Preface for the Special Issue of ALC '17

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The 11th International Symposium “Atomic Level Characterization for New Materials and Devices (ALC '17)” under the auspices of the 141st Committee on Microbeam Analysis of the Japan Society for the Promotion of Science (JSPS) was held in Aqua Kauai Beach Resort, Kauai, Hawaii, gathering 251 participants from 19 countries. In this symposium, 209 papers in total, including one Tutorial and three Plenaries, have been presented. Fourteen papers out of them are collected in this special issue.

The 141st Committee, one of 70 Industry Cooperative Research Committees organized by the JSPS, was established in September 1974 to meet the growing demands of microbeam analysts, users and scientists for further education, innovation and mutual cooperation among industries, governmental institutes and universities. This committee has several goals; developing new methodologies, technologies and micro-analysis instrumentation, promoting widely the practical application of these up-to-date technologies to industry, and in particular, encouraging scientists of the next generation in the field of microanalysis.

The series of international symposia on ALC has been held basically biennially, started in 1996, the first being held in Kyoto. The symposium is aimed at establishing the atomic level characterization as the key technology for nanotechnology which has been the focus of much research effort and development in many countries. The symposium features the significant approaches towards atomic level characterization and its applications to a variety of fields such as materials science, mineralogy, geology, energy storage, cosmology, biology and medical examination and treatment. Two special sessions, Characterizations of Water at Surface and Interface, and 3D Atomic Visualization and Characterization of Functionally Active Site, were held in this symposium.

It is very honorable to give our best award, the JSPS 141st Committee Award, to the distinguished scientists from around the world. This time, Prof. Hans-Joachim Freund (Fritz Haber Institute of the Max Planck Society), Prof. Wolf-Dieter Schneider (Fritz Haber Institute of the Max Planck Society), and Prof. Peter Varga (Brno University of Technology and Vienna University of Technology) are awarded as the laureates for their pioneering works on physics and chemistry in surface science.

Special thanks to our committee members, Prof. J. Matsuo, the chair of Steering Committee, Prof. H. Yurimoto, the chair of Program Committee. Thanks also to Prof. S. Shiraki, Prof. T. Hayasaka, H. Nakahara, Prof. S. Ninomiya and Prof. Satoru Suzuki who carried out most of the practical work of the ALC organization as secretaries of the Steering Committee. Most of the publication matters have been handled by Prof. T. Yasue, the chair, and Prof. S. Aoyagi and Prof. F. Matsui, the secretaries of Publication Committee. We also have to give big thanks to Dr. T. Sato as the chair of Finance Committee, who contributed much energy for raising supports from companies. We also express special thanks to Prof. T. Gustafsson, Dr. R. Oiwa, and Prof. S. Nagai for their great contribution to the success of the symposium.

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