

Discussion Meeting on Thermodynamics of Alloys (TOFA), Santos, Brazil, September 4–9, 2016

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About 20 years ago, the present author, then a young Ph.D. student working at the Max-Planck-Institut für Eisenforschung, was on his way to participate in the second international meeting of his scientific career. The author remembers when his supervisor, Prof. Gerhard Inden, asked if he wanted to attend a “Discussion Meeting on Thermodynamics of Alloys” (TOFA), in the beautiful city of Marseille, France. The author found it strange, because he had never heard about TOFA before. It was neither a “conference” nor a “symposium,” not even a “colloquium,” but Prof. Inden assured him it was a high quality meeting, so he decided to go.

There the author discovered an interesting forum for discussion about thermodynamics. It was much better than a “conference,” a “symposium,” or a “colloquium.” Soon he realized that although it was similar in scope to a CALPHAD meeting, it was more “experimental” and “chemical.”

Now, 20 years later, the author had the honor to welcome 68 delegates and 10 participants in the accompanying person’s program to the beautiful coastal city of Santos, Brazil, for the same meeting. It was an interesting week in which experienced members of the thermodynamics community met newcomers for a high-level exchange of ideas.

The single session format, a characteristic favored by the thermodynamics community, meant that everyone attended everyone else’s presentation. After all, thermodynamics is eclectic. You may be a specialist, for example, in calorimetry, ab initio calculations, or CALPHAD modeling, but you learn about other areas, too, and you learn from experts in the field.

Holding the meeting in Brazil had several objectives. One was to bring together the international and the South American communities. This objective was fully achieved. Of the 68 participants, 34 were from Brazil, 5 were from Argentina, and others were from around the globe. It was an opportunity to discuss more traditional themes like welding, solidification, lead-free solders, and experimental details of investigations.

The present special issue shows a small sample of the 86 papers presented at the meeting. Following a TOFA tradition, publishing was voluntary. However, the work herein will surely give the reader a glimpse of the research presented and may be enough to convince readers to participate in the next TOFA meeting in 2018. That meeting will be organized by Prof. Joonho Lee from Korea University.

This endeavor would not have been possible without generous financial support from the University of São Paulo through the Pro-rector’s office for Research, the Santander Bank through its program “Santander Universidades,” and the Boeing Company. Also, support came from colleagues of the organizing committee and their

institutions, including the Escola Politécnica, the Escola de Engenharia de São Carlos, the Escola de Engenharia de Lorena, and the Instituto de Física. All gave invaluable support for the success of the meeting.

It was a particular pleasure to see so many young people attending the “Discussion Meeting on Thermodynamics of Alloys.” Who knows? Maybe the organizer of the 2026 meeting was among us in Santos! In any case, enjoy this sample of papers from the 2016 “Discussion Meeting on

Thermodynamics of Alloys” as surely did those who were in attendance.

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