Preface

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Biographical notes: Shun-Ichiro Tanaka received PhD degree in Materials Science from Tohoku University in 1980. He worked in R&D Center of Toshiba Corporation until 2002, when he was Director of 'Tanaka Solid Junction Project', ERATO, JST during 1993–1998 and Visiting Professor at the University Tokyo during 1999–2000. He has been a Professor at Nagoya Institute of Technology during 2002–2006 and moved to Professor at IMRAM of Tohoku University in 2005. His research field covers diffusion and lattice defect, science at joined interface, nanostructure evolution by ion irradiation and measurement of stress tensor distribution in a localised area which has been involved in more than 170 papers and 280 patents.

Tsugio Sato received PhD degree in Applied Chemistry from Tohoku University in 1980. He worked as a Research Associate in the Faculty of Engineering, Tohoku University in 1975. He became a Post Doctoral Researcher in Monash University, Australia during 1981–1982. He has been an Associate Professor in the Department of Molecular Chemistry and Engineering, Tohoku University in 1987. He has been a Professor at ICRS of Tohoku University in 1994 and at IMRAM of Tohoku University in 2001. He has also been a Guest Professor of three Chinese University.

Li Lu received his B.Eng and M.Eng from Tsinghua University, China in 1977 and 1982, respectively, and later his PhD from Katholiek Universiteit Leuven, Belgium in 1989. After two year post-doctoral study, he joined the National University of Singapore in 1991 as a Research Scientist. He has been Full Professor since 2004. Currently his main research areas include energy storage materials and ferroelectric materials.

Dongfeng Xue received his PhD from Changchun Institute of Applied Chemistry, Chinese Academy of Sciences in 1998. He worked as an Alexander von Humboldt research fellow in University Osnabruck (1999–2000); as a visiting researcher in University of Ottawa (2000–2001); as a Japan Society for the Promotion of Science (JSPS) postdoctoral fellow at National Institute for Materials Science (NIMS) in Tsukuba (2001–2003). He was appointed a full professor in 2001 in Dalian University of Technology. In 2011, he joined Changchun Institute of Applied Chemistry, Chinese Academy of Sciences. His research interests include crystallography, crystal growth, calculation and simulation of functional materials, and chemical synthesis of condensed matter. He has published over 400 papers with about 300 papers in peer-reviewed journals (with h = 39), and more than 20 invited book chapters.

Tohru Sekino graduated from Department of Materials Chemistry, Tohoku University in 1990, and immediately recruited into ISIR, Osaka University as a Research Associate in April 1990. He obtained his doctorate in Engineering from Osaka University in 1997. He was appointed as an Associate Professor at ISIR, Osaka University in 1999, and at IMRAM, Tohoku University in 2007. He is involved in various cutting edge investigations in design, development and function analysis/tuning for a wide variety of nanostructured, hybrid, multifunctional and environmental/energy materials as well as nanocomposite ceramics simultaneously. He has given more than 55 invited talks at various conferences, and has over 220 peer-reviewed publications in the worldwide scientific journals.

Shu Yin received PhD degree in applied chemistry from Tohoku University (research period shortened) in 1999. He has been a full-time Research Assistant at ICRS in 1999, then a Lecturer in IMRAM, Tohoku University in 2005 and then a Full-time Associate Professor in 2005. He is also an Affiliate Professor of three Chinese Universities or Institute. He has also participated in the organisation of some international conferences and acted as session chair in more than 20 international conferences. He has published more than 300 peer-reviewed research papers (with h = 33), contributed 18 book chapters and review papers.

The 4th International Symposium on Functional Materials (ISFM 2011) was held in Sendai, Japan, on 2–6 August 2011, after an interval of two years. About 140 internationally renowned scientists from 14 countries attended the conference to share

their experiences and expertise in advanced functional materials. The conference consisted of five plenary talks, 32 invited talks, and many contributions in oral as well as poster presentations.

The aim of the ISFM 2001 was to provide a forum for discussing innovative research and development in the research field of functional materials, and provide a platform for open discussion of fundamental and applied research in the areas of solid state chemistry, physics and materials science of functional materials. Therefore 4th symposium – ISFM 2011 covered a wide variety of topics among advanced materials science and technology, and especially focused on the four major categories including: Environmental Materials; Electronic Materials; Energy Materials; Biomedical Materials.

As it is known, a massive earthquake followed by deadly tsunami occurred nearby the Tohoku region on 11th March 2011. After the earthquake, although there were many difficulties to continue organising the symposium, we received warm encouragement from many researchers and societies, especially from the members of international advisory committee and organising committee, so that the ISFM 2011 could successfully be held on schedule. It was our honour that the ISFM2011 is the first formal international academic conference held in Tohoku area of Japan after the 3/11 earthquake.

We are delighted to see that many researchers are interested in the design, synthesis and the applications of functional materials. Many fruitful and exciting research achievements were presented in the symposium. This symposium provided a good opportunity for scientists to communicate and exchange their opinions with each other. We would also like to express our sincere appreciation to all the members of the International Advisory Committees, the Organising Committee, and participants, without whose support the conference would not have achieved the degree of success it did.

Group photograph of the participants in the ISFM2011 held at Sendai, 4 August 2011