

Environment, Energy and Biotechnology II

Edited by

Ms. Liu Juan

Environment, Energy and Biotechnology

Selected, peer reviewed papers from the
2013 2nd International Conference on
Environment, Energy and Biotechnology
(ICEEB 2013),
June 8-9, 2013, Kuala Lumpur, Malaysia

Edited by

Liu Juan



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PREFACE

Dear Distinguished Delegates and Guests,

The Organizing Committee warmly welcomes our distinguished delegates and guests to the 2013 2nd International Conference on Environment, Energy and Biotechnology (ICEEB 2013) held on June 8-9, 2013 in Kuala Lumpur, Malaysia.

ICEEB 2013 are sponsored by Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEEES), and supported by APCBEEES Members and scholars from universities all round the world. If you have attended a conference sponsored by APCBEEES before, you are aware that the conferences together report the results of research efforts in a broad range of Environment, Energy and Biotechnology society. These conferences are aimed at discussing with all of you the wide range of problems encountered in present and future high technologies. ICEEB 2013 are organized to gather members of our international community scientists so that researchers from around the world can present their leading-edge work, expanding our community's knowledge and insight into the significant challenges currently being addressed in that research. The conference Program Committee is itself quite diverse and truly international, with membership from the Americas, Europe, Asia, Africa and Oceania.

This proceeding records the fully refereed papers presented at the conference. The main conference themes and tracks are Environment, Energy and Biotechnology. The main goal of these events is to provide international scientific forums for exchange of new ideas in a number of fields that interact in-depth through discussions with their peers from around the world. Both inward research; core areas of Environment, Energy and Biotechnology and outward research; multi-disciplinary, inter-disciplinary, and applications will be covered during these events.

The conference has solicited and gathered technical research submissions related to all aspects of major conference themes and tracks. All the submitted papers in the proceeding have been peer reviewed by the reviewers drawn from the scientific committee, external reviewers and editorial board depending on the subject matter of the paper. Reviewing and initial selection were undertaken electronically. After the rigorous peer-review process, the submitted papers were selected on the basis of originality, significance, and clarity for the purpose of the conference. The selected papers and additional late-breaking contributions to be presented as lectures will make an existing technical program. The conference program is extremely rich, featuring high-impact presentations.

The high quality of the program – guaranteed by the presence of an unparalleled number of internationally recognized top experts – can be assessed when reading the contents of the program. The conference will therefore be a unique event, where attendees will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other fields. The program has been structured to favor interactions among attendees coming from many diverse horizons, scientifically, geographically, from academia and from industry. Included in this will to favor interactions are social events at prestigious sites.

We would like to thank the program chairs, organization staff, and the members of the program committees for their work. Thanks also go to Editor Ms. Liu Juan, Asia-Pacific Chemical, Biological & Environmental Engineering Society, for their wonderful editorial service to this proceeding.

We are grateful to all those who have contributed to the success of ICEEB 2013. We hope

that all participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process. Finally, we would like to wish you success in your technical presentations and social networking.

We hope you have a unique, rewarding and enjoyable week at ICEEB 2013 in Kuala Lumpur, Malaysia.

With our warmest regards,

The Organizing Committees
June 8-9, 2013
Kuala Lumpur, Malaysia.

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Table of Contents

Advanced Nitrogen Removal from Landfill Leachate without External Carbon Addition Using a Modified SBR Process	1
<i>Wang Kai, Wang Shuying, Miao Lei, Li Zhongming</i>	
The Long-term Effect of Carbon Source on the Microbial Community in the EBPR System and Stoichiometry	6
<i>Z.J.Miao, Y.Z.Peng, G.S.Xue, S.Y.Wang and D.C.Weng</i>	
Potential of Vermicompost Biofilter for the Removal of Formaldehyde	11
<i>Swe Jyan Teh, Noor Zalina Mahmood</i>	
Assessing Indoor Air Quality Measurement Correlations and Variations in School Buildings	16
<i>Jukka-Pekka Skön, Mika Raatikainen, Markus Johansson, Kauko Leiviskä and Mikko Kolehmainen</i>	
Growth Performance of Fattening Hogs Fed With Fresh and Dried Cashew Apple	23
<i>Liwayway H, Acero, Ed.D, Cheryl G. Lagan and Mary Athena C. Padul</i>	
Study the Anthocyanin Extraction from the Rind of Mangosteen (<i>Garcinia Mangostana</i>) in Vietnam	28
<i>Dam Sao Mai, Le Van Tan</i>	
Biodiesel Production from <i>Jatropha Curcas</i> , Waste Cooking Oil and Animal Fats under Supercritical Methanol Conditions	32
<i>Chee Kai Tan and Maoqi Feng</i>	
Geospatial Modeling of Surface Temperature of Hatyai City, Thailand	37
<i>Poonyanuch Ruthirako and Wichien Chatupote</i>	
A Study on Sedimentation in Sefidroud Dam by Using Depth Evaluation and Comparing the Results with USBR and FAO Methods	43
<i>Faridah Othman, Mohammad Sadegh Sadeghian, Faegheh Ebrahimi and Mohammad Heydari</i>	
Multi Objective Operation Optimization of Reservoirs Using Genetic Algorithm (Case Study: Ostor and Pirtaghi Reservoirs in Ghezal Ozan Watershed)	49
<i>Mohammad Noori, Faridah Othman, Mohammad Bagher Sharifi, Mohammad Heydari</i>	
Sanitary Sewer Detection Using Android Based 3D GIS	55
<i>Manish Mahant Manikpuri, Prof. Sapna Choudhary</i>	
Extraction, Infrared Spectral Analysis and the Antimicrobial Activity on	59

Polysaccharide within Nostoc Commune Vauch. <i>Yi Diao, Hongbo Han, Yong Li,</i>	
In Vivo Antioxidant Activity of Lycopene from Blakeslea Trispora in Rats <i>Weilian Hu, Dehui Dai, Wei Li</i>	64
Sustainability Metrics and Life Cycle Assessment for Thermochemical Conversion of Woody Biomass to Mixed Alcohols <i>Eric C. D. Tan and Abhijit Dutta</i>	69
Effects of Mixture Ratios on Co-Fermentation of Primary Sludge and Waste Activated Sludge under Alkaline Condition <i>Gao-qiang Su, Bing-yu Zheng, Zhi-guo Yuan, Shuying Wang, Yong-zhen Peng</i>	75
Evaluating Effects of Indoor Air Quality in School Buildings and Students' Health: A Study in Ten Schools of Kuopio, Finland <i>Mika Raatikainen, Jukka-Pekka Sköni, Mari Turunen, Kauko Leiviskä and Mikko Kolehmainen</i>	80
Biohydrogen Production from Sterilized Sewage Sludge as a Substrate Using Mixed Cultures <i>Mijung Kim, Sechang Oh, Randeep Rakwal, Chunguang Liu, Zhenya Zhang</i>	87
Research on The Construction of Regional Ecological Network in Multiple Spatial-Scales Context: A Case Study of Wolong Lake Eco-Region in Shenyang <i>Yuncai WANG, Dong LV</i>	94
Enhancement of Lipid Accumulation in <i>Cunninghamellabainieri</i> sp. 2A1 Via Feeding of Ammonium and Metal Ions <i>Shuwahida Shuib, Othman Omar, Mohd Sahaid Khalil, Abdul Jalil Abdul Kader, and Aidil Abdul Hamid</i>	100
A comparative Study of Salt Tolerance Parameters in Three Egyptian Ecotypes of <i>Alhagi Maurorum</i> "Camel Thorn" <i>A. Ashgan Abou Gabal, Aa. Abed Elsalam, El Wakeel H., Amera Zaitoun and R. Nader</i>	105
Characterization of Collagenase 3 (MMP-13) Expressions in Skin Melanoma, Breast Cancer and Cervical Cancer <i>in Vitro</i> <i>Nur Aizura Mat Alewi, Mohammad Syaiful Bahari Abdull Rasad</i>	112
Screening Six Potential <i>Yarrowia Lipolytica</i> Strains for Best Lipid, Citric Acid, Biosurfactant and Lipase Production <i>Jayeeta Sil, Subhasish Das, Raquel G. Oliveira, Priscilla F.F. Amaral, Maria Alice Z. Coelho</i>	117
Bioprocess Optimization for Biodiesel Production from <i>Pongamia Pinnata</i> <i>Vidhvath Viswanathan, Vinodh Mohan, Viswa Purusothaman, Subhasish Das</i>	122
Economical and Ecological Study of Using the Auxiliary System in Combination with PV Panels in Grid-Connected Condition	127

<i>S. Sadeghi and M. Ameri</i>	
Characterization of Completion Operational Safety for Deepwater Wells <i>Shengnan Wu, Jianchun Fan, Laibin Zhang, Xiaolong Li, Peicong Tan</i>	133
A New Flocculant-Coagulant with Potential Use for Industrial Wastewater Treatment <i>Jusof Khadidi, M.H, Al-Shorgani, N.K., Ali, E., Abdul Hamid, A., and Kalil, M.S.</i>	139
Respiratory Effects of Exposure to Respirable Dust at Paper Based Mill in Malaysia <i>Nuur Azreen Paiman, Abdul Mutalib Leman, Norhidayah Abdull, and Marzuki Ismail</i>	143
Influence Variety and Processing Methods on Specific Heat Capacity of Crude Palm Oil <i>Joseph S. Alakali, Sunday O. Eze and Michael O. Ngadi</i>	149
Lauroyl-Acyl Carrier Protein Thioesterase: a Key Enzyme for Regulation of Medium-Chain Fatty Acid Synthesis in E. Coli <i>Hsinju Hsieh, Chih-Chieh Huang, Liang-Jung Chien and Jia-Hung Wang</i>	153
Author Index	157

