The 5th Molecular Materials Meeting (M3) @ Singapore

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Abstract

M3@Singapore is 5 years old! In this short but fruitful journey of half a decade, many people have witnessed the rapid growth of the Molecular Materials Meeting (M3) @ Singapore, an international conference on molecular materials launched in 2010. We are thankful to many of you for joining us on this enjoyable and unforgettable journey. We are grateful to Professor Curt Wentrup, former Editor-in-Chief of the Australian Journal of Chemistry, who has kindly helped create four commemorative editions [Aust. J. Chem. 2011, 64(9); 2012, 65(9); 2013, 66(9); 2014, 67(10)], which featured representative works from the four previous conferences. We provided synopses as forewords in every thematic issue over four years.[1–4]

The 5th M3@Singapore was held on 3–5 August 2015 at the popular Resorts World Sentosa Convention Center, Singapore. It was held in a special year for Singapore, which celebrated its golden jubilee of independence. About 480 scientists and students from 28 countries joined us in this commemorative meeting and took the opportunity to exchange ideas and share the latest findings in molecular materials research. For plenary talks, Professor Paul Alivisatos (University of California, Berkeley, USA) gave a detailed account on nanocrystals as fundamental building blocks of nanoscience and nanotechnologies; Professor Timothy Swager (Massachusetts Institute of Technology, USA) shared his perspective on how to move research from laboratory to start-ups, citing his own experiences and giving insights and advice on promotion of entrepreneurship; Professor Moungi Bawendi (Massachusetts Institute of Technology, USA) gave a holistic account on the science and technology of quantum dots, from fundamentals to biological and optoelectronic applications, and transition to market acceptance; Professor Zhenan Bao (Stanford University, USA) showed how one can learn from skin to fabricate cutting-edge smart flexible electronics based on novel organic and carbon nanomaterials; Professor Dongyuan Zhao (Fudan University, China) presented some sophisticated synthetic strategies and approaches to produce functional mesoporous materials for bio-applications. The keynote, invited talks, and oral contributions addressed various pressing issues at different levels using molecular materials approaches. Apart from the scientific talks, the program included an industrial session and a CTO (Chief Technology Officer) panel discussion on open innovation, and two editorial talks were delivered by Dr Elisa De Ranieri, Senior Editor of Nature Nanotechnology, and Professor Curt Wentrup, former Editor-in-Chief of the Australia Journal of Chemistry. Asia Nano Forum 2015 and A*STAR-RIKEN Joint Symposium were also held as satellite events. The

Yun Zong received his B.Sc. and M.Sc. degrees from Wuhan University (China), and his Ph.D. from Johannes-Gutenberg University of Mainz and Max-Planck Institute for Polymer Research, Germany. He was a post-doctoral research fellow at the National University of Singapore, a visiting scholar at Stanford University, and a technical advisor of Int.-Mat. Technologies. As a Senior Scientist in the Institute of Materials Research and Engineering (IMRE), he heads the Advanced Energy Storage Laboratory and is also Programme Manager of the Advanced Energy Storage Programme at the Science and Engineering Research Council (SERC) of the Agency for Science, Technology and Research (A*STAR). His current research focuses on the development of high-performance rechargeable zinc-air and lithium-sulfur batteries.

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diverse program reflected the deep interest in molecular materials and the rich opportunities therein.

In this issue of *Aust. J. Chem.*, we have put together ten peer-reviewed submissions on various topics from the work presented at the 5th M3@Singapore. Bai et al. (Institute of Materials Research and Engineering, Singapore) present the formation of plate crystals by two Cu(I) complexes with triazole ligand. The anisotropic growth was ascribed to hydrogen bond-driven assembly with preferred directions.[11] Seta et al. (University of Warsaw, Poland) discuss the use of noble metal nanoparticle-decorated zirconia-supported phosphotungstate as a catalyst to facilitate smooth conversion of formic acid fuel in polymer electrolyte membrane fuel cells (PEMFCs).[12] Rutkowska (University of Warsaw, Poland) reports the electrode which can be directly used as a sensor for the detection of Cr(VI), a dreadful pollutant in water systems.[13] Of notable interest to both bio- and non-bio-applications is the work on surface wettability, which is difficult to fully quantify using the prevailing contact angle concept. Based on data collected from a large number of well-designed samples, Wong et al. (Institute of Materials Research and Engineering, Singapore) have formulated empirical formulae that enable the drop shape and contact angle to be correlated, thus providing valuable and better-defined surface wettability information.[14] We trust that the readers will find these diverse contributions helpful and inspirational while searching for the next big idea in their work.

**References**


