# PREFACE

The International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials, ISMANAM-98, was held in Wollongong (Sydney), Australia, from the 7th to the 12th of December 1998. The Symposium follows a series of ISMANAM symposia previously held in Grenoble in 1994, followed by Quebec City (1995), Rome (1996) and Sitges (Barcelona) (1997). We accepted 134 abstracts from 112 participants. About 60% of them were presented in the oral sessions, the remaining being divided into two poster sessions. Following the review process, 95 papers were accepted for publication. This high number is indicative of the growing interest of the scientific community in this fascinating field of materials science.

Among the various topics covered during the conference, some of the major contributions were in the area of the synthesis and processing of materials using mechanical alloying, mechanical grinding, mechanosynthesis and mechanochemistry. A large number of contributions were related to the structural characterisation of nanophase materials and to the structural evolution caused by mechanical treatment. The magnetic and mechanical properties of several nanocrystalline materials were presented. Progress was also reported in the modeling and in the understanding of the basic mechanisms of fabrication processes.

The technological aspects presented at this symposium include highly sophisticated milling, rapid solidification, sintering and surface deposition. This technology has applications in a wide range of fields, including minerals extraction and processing, advanced materials synthesis, electronic and magnetic materials, powder production and new technologies for the reduction of greenhouse gases. The symposium provided a state-of-the-art overview of research, technology and special applications in this exciting and rapidly evolving field.

ISMANAM's Steering Committee, has accepted the invitation of Prof. L.Schultz and his colleagues to hold the next ISMANAM conference in Dresden, Germany. ISMANAM-99 will be held over the period, August 30 - September 3, 1999. The Steering Committee awarded two medals during the Wollongong conference to honor the important work of two scientists in making outstanding contributions to the field of Materials Science and Engineering

The ISMANAM-98 gold medal for best scientist was awarded to Professor Brian Cantor of the University of Oxford, UK. Prof. Cantor is the Cookson Professor of Materials, and Head of the Department of Materials at the University of Oxford. He is also consultant to a number of laboratories including Alcan, IOP Press and Rolls-Royce, editor of 3 international journals, chair of the Microscopy of Composite Materials and Thermal Analysis of Advanced Materials conference series; and a member of many other teaching, research and industrial review committees. He has published 4 books, nearly 250 research papers, and 3 patents. In 1993, he was awarded the Institute of Materials Rosenhain medal for contributions to academic/industrial collaborative research; in 1996 he was awarded an Honorary Professorship at Northeastern University, Shenyang; and in 1997 was elected to the General Board of Oxford University.

The ISMANAM-98 gold medal for best young scientist was awarded to Dr. K. Lu of the Institute of Metals Research, Chinese Academy of Sciences (CAS), People's Republic of China. Dr. Lu was born on May 23, 1965 in Gansu, China. He received a Bachelor degree in Materials Science from the Nanjing University of Science and Technology in 1985 and a PhD from the Institute of Metal Research of CAS in 1990 while investigating crystallization kinetics and micromechanisms in amorphous alloys. After graduation, Dr. Lu joined the Institute of Metals

Research of CAS as an assistant professor. He then worked for six month as a guest scientist at the Max-Planck-Institut für Metallforschung (Stuttgart, Germany). In 1993, he was appointed as full professor and deputy director of the State Key Laboratory of Rapidly Solidified Non-equilibrium Alloys at the Institute of Metals Research of CAS. He is currently the director of the State Key Lab and leads a research group of 50 scientists and students. Dr. Lu received the ISMANAM-98 best young scientist medal award for his significant contributions to the synthesis of nanocrystalline materials via the nanocrystallization of amorphous solids, and to the understanding of the kinetics and thermodynamics of nanocrystal formation.

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