
Preface

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Biographical notes: Andreu Cabot obtained his PhD from the University of Barcelona in 2003. He did his postdoctoral research at the University of California, Berkeley, under Professor A. Paul Alivisatos guidance. He returned to the Electronics Department, University of Barcelona in 2007 and joined the Catalonia Institute for Energy Research – IREC in 2009 to form the Functional Nanomaterials Group. His research interests include the preparation, characterisation and assembly of nanocrystals and their application in energy conversion and storage.

Hong Liu is Professor in State Key Laboratory of Crystal Materials, Shandong University, and Adjunct Professor in Beijing Institute of Nanoenergy and Nanosystem, Chinese Academy of Science. He received his PhD degree in 2001 from Shandong University (China). He has published over 200 refereed papers, and over 30 patents. In 2009, he was awarded as Distinguished Young Scholar by National Natural Science Foundation of China. In 2012, he is awarded as Professor of Hundred Talents Program of CAS at Beijing Institute of Nanoenergy and Nanosystem. His current research is focused mainly on nonlinear crystal growth, chemical processing of nanomaterials for energy related applications including photocatalysis, tissue engineering, especially the interaction between stem cell and nanostructure of biomaterials.

Richard D. Robinson is an Assistant Professor in the Materials Science Department of Cornell University. His research is centred on understanding the fundamental physics of nanomaterials, such as their thermal properties, and applying novel nanosynthetic design concepts to tailor the properties of nanomaterials by controlling their size, shape, composition, and surfaces. His group is targeting new materials for lithium storage, thermoelectrics, and electrocatalysis. His group is also pioneering a new method to probe phonon transport in nanostructures. He received his BS and MS in Mechanical Engineering from Tufts University. He returned to school and received his PhD in Applied Physics from Columbia University. After his PhD, Richard won a postdoctoral fellowship at University of California, Berkeley/LBNL in the research group of Paul Alivisatos. There, he worked on nanoparticle synthesis, chemical transformations of nanoparticles, and advanced property characterizations of nanoparticles. In 2008 Richard began a faculty position at Cornell University. He has won a number of awards including, most recently, the 3M Non-tenured Faculty Award (2012, 2013, & 2014), the NSF CAREER award, and the R&D 100 Award. His Cornell work has been featured in *Physics Today* and he was selected as an “Emerging Investigator” by the *Journal of Materials Chemistry A* (2014).

The present issue of the *International Journal of Nanotechnology* contains a selection of peer-reviewed papers based on contributions from the Symposium *Nanomaterials for Energy Conversion and Storage* celebrated within the *European Materials Research Society (E-MRS) Spring Meeting* in Strasbourg, France, from 27–31 May, 2013.

The *Nanomaterials for Energy Conversion and Storage* Symposium focused on the synthesis, processing, characterisation, and modelling of nanostructured materials and their use in energy conversion and storage devices and systems. Successful design of nanostructured materials could lead to a wide range of improved or novel devices and technologies useful and essential for energy conversion and storage. This Symposium also aimed to discuss the most recent results on the catalytic, electrocatalytic and photocatalytic properties of nanomaterials relevant to their potential in chemical and electrochemical energy conversion and storage. Likewise, it addressed the relations among synthesis, structures, physico-chemical properties of nanoscale materials, interaction with photons, phonon, and chemicals at the nanometre scale studied using experiments and/or modelling.

The Symposium was divided into 10 sessions, which dealt with the synthesis, characterisation and use of nanostructured materials for hydrogen production and storage, the fabrication of fuel cells, to improve the efficiency and/or reduce the cost of current photovoltaic, thermoelectric and piezoelectric devices, and to improve the performance of energy storage devices, such as lithium ion batteries or supercapacitors.

The Symposium received close to 300 submissions. From these, after a careful review process, 92 were selected for oral presentations, including 14 invited talks, and over 100 works were presented as posters. Over 200 attendees from all over the world finally participated to the Symposium.

Numerous manuscripts based on contributions from the Symposium participants were received for this special issue of the *International Journal of Nanotechnology*. Among them, the 24 included in this issue were selected for publication after a peer reviewing process.

We would like to thank the *E-MRS 2013 Spring Meeting* organisers, all the Symposium participants, the members of the Scientific Committee, the Symposium assistants, all the contributors to this issue of the *International Journal of Nanotechnology*, the reviewers and the journal Editor-in-Chief, Lionel Vayssieres, for their commitment to the high scientific quality of the event and the publication.