

Special proceedings of the Symposium A: “Advances in energy storage systems: lithium batteries, supercapacitors and beyond”, during ICMAT 2015, June 28–July 3, Singapore

Palani Balaya¹ · Pooi See Lee² · Ilias Belharouak³ · Mickael Dollé⁴ · Shinichi Komaba⁵

Published online: 2 June 2016
© Springer-Verlag Berlin Heidelberg 2016

Preface

Encouraged by the successes of the previous seven International Conference on Materials for Advanced Technologies (ICMAT) events in 2001, 2003, 2005, 2007, 2009, 2011, and 2013, MRS-Singapore in association with the National University of Singapore (NUS), Nanyang Technological University (NTU), Institute of Materials Research and Engineering (IMRE), and many other national and international institutes organized ICMAT-2015 from 28 June to 3 July 2015 at the SUNTEC Singapore International Convention and Exhibition Centre.

On 28 June 2015, the conference started with the traditional inaugural event followed by a plenary talk by

Professor Subra Suresh, President, Carnegie Mellon University, US. There were more than 2300 members of the international scientific and materials research community representing over 40 countries that attended 33 Symposia covering many frontier areas in materials science and technology. The overall level of participation in this conference was of an exceptionally high standard as evidenced by the participation of several leading experts who gave plenary and public lectures, distinguished keynotes, and invited speakers.

The Symposium A on “Advances in Energy Storage Systems: Lithium Batteries, Supercapacitors and Beyond” provided an excellent opportunity as an interdisciplinary forum addressing recent trends in science and technology related to materials for energy storage. Symposium A was supported by the Battery Society of Japan with financial contribution. This symposium had attracted large attendance translated by about 230 participants (10 % of the whole attendance) including 43 keynote/invited talks, 103 oral presentations, and 82 poster presentations. The talks were classified under the following broad categories: fundamentals, advanced characterization, electrodes (cathodes and anodes) and electrolytes of lithium batteries, sodium batteries, all solid-state batteries, next-generation batteries, and supercapacitors. Three parallel sessions were scheduled, two sessions dealing with batteries largely and the other addressing supercapacitors. We also dedicated a half-day symposium to Professor Joachim Maier, Max Planck Institute of Solid State Research, Germany, to honor him on his 60th Birthday. Four awards for best posters were given based on the recommendation of a jury committee comprised of four experts.

✉ Palani Balaya
mpepb@nus.edu.sg

¹ Department of Mechanical Engineering, Faculty of Engineering, National University of Singapore, 9 Engineering Drive 1, Singapore 117576, Singapore

² School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Block N4.1, Singapore 639798, Singapore

³ Qatar Environment & Energy Research Institute, Hamad Bin Khalifa University (HBKU), Qatar Foundation, PO Box 5825, Doha, Qatar

⁴ Department of Chemistry, University of Montreal, PO Box 6128, Stn Downtown, Montreal, QC H3C 3J7, Canada

⁵ Department of Applied Chemistry, Tokyo University of Science, Shinjuku, Tokyo 162-8601, Japan

On behalf of the organizing committee, we would like to thank all the invited speakers, session chairs, and sponsoring agents for the success of the Symposium A during ICMAT 2015. A special issue proceeding in the ‘Journal of the solid state electrochemistry’ was planned to publish peer-reviewed manuscripts presented in the symposium. Thanks to all authors who have submitted their manuscripts within the due date and the reviewers

for their valuable suggestions and comments to improve the quality of the manuscripts. We also thank the Editor-in-Chief Professor Fritz Scholz and Managing Editor Dr. Michael Hermes for the timely release of the online first publication and the publication of the proceedings volume.

Organizing committee members of Symposium—A, ICMAT 2015.