

## Preface

**Yutaka Yoshida**

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The 65th Yamada Conference / the 31st International Conference on the Applications of Mössbauer Effect (ICAME) was held on 25–30 September 2011 in Kobe under the sponsorship of Yamada Science Foundation. The number of participants registered was 183 from 25 different countries: 183 registered (118 regular, 33 invited, 32 students) and in addition, 13 accompanied. The numbers of the papers presented as invited talks, oral talks, and posters were 21, 33, and 201, respectively. In addition, we had 5 invited talks for the evening session, and 18 posters were selected for short oral presentations. In this proceeding volume, 120 papers are accepted for publication in the *Hyperfine Interactions* journal from 129 papers submitted through the website-based editorial management system newly provided by the publisher, Springer.

We started five years ago preparing this conference, before ICAME2007 in Kanpur, India, and proposed our main plan in the IBAME meeting there. We were nearly ready for the conference before 11 March 2011, when the earthquake attacked the Tohoku region, the north part of Japan, resulting in the heavy accidents in the Fukushima Nuclear Power Plants. Since this news was so shocking and triggering an unusual situation in the whole country, we felt forced to decide to move the conference venue from Tokyo to Kobe at the beginning of April. After one half year there was no danger in Tokyo, but it was inevitable for us to change the venue. To explain the whole situation, we organized a special lecture on “FUKUSHIMA ACCIDENT: WHAT HAPPENED?” by Prof. M. Baba, Cyclotron and Radioisotope Center, Tohoku University, on Tuesday night. We hoped that the decision we made affected positively to motivate people to come to Kobe, although the worldwide economic crisis also negatively influenced on the organization.

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Professor Rudolf L. Mössbauer passed away just before this conference, on 14 September 2011. At the Opening Ceremony by Dénes Nagy, Chairperson of IBAME, with Yutaka Yoshida, Chairperson of the Organizing Committee, dedicated the conference to the memory of Professor Mössbauer. At this moment in the history of Mössbauer community, we have to overcome the generation change, since many leading scientists are retiring also from the community. One of the main purposes of ICAME2011 was to create the new generation of Mössbauer spectroscopists, and therefore, “Tutorial session”, “Evening Session”, “Short oral presentations”, and “poster prizes” were specially organized to encourage young scientists.

On Sunday at Sourakuen kaikan, we arranged the tutorial lectures “General Introduction to Mössbauer Spectroscopy” by Saburo Nasu, “Chemical Applications” by Philipp Gütllich, “Earth Sciences” by Robert E. Vandenberghe, “Fe-based Nanostructures” by Jean-Marc Greneche, “Magnetic Multilayers and Interfaces” by Teruya Shinjo, “Ion Implantation” by Guido Langouche. Unfortunately professors Gütllich could not attend the conference, but the lecture on chemical applications was given by Yann Garcia. The manuscripts of all tutorials will be published by Springer.

Furthermore, on Tuesday we had an evening session, where the following lectures were given: “Fifty Years of Mössbauer Spectroscopy: What now?” by C.E. Johnson, “Personal Recollections of 52 Years of Mössbauer Spectroscopy Research” I. Nowik who could not come to Kobe regrettably, but his manuscript appears in the proceedings, “A personal View on the Future of Diffusion Studies with the New X-ray Sources” by G. Vogl, “Redox Topotactic Reactions in FeII-III Oxyhydroxycarbonate New Minerals related to Fougèrite in Gleysols: Trébeurdenite and Mössbauerite” by J.M. Genin, “Rudolf Mössbauer and the Development of the Garching Research Site” by F. E. Wagner, “45 Years: From Antimony Mössbauer Spectroscopy to Nano Systems”, J. Stevens.

In the scientific programme, we shed light on the materials research for the global environment among the usual topics which have been discussed in this long-standing conference series: T1 Material Research for the Environment; T2 Advances in Experimental techniques and Methodology; T3 Theories of Hyperfine Interactions; T4 Dynamics; T5 Biological and Medical Applications; T6 Chemical Applications; T7 Nanomaterials; T8 Solid State Physics; T9 Earth Science, Mineralogy and Archaeology; T10 Materials Science and Industrial Applications. After the opening ceremony on Monday, Prof. W. Keune gave us a keynote lecture on the applications of Mössbauer Spectroscopy in Magnetism. In addition, there were both a special session on the Database and the hot topics session on Iron based superconductors. In the final session on Friday, Prof. S. Campbell made concluding remarks. More details can be found in the proceedings in Hyperfine Interactions.

We promised that the proceedings would be quickly published in Hyperfine Interactions two months after the conference. “Color figures” can be used for the first time not only in the open access version, but also in the final printed version. The organizers were expecting that both the quick publication schedule, i.e. two months after the conference, and the color pages, would be attractive for the participants who considered publishing their research works in the proceedings. The complete publication procedure was performed through a special website provided by Springer, publisher of Hyperfine Interactions. The access to Hyperfine Interactions through this Editorial Manager was triggered by the ICAME 2011. Two months after the conference, most papers are published on-line already.

On behalf of the organizing committee, finally, we would like to express sincere thanks to all the participants and the international committee of the ICAME2011 for coming to Kobe, Japan, despite the fact that the period to visit Japan was not fully appreciated after the disasters triggered by the huge earthquake on 11 March 2011. We could feel always your solidarity and warmness to the Japanese. We hope the ICAME2011\_Kobe has created a strong Kizuna (絆) – a strong bond - in our community, which will keep our research fields active and fruitful using Mössbauer spectroscopy.

Finally, I would like to mention that ICAME2011 was kindly sponsored by the Yamada Science Foundation as the 65th Yamada Conference. I sincerely thank the Foundation, especially Prof. J. Kanamori. Furthermore, to change the conference city from Tokyo to Kobe, many warm supports have been provided by the Kobe International Conference Center. During the whole period for the preparation, I had always a feeling that we are warmly supported from the ICAME family and the international programme committee. I am extremely grateful to Profs. Guido Langouche, Denes Nagy, Michael Reissner, Jean-Marc Greneche, Teruya Shinjo, Saburo Nasu and the local organizing committee for their kind support in the organization. This conference was supported by Japan Conference services, and I appreciate their warm and professional support.

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### **Technical Presentations**

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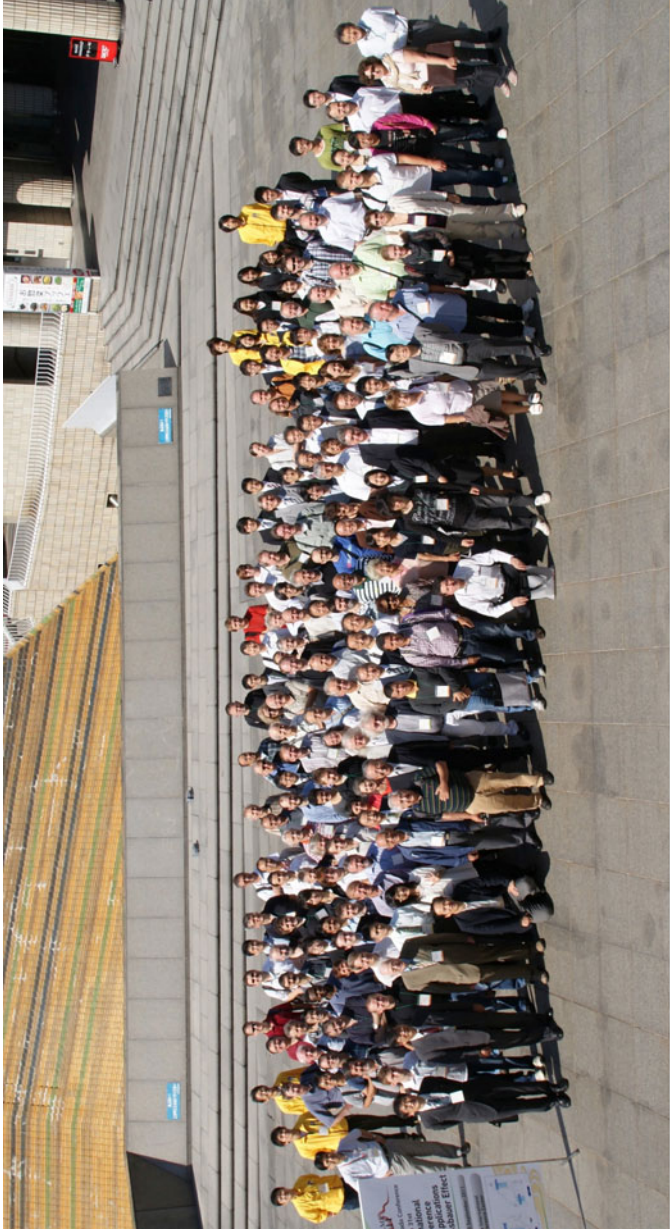
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The 65th Yamada Conference

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25-30 September

Kobe, JAPAN