS-ABM International Materials Congress Rio de Janeiro, July 26–30, 2010

The First TMS (The Metals, Materials, and Minerals Society, USA)–ABM (Brazilian Society for Metallurgy, Materials, and Minerals) Congress was a momentous event. These two societies have led parallel lives and have addressed the needs of the materials and minerals industries, education, and research in their respective countries. Nevertheless, the bonds between the two societies date from the 1940s. Professor Robert Mehl visited Brazil in 1944 and was instrumental in the founding of ABM, in 1945.

Through this congress, a greater integration of the two societies was achieved and the success obtained in the 2010 meeting in Rio de Janeiro is a measure of the need for greater collaboration. For many years, Brazilian researchers, engineers, and industrial leaders have been attending TMS meetings and contributing to TMS-sponsored journals. In 2010, TMS members reciprocated, by helping to organize this joint meeting. The conception and organization of this congress represented the result of an effort of several years. It started as informal conversations between Sergio Neves Monteiro, Fernando Rizzo, and Marc Meyers. The concept was enthusiastically endorsed by Robert Schull (TMS President, 2007), and it was then formalized by Diran Apelian (TMS President, 2008). It was further strengthened by the official launching of the joint congress in 2009 (R. Peterson, President). The inaugural address was given by George T. Gray, TMS President, 2010. The congress, which was held as part of the 65th Annual ABM Congress, under the general coordination of Fernando Rizzo Assunção, was organized into seven symposia (principal organizers in parentheses):

- (1) Materials and Society (T.B. Massalski, F.C. Rizzo)
- (2) Light Weight Materials for Transportation: Processing and Properties (R.D. Peterson)
- (3) Characterization and Application of Biomaterials (S.N. Monteiro, K.G. Satyanarayana)
- (4) Computational Modeling and Advanced Characterization (R. Avillez, A. Costa e Silva)
- (5) Composite Materials (N. Chawla)
- (6) Dynamic Behavior of Materials (G.T. Gray III, M. Meyers)
- (7) Mechanical Properties of Materials with Emphasis on Grain-Size Effects (M.E. Kassner, P.R. Cetlin)

The invited and keynote speakers as well the authors of outstanding presentations were invited to submit articles to *Metallurgical and Materials Transactions*. These were reviewed by the same exacting standards as the other contributions. The organizers of this congress also coordinated the proceedings. The symposium organizers, authors, key readers, reviewers, and *Metallurgical and Materials Transactions* staff dedicated many hours to these proceedings, and we hope that the resulting product is a true measure of the success of the congress and potential for future collaboration involving not only TMS and ABM but also the other materials societies in the Americas. Finally, these proceedings would not have happened without the dedicated organization of Dora Moscatello. To all, our sincere thanks.

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