Preface

The 1995 International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials was held in Québec City, Canada on July 24-28, 1995. This symposium was the second of the ISMANAM conferences, the first being held in Grenoble in 1994. We accepted 255 abstracts from 151 participants. About 40% of them (107 papers) were presented in the oral sessions, the remaining being divided into two poster sessions. After the review process, 140 papers have been accepted for publication in this special issue of *Materials Science Forum*. This strong participation is indicative of the growing interest of the scientific community for this fascinating field of materials science.

Among the various topics covered during the conference, major contributions were made in the area of bulk metallic glasses, GMR in mechanically alloyed materials, nanostructures from melt-spun precursors, mechanical grinding, mechanosynthesis and mechanochemistry. Progress was achieved in the area of sintering and compaction techniques. The magnetic, mechanical and electrochemical properties of several nanocrystalline materials were presented and a special session was devoted to nanocrystalline metal hydrides. Significant progress was also reported in modeling and in the understanding of the basic mechanisms of the fabrication processes. The defects and grain boundaries in nanocrystalline materials remain important topics and were the subject of in-depth discussions.

ISMANAM's Steering Committee, whose members are indicated by * on the previous lists, has accepted the invitation of Dr. Mauro Magini and his colleagues to hold the next ISMANAM conference in Rome, Italy. ISMANAM-96 will be held on May 20-24, 1996. The Steering Committee awarded two gold medals during the Quebec conference to honor the important contributions of two scientists to the field of Metastable, Mechanically Alloyed and Nanocrystalline Materials.

The ISMANAM-95 gold medal for best scientist was awarded to Professor William L. Johnson of the California Institute of Technology in Pasadena, CA. William Johnson graduated with a Bachelor degree in Physics from Hamilton College, NY in 1970. He received his PhD in Applied Physics from Caltech in 1974 and he is currently Mettler Professor of Materials Science, Engineering and Applied Science at the same Institute. In 1988, while he was a visiting professor at the University of Göttingen in Germany, he received the Alexander von Humboldt Distinguished Scientist Award. This year the American Metals Society (TMS) awarded him the prestigious Hume-Rothery Award. Professor Johnson is a member of the American Physical Society, the Materials Research Society, the American Metals Society and the American Powder Metallurgical Inst.. He is Associate Editor of the Journal of Applied Physics and Applied Physics Letters.

William L. Johnson received the ISMANAM-95 Best Scientist Gold Medal award for his important contributions to the field of bulk-metallic glasses and nanocrystalline materials made by ball milling. The current level of understanding of bulk-metallic glasses is described in his keynote paper in these Proceedings.

The ISMANAM-95 gold medal for best young scientist was awarded to Dr. Jürgen Eckert of the IFW Dresden, Institut für Metallische Werkstoffe in Germany. Jürgen Eckert was born on August 5, 1962 in Bayreuth, Germany. He received a Diploma in Materials Science from the University of Erlangen-Nürnberg in 1986 and a PhD from the same University in 1990 while he was investigating the formation of amorphous and quasicrystalline alloys by interdiffusion

in collaboration with the Siemens Research Laboratories. After graduation, Jürgen Eckert spent two years as a Research Fellow at the California Institute of Technology in Pasadena, CA then joined the Powder Metallurgy Research Laboratory of SGL Carbon/Ringsdorff-Werke GmbH in Bonn, Germany. In 1993, Jürgen Eckert joined the IFW Dresden, Institut für Metallische Werstoffe, and he is currently head of the Metastable and Nanostructured Materials Group.

Jürgen Eckert received the ISMANAM-95 Best Young Scientist Gold Medal award for his detailed studies of amorphization by solid-state interdiffusion and mechanical alloying and for the preparation of quasicrystalline alloys by mechanical alloying; work conducted as part of his PhD Thesis. He also made important contributions toward the understanding of the compositional dependence of grain size in mechanically alloyed supersaturated solid solutions and the mechanisms governing the grain size in ball milled materials. In these Proceedings Jürgen Eckert describes the preparation of bulk amorphous alloys by mechanical alloying.

R. Schulz

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