

## **Editorial: Thermodynamics of Alloys – TOFA 2004**

**Peter Terzieff, Adolf Mikula, and Herbert Ipser**

The papers collected in this volume constitute the Proceedings of the International Conference “Thermodynamics of Alloys – TOFA 2004” which was held in the *Kardinal König* Haus in Vienna, Austria, September 12–18, 2004. It was organized by the Materials Chemistry Group of the Institut für Anorganische Chemie der Universität Wien together with the Gesellschaft Österreichischer Chemiker (Austrian Chemical Society). The conference was the ninth in a series of meetings which had been started at Vienna in 1988, with meetings held afterwards biannually in Barcelona, Nancy, Genoa, Marseille, Kiel, Stockholm, and Rome. These conferences provide an international forum for the discussion of fundamental and practical aspects of the thermodynamics of alloys and materials.

The number of participants at the last meeting in Vienna was about 150, with scientists coming from 21 different countries worldwide. They presented altogether about 135 contributions, *i.e.* nine invited plenary lectures, 57 oral contributions, and the rest poster contributions. The main topics were:

- New experimental techniques and results
- Computational thermodynamics
- Thermodynamic properties from *ab initio* calculations
- Solid state diffusion
- Lead-free solder materials
- Intermetallics
- Industrial application of thermodynamics

The plenary lectures were given by *Y. A. Chang* (Madison, USA), *K. Richter* (Vienna, Austria), *K. Itagaki* (Sendai, Japan), *D. Gozzi* (Rome, Italy), *M. Fähnle* (Stuttgart, Germany), *T. Gnanasekaran* (Kalpakkam, India), *C. Colinet*, *N. Dupin* (both Grenoble, France), and *W. J. Plumbridge* (Milton Keynes, United Kingdom).

One half day was dedicated to a workshop of COST Action 535 (“THALU – Thermodynamics of Alloyed Aluminides”) and one full day to a workshop of COST Action 531 (“Lead-free Solder Materials”), with special contributions, *i.e.* plenary lectures, oral contributions, and posters, dealing with these particular topics. At the same time both COST Actions used the opportunity to hold also Management Committee Meetings in Vienna.

The proceedings in this special volume of *Monatshefte für Chemie – Chemical Monthly* contain altogether 21 contributions (3 plenary lectures, 10 oral contribu-

tions, and 8 poster contributions) arranged in four groups – *i.e.* lead free soldering, applied thermodynamics, phase relationships, experimental methods. 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. *Heinz Falk* (University of Linz, Managing Editor) and Prof. *Peter Gärtner* (Editorial Assistant). The Organizing Committee is grateful for their continuous help and support in the process of preparing these proceedings.

It is very gratifying for the organizers that the locations of future meetings have already been fixed which means that there is a continuing interest in the topics of this conference series. The next one will be held in summer 2006 in Beijing, China, for the first time outside Europe, and there are rather solid plans to organize another one in 2008 in Kraków, Poland.

The conference in Vienna was under the patronage of *Elisabeth Gehrler* (Austrian Federal Minister for Education, Science, and Culture), Prof. *Georg Winckler* (Rektor of the University of Vienna), and Dr. *Michael Häupl* (Mayor of the City of Vienna). It was made possible by the generous financial support of many institutions (Austrian Federal Ministry for Education, Science and Culture; University of Vienna; City of Vienna; Böhler Uddeholm; Manner; Erste Bank; VOEST Alpine; Austrian National Bank; Constantia; Bank Austria/Creditanstalt; Opel Powertrain).

At the end, the organizers would like to express their sincere thanks to all people who helped in the preparation and organization of the conference and to those institutions who provided financial support without which a conference like this would not be possible. Several young scientists received special grants or else they would not have been able to come to Vienna and participate in TOFA 2004. This was also made possible through the generosity of all sponsors.

For the Organizing Committee,  
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*Issue Editors*