

## Preface

The International Symposium on Metal–Hydrogen Systems, Fundamentals and Applications, MH2004, was held in Krakow, Poland from September 5th to 10th, 2004. The symposium was the ninth meeting of a series organised every 2 years. It followed previous symposia held in Stuttgart 1988; Banff 1990; Uppsala 1992; Fujiyoshida-shi 1994; Les Diablerets 1996; Hangzhou 1998; Noosa 2000 and Annecy 2002. It is worth reminding that this series of international meetings combining basic research and applications resulted from the decision taken 16 years ago to merge two different conference series, International Symposium on the Properties and Applications of Metal Hydrides (Geilo 1977; Colorado Springs 1980; Toba 1982; Eliat 1984; Maubuisson 1986) and the International Conference on Hydrogen in Metals (Jülich 1972; Birmingham 1976; Münster 1979; Wrocław 1983; Belfast 1985). So, after 21 years the conference on metal hydrides was again hosted by Poland.

The scope of the conference concerned the recent results, new ideas and developments in basic and applied research of hydrides. In the field of fundamental research, the hydrogen-induced changes of physical and chemical properties of the metallic and complex compounds and hydrogen dynamics in these materials were broadly presented and reviewed. Hydrogen in nanomaterials and in thin films also attracted much attention. The works from the applied field were mostly devoted to the research of the materials for batteries, fuel cells electrodes, and especially the compounds of light metals for hydrogen storage applications. Thus, the symposium represented broadly the activities related to the recently significantly growing worldwide interest to the projects on hydrogen energy.

The conference gave the opportunity of meeting each other, discuss, and exchange knowledge and experience for 412 active participants. This number was far above the initial expectations. The organisers were very happy to host the participants from 35 countries. The program included 5 plenary lectures, 9 semi-plenary lectures, 24 invited talks, 49 oral lectures and 320 posters. This volume of the Proceedings includes 180 papers presented at the Symposium, which are arranged according to the main topics of the conference.

It was a great pleasure to see a significant participation of many young scientists who, we believe, took advantage of a unique opportunity to meet distinguished experts in the

field of hydrides. During the conference the Ewald Wicke Award for the best contribution from the young scientist was granted to Andreas Borgschulte (Vrije Universiteit of Amsterdam, The Netherlands) for his excellent contribution to the field of hydrogen in thin films. The award, which was granted for the third time, was founded by the Ewald Wicke Foundation (Germany) to memorize the outstanding contribution of Professor Wicke to the research of metal hydrides.

We would like to thank the members of the International Steering Committee for their valuable help in the planning of the Symposium program. With respect to the numerous works submitted it is pleasure to express our gratitude to the referees who devoted their time for reviewing the manuscripts.

Constant growth of the interest in the Symposium, reflected both by the increased number of the participants and high level of the presented works, gives the hydride community a good hope for a rapid progress in the field. We are, thus, looking forward to the next meeting in 2006, which will be hosted by USA. Let us meet again in Hawaii!

*Proceeding editors*

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