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Editorial

# Twelfth International IUPAC Conference on High Temperature Materials Chemistry—HTMC XII

The papers collected in this volume constitute the Proceedings of the "12th International IUPAC Conference on High Temperature Materials Chemistry—HTMC XII", which was held at the Vienna University of Technology, Austria, from 17 to 22 September 2006. It was organized by the Department of Inorganic Chemistry/Materials Chemistry of the University of Vienna together with the Austrian Chemical Society (GÖCH). The conference was the twelfth in a long series of meetings, which are held triennially in various places worldwide. They want to provide an international forum for the discussion of fundamental and practical aspects of materials chemistry at high temperatures.

The number of participants at the last meeting in Vienna was 180, with scientists coming from more than 30 different countries. They presented altogether about 160 contributions, i.e. 9 invited plenary lectures, 51 oral contributions, and the rest poster contributions.

The main topics were:

- Experimental thermodynamics and modeling.
- Structure and dynamics of high temperature materials.
- High temperature liquid phase chemistry.
- High temperature intermetallics/superalloys.
- Non-oxidic high temperature ceramics.
- Lanthanides and actinides, nuclear application.
- Lamp chemistry.
- Lead-free soldering.

Plenary lectures were given by P. Nash (Chicago, USA), L. Hennet (Orléans, France), N. Sobczak (Kraków, Poland), A. Nakamura (Ibaraki, Japan), H. Ipser (Vienna, Austria), F. Aldinger (Stuttgart, Germany), and Z. Tóth (Budapest, Hungary), with a special lecture presented by M. Miodownik (London, United Kingdom) on the topic "The Arts: What Use to Materials Science?".

One half day each was dedicated to the European COST Actions 531 ("Lead-free Solder Materials") and 535 ("THALU—Thermodynamics of Alloyed Aluminides"), with corresponding contributions, i.e. plenary lectures, oral contributions and posters, dealing with particular topics out of these research actions.

The proceedings in this special volume of the *Journal of Alloys and Compounds* contain altogether 37 contributions (17 oral contributions and 20 poster contributions). All submitted manuscripts were passed through the usual reviewing procedure, and the editors want to thank all referees who helped with the difficult task of selecting the papers for publication. Their processing within a relatively short time after the conference was made possible thanks to the courtesy and help of Prof. K.H.J. Buschow (The University of Amsterdam, Editor in Chief).

The conference in Vienna was only made possible by the generous financial support by Austrian industries, the Austrian Federal Ministry for Education, Science and Culture, the Austrian Federal Ministry of Transport, Innovation and Technology, the Faculty of Chemistry of the University of Vienna, and the City of Vienna. Several young scientists received special grants to be able to come to Vienna and participate in the HTMC XII. This was also facilitated through the generosity of all sponsors. Finally, the organizers would like to express their sincere thanks to all people who helped in the preparation and organization of the conference, making it a successful meeting.

At the end we want to acknowledge additional financial support by Böhler-Uddeholm (represented by its CEO Dr. Claus Raidl), which made the printing of these proceedings possible.

For the Organizing Committee,

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