Foreword

Symposium on Bulk Metallic Glasses—X

Bulk metallic glasses (BMGs) have been discovered and studied extensively over a 20-year development. The defect-free microstructure (without dislocations and grain boundaries) makes BMGs exhibit many unique properties, such as superior strength, excellent scratch and wear resistance, good corrosion resistance, *etc*. Although BMGs can be considered as potential structural and functional materials to be used in new industrial products with high performance, such as microgears, yokes for linear actuators, golf-club heads, and electronic casings, it is of significance to find more new applications for BMGs. Recently, catalytically-active BMGs were found to be formed with nanometer-sized features, which would be excellent for applications in fuel cells, batteries, and sensors. For example, the BMG micro-fuel cell demonstrates excellent performance and fabrication capability, compared to traditional micro-fuel cell designs.

In order to strengthen the communication in the community of BMGs, a Bulk Metallic Glasses Symposium has been held successfully at The Minerals, Metals & Materials Society (TMS) Annual Meeting since 2004. The TMS Structural Materials Division and the TMS/American Society for Metals (ASM): Mechanical Behavior of Materials Committee, kindly sponsored our Bulk Metallic Glasses Symposium. The Bulk Metallic Glasses X Symposium was successfully held at the 2013 TMS Annual Meeting & Exhibition, San Antonio, TX, March 3 to 7, 2013. 120 presentations, including three keynotes and 61 invited talks, were given during the meeting. The topics of the Bulk Metallic Glasses Symposium involved a wide range of BMG research areas, such as the alloy development and application, mechanical behavior, microstructure characterization, fatigue and corrosion, and simulation and modeling.

We would like to express our sincere appreciations to all the attendees for contributing to the success of our Bulk Metallic Glasses Symposium. We want to acknowledge the sponsorship from TMS and ASM. All submitted manuscripts were subjected to the standard peer-review procedures in the journal of *Metallurgical and Materials Transactions A*. A total of 10 papers were accepted for publishing in the current issue. We are very grateful to all the key readers, the reviewers, and the staff of *Metallurgical and Materials Transactions A*, especially Ms. Dora Moscatello, Ms. Mary Lynn Brown, and Prof. David E. Laughlin, for their kind help in the preparation and approval of the Symposium publication.

We would like to greatly acknowledge the financial support of the National Science Foundation (NSF) through (1) the International Materials Institutes (IMI) under DMR-0231320, (2) the Combined Research and Curriculum Development (CRCD) Programs under EEC-9527527 and EEC-0203415, (3) the Division of Civil, Mechanical, Manufacture, and Innovation Program under CMMI-0900271 and CMMI-1100080, and (4) the Materials World Network Program under DMR-0909037 at The University of Tennessee, Knoxville (UTK), with Dr. C. Huber, Ms. M. Poats, Dr. C. V. Cooper, Dr. E. M. Taleff, Dr. A. Ardell, and Dr. D. Finotello of NSF as the program directors, respectively. The financial support from the Center for Materials Processing (CMP) at UTK with Dr. C. J. McHargue and Dr. C. J. Rawn as the directors is sincerely acknowledged.

Symposium Organizers:
PeterK. Liaw, Gongyao Wang, Hahn Choo and Yanfei Gao
University of Tennessee, Knoxville, TN, USA
e-mail: gwang@utk.edu