eBOOKLET

UNIVERSITI KEBANGSAAN MALAYSIA
National University of Malaysia

INTERNATIONAL SEMINAR ON BIOMASS AND BIOREFINERY INDUSTRY (ISBBI) 2018

"PROSPECTS OF BIOMASS TOWARDS SUSTAINABLE SOCIETY"

2nd – 3rd October 2018

Day 1 Hotel Bangi-Putrajaya

Day 2 Faculty of Engineering & Built Environment, UKM

Organizer :

UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia
Research Centre for Sustainable Process Technology (CESPRO)

Co-organizers :

Sime Darby YAYASAN

mbic

LRGS: Future Biorefineries

APEC
Asia-Pacific Economic Cooperation

"ISBBI 2018"

We are delighted and honored to welcome all of you to the International Seminar on Biomass and Biorefinery Industry held in Hotel Bangi Putrajaya, Selangor, Malaysia on 2nd – 3rd October 2018. This seminar is organized by the Research Centre for Sustainable Process Technology (CESPRO), Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia (UKM).

OBJECTIVE

To provide seminar participants a platform for the dissemination and discussion of recent innovation and development on biorefinery conversion technology, chain development, economic value and social sustainability on subject to Palm Oil sector and conversion of biomass generated to value added product.

CONCEPT

1st DAY

Focuses on keynote session, presentation by invited speaker and two forum sessions.

2nd DAY

Focuses on theoretical presentation and demonstration on Biomass Compositional Analysis, recognised in industry application

Biological Cycle of Circular Economy for Biomass Resources

Prof. Shu-Yii Wu

Feng Chia University, Taiwan;
Chair holder of UKM-YSD, Malaysia

Shu-Yii Wu received a Ph.D. degree in Chemical Engineering from Katholieke Universiteit Leuven also known as KU Leuven or University of Leuven, Belgium and is currently teaching Chemical Reaction Engineering at Department of Chemical Engineering, Feng Chia University, Taiwan. His research interests address many aspects of powder technology, fluidization, reactor design, fermentation, and bioenergy & biorefinery. His current research work includes the production of biomaterials and biofuels from agriculture waste. He serves as Dean for College of Engineering, Feng Chia University, Taiwan since August, 2015 and also the CEO of APEC Research Center for Advanced Biohydrogen Technology. He's also our very own Chair Holder of UKM-YSD Chair for Sustainable Development: Zero Waste Technology since 2015.

Biological Polyurethane from Liquefaction of Lignocellulosic and Cellulosic Biomass

Prof. Dr. Sarani Zakaria

Bioresources and Biorefinery Labboratory,
Faculty of Science and Technology UKM, Malaysia

Prof Dr Sarani Zakaria is an expert in pulp and paper technology and lignocellulose composite utilizing lignocellulosic materials by converting them into various value added products such as pulp and paper, wood plastic composites, bioresin, cellulose derivatives and regenerated cellulose in combination with nano functional materials for many applications. She has published her research findings in 151 journal articles, more than 150 conference proceedings, 3 Chapters in book and 5 books, 13 patents/utility in Malaysia (MyIPO). She has received more than RM10 Million research funding from various organizations and industries, and works closely with many local and international industries and organisations such JICA-Japan Limonite (¥100million fund), PenChem Sdn Bhd, Ansell Sdn Bhd etc. She serves as the head consultant to the National project (MTIB) for Wood Based Industry (strategic planning) in Malaysia worth RM 2.49 millions. She has supervised 45 PhD and 39 MSc postgraduate students and 4 Post Docs. She has won various awards such as the National Intellectual Property Award 2016 (bronze) and 27 medals in the product exhibition and competition-International and local (Gold, Best Award, Silver and Bronze), and many university awards for excellent service and research.

Future Biorefeneries: Unlocking the Potential of Fine Chemical and Value Added Byproducts

Prof. Dato' Ir. Dr. Abdul Wahab Mohammad

Research Centre for Sustainable Process Technology
UKM, Malaysia

Dato Abdul Wahab received a Ph.D. degree in Chemical Engineering from University of Wales Swansea, United Kingdom and has since actively participated in research and development projects addressing many aspects of Nanofiltration and other Membranes Development and Characterisation, Applications of membranes in water and wastewater treatment, food and biotechnology industries in Malaysia as well as in collaboration with partners in United Kingdom, United States, Belgium, and Jordan. He has published in international journals and presented in various conference throughout the world earning a H-index of 42 and citations exceeding 7000. Honors bestowed on Professor Wahab include being named an Academy of Science Malaysia (ASM) Fellow in 2014, receiving Malaysia Toray Science Foundation (MTSF) Science Award in 2015 and Top Research Scientist Malaysia (TRSM) in 2013. He has long history of serving as Panel Member, Advisor, and Consultant with Malaysian Qualification Agency (MQA), Board of Engineers Malaysia (BEM), Institution of Chemical Engineers (IChemE), Engineering Accreditation Council (EAC), Kementerian Pengajian Tinggi (KPT), Kementerian Sains, Teknologi dan Inovasi (MOSTI) and other IPTA/IPTS in Malaysia.

Role of LCA in Malaysian Biomass Industry

Dr. Vijaya Subramaniam

Principle Research Officer, Environment Group Leader,
Malaysian Palm Oil Board, Malaysia

Dr. Vijaya Subramaniam is a Research Officer by profession currently attached to the Engineering and Processing Research Division in Malaysian Palm Oil Board (MPOB). She holds the post of a Principle Research Officer and is the Leader of the Environment research group under the Energy and Environment Research Unit in MPOB. Her areas of expertise are in the discipline of Life Cycle Assessment for palm oil and the oil palm industry, water footprint, carbon footprint, sustainability and climate change and recovery of residual oil (waste to wealth program) and Social LCA. She has published over 28 scientific journal articles and 8 book chapters in her field and has received more than 16 awards.

Thailand's Energy 4.0 and the Utilization of Agricultural and Biomass for Bioenergy/ Biofuels Production in Thailand

Prof. Alissara Reungsang

Khon Kaen University, Thailand

Prof. Alissara Reungsang starts her career as the lecturer in Department of Biotechnology, Faculty of Technology, Khon Kaen University in the year of 1994. In 2005, she was a Research Fellow in the Department of Urban Engineering at University of Tokyo sponsored by the Hitachi Foundation. She is the Head of the Research Group for Development of Microbial Hydrogen Production Process from Biomass-Khon Kaen University. In 2016, she is selected as the awardee of a high prestigious research fund "TRF-Senior Research Scholar" from Thailand Research Fund. She is the board member of Asian Federation of Biotechnology (Environmental Biotechnology Division) since 2015 and also the Secretary and the board member of Thai Society for Biotechnology since 2017. She has more than 95 papers published in SCOPUS with h-index of 23.

Malaysian Biomass Industry Opportunities and Challenges

Dato' Leong Kin Mun

President of Malaysia Biomass Industries Confederation (MBIC), Director of Environmental Preservation and Innovation Centre (EPIC), Managing Director of Primer Capital Sdn Bhd

Y. Bhg. Dato Leong Kin Mun serves as the President of the Malaysian Biomass Industries Confederation (MBIC) since 2012. He has contributed to the growth of the Malaysian industries within his capacity as Technical Advisor to the European Union (EU) - Malaysian Biomass Sustainable Production Initiative (Biomass-SP) between 2010 and 2014, a development co-operation initiative between the European Union (EU) and the Malaysian Government. Recently, he is appointed as the Director of Environmental Preservation and Innovation Centre (EPIC), a new center of excellence for waste management establish by Cenviro, a unit of Khazanah Nasioanl. He sits in the energy & Environment (E&E) Flagship Research Committee, chammpioned by the SIRIM Berhad and a recognized resource person for Asia-Pacific Economic Cooperation (APEC)'s Green Finance Initiative 2016/2017. Dato Leong is also the Managing Director of Primer Captital Sdn Bhd. Primer Capital is an asset-backed (tangible & knowledge-based) firm speacilizing in green finance solutions and venture capital. He is also an Accredited Angel Investor with the Malaysian Business Angel Network (MBAN)

Innovation of Slow Release Fertilizer

Dr. Ir. Hens Saputra

Director of Center for Technology Energy Resources and Chemical Industry, Agency for The Assessment and Application of Technology

Hens Saputra graduated as the best Ph.D student in Engineering of IIUM, Malaysia in 2011. He obtained master in chemical engineering from Osaka University, Japan in 2003. His competencies are development of porous materials, inorganic membranes, Separation & purification, renewable energy and compound fertilizers. He's currently working as Director of Center for Technology Energy Resources and Chemical Industry, Agency for The Assessment and Application of Technology after serving as Head of Chemical Industry Technology Department from 2012-2015. He was also the Program Director of Innovation and Technology Services for Coal Production, Oil & Gas and Petrochemicals in 2016-2017. He has 3 patents in fertilizers, 1 patent of molecular sieve and 3 patents about batteries.

Developing EFB Cellulose Industry that Potentially Contributes to Sustainable Society

Mr. Mohd Zulkarnaini Wahab

Director –Technical & Project Waris Nove Sdn Bhd

Born in 1959 at Jerantut, Pahang. He pursues his education at University Technology Malaysia for his Diploma in Mechanical Engineering and further completed his Master in Business Management. His early career was with Palm Oil Mill as Engineer cum Plant Manager for 8 years before moving to chemical industry in 1990 with Tioxide Malaysia Sdn Bhd. He served the company for 13 years and was posted to several plants world wide such as in Scarlino, Italy, Greetham, UK and Calais, France. In 2011, he joined the Guangdong Titanium Factory in Yunfu China as Engineering Director before settling back in Kuantan, Pahang in 2014 to focus in the Cellulose Manufacturing. His involvement in the cellulose manufacturing started in 2004 upon attending the Malaysian Palm Oil Board. Transfer of Technology program to commercialize their R&D findings. Through his start-up company, Waris Nove Sdn Bhd an MOA was signed with MPOB in 2008 to conclude the set-up of cellulose and carboxymethylcellulose (CMC) manufacturing plant at Gebeng Industrial Area, Kuantan , Pahang which is producing both cellulose and CMC for local markets demand. Throughout the working career he possessed the certificate of Steam Engineer, SAP Solution Consultant Certification and a professional Members, Institute of Materials Malaysia (MIMM) to name a few.

Role of Oil Palm Biomass and Biorefinering in Promoting Circular Economy

Assoc. Prof. Dr. Puan Yatim

Dean, UKM-Graduate School of Business
Universiti Kebangsaan Malaysia (UKM)

Dr. Puan Yatim is an Associate Professor at UKM-Graduate School of Business. Her research interests are in the areas of corporate finance and governance, risk management, and sustainability. She has taught financial markets and institutions, corporate finance, derivatives markets and risk management, financial management, and seminar in finance. She has authored and co-authored several research articles in a number of related areas. Her recent authored and co-authored work appears in Journal of Management and Governance, Managerial Auditing Journal, Chemical Engineering Transactions, and Clean Technologies and Environmental Policy. She is also a recipient of several research grants including Research University Grant (Universiti Kebangsaan Malaysia), Fundamental Research Grant Scheme (Ministry of Higher Education, Malaysia), Long-term Research Grant Scheme (Ministry of Higher Education, Malaysia), and Yayasan Tun Ismail (Perbadanan Nasional Berhad, Malaysia).

Potential Value Added Products from Forestry Biomass: R&D in FRIM

Dr Wan Asma Ibrahim

Head Of Biomass Technology Program,
Forest Research Institute Of Malaysia (FRIM)

Dr Wan Asma obtained her PhD in Soil Chemistry from University Putra Malaysia and started her career in FRIM in year 1986 as Research Officer and since then, her dedication and passion earned her the current post, Head of Biomass Technology Program. Dr Wan is an expert in technology of primary processing and development of green value added products from lignocellulosic biomass and other forestry industry byproducts. She has contributed significanty in a special R&D project on bioenergy from waste resources and soil amelioration techniques in afforestation projects. Among her other her affliations are, Chartered Scientist and Fellow of Energy Institute United Kingdom, Board Member of World BioEnergy Asscociation, Chairman of Working Group on Biomass (SIRIM) and Chairman of Energy Institute Malaysia.

Workshop on Biomass Compositional Analysis

Dr. Shuhaida Harun

Research Centre for Sustainable Process Technology
UKM, Malaysia

Dr. Shuhaida Harun is a Senior Lecturer in the Department of Chemical and Process Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia (UKM). She graduated in 1995 from Polytechnic University of Brooklyn, Ney York with a degree in Chemical Engineering. During her undergraduate study, she was on the Dean'List for every semester, and was awarded with Sydney A Savitt Award-Highest Scholastic Average for her excellence academic performance. Prior to joining UKM, she was attached to a multinational company, 3M (Malaysia) for 10 years and awarded with the Circle of Technical Excellence & Innovation Award in 2001 by 3M Headquarters in USA. This 3M global prestigious award was presented in recognition for her excellence technical achievement and contribution to the company. In pursuing her passion in academic field, in 2004, she joined Universiti Kebangsaan Malaysia as tutor, and started to pursue her postgraduate studies in 2006. She successfully earned her Master and Doctor of Philosophy Degrees in 2008 and 2014 respectively. In 2010, while pursuing her PhD research in Michigan State University, she managed to make a breakthrough discovery in her research work which was filed as Provisional Patent in United States Patent and Trademark Office (USPTO) in 2012. An International Patent Application for the invention was then published under Patent Cooperation Treaty (PCT) in 2013 and recently in early September, a Utility Patent Application was filed in USPTO.

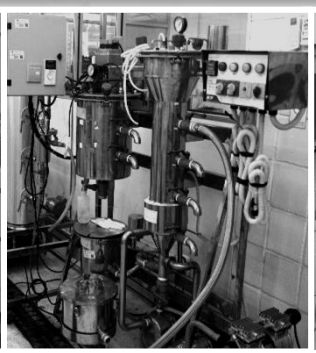
TUESDAY **OCTOBER 2** HOTEL BANGI - PUTRAJAYA

	ACTIVITY	SPEAKER/MODERATOR	
0800 – 0845	Registration		MELUR HALL LOBBY LEVEL
0845 – 0900	Welcome speech	Prof. Ir. Dr. Mohd. Sobri Takriff (Director of IDEA,UKM)	
0900 – 1245	Session 1 : Moderator : Prof. Ir. Dr. Denny K.S. Ng		
0900 – 0930	[Keynote 1] Biological Cycle of Circular Economy for Biomass Resources	Prof. Dr. Shu Yii Wu (Feng Chia University, Taiwan)	
0930 – 1000	[Keynote 2] Future Biorefineries: Unlocking the Potential of Fine Chemical and Value Added Byproducts	Prof. Dato' Ir. Dr. Abdul Wahab Mohammad (CESPRO, UKM)	
1000 – 1030	Coffee Break		FUNTASIA RESTAURANT LEVEL 1
1030 – 1055	Thailand's Energy 4.0 and the Utilization of Agricultural and Biomass for Bioenergy/Biofuels Production in Thailand	Prof. Alissara Reungsang (Khon Kean University, Thailand)	MELUR HALL LOBBY LEVEL
1055 – 1120	Biological Polyurethane from Liquefaction of Lignocellulosic and Cellulosic Biomass	Prof. Dr. Sarani Zakaria (Faculty of Science and Technology, UKM)	
1120 – 1145	Malaysian Biomass Industry : Opportunities and Challenges	Dato' Leong Kin Mun (Malaysia Biomass Industries Confederation)	
1145 – 1245	Discussion Moderator : Prof. Ir. Dr. Denny K.S. Ng	All Speakers	
1245 – 1400	Lunch		FUNTASIA RESTAURANT LEVEL 1
1400 – 1700	Session 2 : Moderator : Prof. Dr. Mohd Tusirin Mohd Nor		MELUR HALL LOBBY LEVEL
1400 – 1430	[Keynote 3] Innovation of Slow Release Fertilizer	Dr. Ir. Hens Saputra (Agency for the Assessment and Application of Technology (BPPT), Indonesia)	
1430 – 1455	Role of Oil Palm Biomass and Biorefinering in Promoting Circular Economy	Prof. Dr. Puan Yatim (Graduate School of Business, UKM)	
1455 – 1520	Developing EFB Cellulose Industry That Potentially Contributes to Sustainable Society.	Mohd. Zulkarnaini Wahab (Waris Nove Sdn Bhd)	
1520 -1545	Role of LCA in Malaysian Biomass Industry	Dr. Vijaya Subramaniam (Malaysian Palm Oil Board)	
1545 – 1610	Potential Value Added Products From Forestry Biomass: R&D in FRIM	Dr. Wan Asma Wan Ibrahim (Forest Research Institute Malaysia)	
1610 – 1700	Discussion Moderator: Prof. Dr. Mohd Tusirin Mohd Nor	All Speakers	
1700 – 1715	Wrap up session – Way Forward	Prof. Dr. Shu Yii Wu (Feng Chia University, Taiwan)	
1715 – 1730	Refreshment and networking		FUNTASIA RESTAURANT LEVEL 1

WEDNESDAY **OCTOBER 3**
WORKSHOP ON BIOMASS COMPOSITIONAL ANALYSIS
FACULTY OF ENGINEERING AND BUILT ENVIRONMENT (ACADEMIC BLOCK), UKM

	ACTIVITY	SPEAKER/MODERATOR
0830 – 0900	Registration	
0900 – 1000	Introduction to Biomass Compositional Analysis : Theory and Background	Dr Shuhaida Harun
1000 – 1015	Coffee Break	
1015 – 1100	Theories, Standards and Methods in Biomass Compositional Analysis	Dr Shuhaida Harun
1100 – 1300	Training Module Module 1: Ash Analysis Module 2 : Water Extractives, Ethanol Extractives	Hemavathi Silvamany
1300 – 1400	Lunch and Break	
1400 – 1500	**Training Module** Module 3: 2 Stage Acid Hydorlysis (Carbohydrate and Lignin Quantification)	Dr Shuhaida Harun
1500 – 1600	**Training Module** Module 4: Data Extraction and Compilation	Dr Shuhaida Harun
1600 – 1645	**Visit to Laboratory for Biorefinery Process Technology (Ground Floor):** Hands on Demonstration and Equipment Handling	Hemavathi Silvamany and Team
1645 – 1700	Wrap up & Certification Awarding	Dr Shuhaida Harun
1700 – 1730	Refreshment and Networking	



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Co-organizers :

Sime Darby
YAYASAN

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LRGS: Future Biorefineries

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