



APDIC (Alloy Phase Diagram International Commission) was established in 1986 as an organization to promote the assessment of phase diagrams. Currently, 17 organizations from 20 countries belong to APDIC. As part of the International Programme, some 20 volumes on binary systems, totaling over 11,000 pages, and some 55 volumes on ternary systems, totaling over 40,000 pages, have been published under the auspices of APDIC. We believe that in the future the need for phase diagrams and related databases will not decline, but will be more pronounced. Accordingly, assessing the existing phase diagrams and providing reliable phase diagram data remain the core mission of APDIC.

On the other hand, we all realize that materials technologies are constantly changing and moving in new directions, and that their specifications in the basic materials science are no more the same than decades ago. The needs for systems and for states of materials cover multiple combinations of a variety of elements and conditions. Although the numerous binary and ternary phase diagrams assessed and edited by APDIC members still play the part of a roadmap even in such developments of materials technology communities, APDIC feels the necessity of exploring a new direction in our activities.

In addition to phase diagram data, APDIC has valuable human resources who are expert in assessing, calculating, and determining phase diagrams. One of the new activities we have decided to launch is a series of educational seminars on phase diagrams. We will offer these to researchers from industry and students. This is the basic concept of our World Round Robin Seminars (WRRS). The lecturers selected from among us and requested by us are all well-known experts in the field, and they provide a systematic knowledge of phase diagrams from the fundamentals of how to read a phase diagram to up-to-date applications in designing new materials, such as functional and electric applications.

As the name indicates, the WRRS will be held in different locations throughout the world with a seminar scheduled once every two to three years. We chose Sapporo, Japan, as the venue for the first WRRS. With many steelmakers, electronic industries, and metal producers and manufacturers, Japan has strong current and potential technological needs for phase diagram related works. Additionally, the Japanese Committee for Alloy Phase Diagrams has been regarded as one of the leading members of APDIC and they fully agreed to support our new activity.

The first WRRS was successfully held on October 14 and 15, 2003, at Hokkaido University with over 70 participants. The majority were university students, but engineers from steel industries and electronic companies, software engineers, researchers from government institutes, and university professors also actively participated in the seminar. Eight lectures were offered by experts in their respective fields. These lectures were accompanied by a fully prepared textbook entitled *Phase Diagrams as a Tool for Advanced Materials Design*. The readers can get some flavor of the seminar from the program (see below).

**October 14 Opening Remarks**

T. Massalski, Chairman of World Round Robin Seminar  
T. Mohri, Chairman of Organizing Committee

**Inaccurate, Improbable, and Impossible Phase Diagrams**

T. Massalski, Carnegie Mellon Univ., U.S.A.

**Electronic Structure of Alloys and Phase Diagrams**

P.E.A. Turchi, Lawrence Livermore National Lab., U.S.

**Applications of Phase Diagrams and Thermodynamic Calculations in Iron and Steel Processes**

B-J. Lee, Pohang Univ. Sci. and Tech., Korea

**Data-driven Materials Design**

S. Iwata, The University of Tokyo, Japan

**October 15 Application to Non-ferrous Systems**

K. Ishida, Tohoku University, Japan

**October 15** Continued

**Prediction of Surface and Interfacial Tension Based on  
Thermodynamic Data and CALPHAD Approach**

Z. Qiao, Univ. Science and Tech., Beijing, China

**Thermodynamics and Phase Diagrams Applied to  
Processing of Electronic Materials**

R. Schmid-Fetzer, Univ. Clausthal, Germany

**Materials Chemistry Data and Networking**

G. Effenberg, Materials Science Int. Service, Germany

The date and place of the next seminar has not been determined yet. However, as a result of the valuable experiences of organizing the first successful WRRS, we believe that the above seminars should be even more prosperous ones. I cordially hope that this effort of APDIC offers a great opportunity for enlightening students and researchers in the field of materials technologies, which, I believe, is in harmony with the excellent editing activities of the *Journal of Phase Equilibria and Diffusion*.

**Tetsuo Mohri  
Chairman  
Alloy Phase Diagram International Commission**