includes SPECIAL SECTION
International Conference on Electrochemical Materials and Technologies for Clean Sustainable Energy (ICES-2013), July 5-9, 2013, Guangzhou, China

Guest Editors:
San Ping Jiang, Pei Kang Shen, Xueliang Sun
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Energy shortages and environmental pollution are serious challenges facing humanity for the long-term. It is still a big challenge to solve these two interrelated problems at the same time. Clean Sustainable Energy will make it possible for clean and renewable energy sources to power the world economy and eliminate the environmental and health hazards caused by the excess use of fossil fuels.

To promote and provide an important platform for the presentation and exchange of the recent advances in the electrochemical energy sciences and technologies, the International Conference on Electrochemical Materials and Technologies for Clean Sustainable Energy was held on July 5–9, 2013 in Guangzhou, China, and was co-organized by Sun Yat-sen University (China), Pennsylvania State University (USA) and Yancheng Institute of Technology (China). The Conference was chaired by Prof. Pei Kang Shen (Sun Yat-sen University, China) and co-chaired by Prof. Jiujun Zhang (National Research Council, Canada), Prof. Andy X Sun (University of Western Ontario, Canada), Prof. Chao-Yang Wang (Pennsylvania State University, USA), Prof. San Ping Jiang (Curtin University, Australia) and Prof. Baolin Wang (Yancheng Institute of Technology, China). The objectives of this conference were to enhance scientific collaboration, to enable commercialization and to exchange significant information on advanced materials and technologies for clean sustainable energy, as well as to explore future R&D directions.

The overall level of participation in this conference was of an exceptionally high standard, attracting about 300 delegates from universities, research institutes and companies, and included 4 plenary talks, 46 keynote talks, 138 oral presentations and 127 posters. The talks were classified under 6 major topics, including: (i) fuel cells and hydrogen energy, (ii) lithium batteries and advanced secondary batteries, (iii) green energy for a clean environment, (iv) photoelectrocatalysis, (v) supercapacitors and (vi) electrochemical clean energy applications and markets. High-quality papers presented in the conference were selected and published in this special section of the International Journal of Hydrogen Energy after a rigorous and regular peer-reviewed process.

On behalf of the organizing committee, we would like to thank our sponsors and all the invited speakers, session chairs and participants for their support and efforts on the conference, with special appreciation to those who have contributed to the compilation of the high-quality papers of this special section, the IJHE editors, authors, reviewers, and management team.

San Ping Jiang, Pei Kang Shen, Andy X. Sun
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E-mail address: S.Jiang@curtin.edu.au (S. P. Jiang)
Fuel Cells - General

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Y. Yin, T. Wu, P. He, Q. Du and K. Jiao

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A.M. Shivapuji and S. Dasappa

D. Wu, Y. Liu, Y. Liu and J. Wang

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Y.V. Zaika and E.K. Kostikova


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Safety

S.G. Giannissi, A.G. Venetsanos, N. Markatos and J.G. Bartzis

Corrigenda


X. Zhang, G. Xia, C. Huang and Y. Wang

G. Xia, C. Huang and Y. Wang

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S.P. Jiang, P.K Shen, A.X Sun

Fuel Cells


C. Coutanceau, A. Zalineeva, S. Baranton and M. Simoes
Role of two carbon phases in oxygen reduction reaction on the Co–PPy–C catalyst

Microstructure reconstruction and characterization of PEMFC electrodes

Improved performance using tungsten carbide/carbon nanofiber based anode catalysts for alkaline direct ethanol fuel cells

N-doped graphene as a bifunctional electrocatalyst for oxygen reduction and oxygen evolution reactions in an alkaline electrolyte

Fabrication of Pt nanoparticles on ethylene diamine functionalized graphene for formic acid electrooxidation

Microstructure reconstruction and characterization of PEMFC electrodes

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Fabrication of Pt nanoparticles on ethylene diamine functionalized graphene for formic acid electrooxidation

High stability and activity of Pt electrocatalyst on atomic layer deposited metal oxide/nitrogen-doped graphene hybrid support

Comparative investigation on the properties of carbon-supported cobalt-polypyrrole pyrolyzed at various conditions as electrocatalyst towards oxygen reduction reaction

Understanding of temperature-dependent performance of short-side-chain perfluorosulfonic acid electrolyte and reinforced composite membrane

Effect of support materials on the performance of direct ethanol fuel cell anode catalyst

High stability and activity of Pt electrocatalyst on atomic layer deposited metal oxide/nitrogen-doped graphene hybrid support

Comparative investigation on the properties of carbon-supported cobalt-polypyrrole pyrolyzed at various conditions as electrocatalyst towards oxygen reduction reaction

Understanding of temperature-dependent performance of short-side-chain perfluorosulfonic acid electrolyte and reinforced composite membrane

Effect of support materials on the performance of direct ethanol fuel cell anode catalyst

Hydrogen crossover through perfluorosulfonic acid membranes with variable side chains and its influence in fuel cell lifetime

Exploring the active sites of nitrogen-doped graphene as catalysts for the oxygen reduction reaction

Effects of composition on electrochemical properties of a non-precious metal catalyst towards oxygen reduction reaction

Ethanol oxidation on Pd/C enhanced by MgO in alkaline medium

Preparation of BaZr$_{0.1}$Ce$_{0.7}$Y$_{0.2}$O$_{3-\delta}$ thin membrane based on a novel method-drop coating

Preparation and characterization of core–shell-like PbPt nanoparticles electro-catalyst supported on graphene for methanol oxidation

Magnetron-sputtered Mn/Co(40:60) coating on ferritic stainless steel SUS430 for solid oxide fuel cell interconnect applications
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16073 Sulfur–nitrogen doped multi walled carbon nanotubes composite as a cathode material for lithium sulfur batteries

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16081 Synthesis of hierarchically flower-like FeWO₄ as high performance anode materials for Li-ion batteries by a simple hydrothermal process

Y. Wang, S. Wang, M. Xiao, D. Han and Y. Meng

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16202 Promoted Mo incorporated Co–Ru–B catalyst for fast hydrolysis of NaBH₄ in alkaline solutions

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