



## Conference Program

### Program Overview

Date	Time	Lecture Theatre 77	Lecture Theatre 78	83-03-01
23 <sup>rd</sup> Mar 2011	9:00 am – 10:00 am	Session I: Welcome speech and address by Guest of Honor	---	Poster Presentation and Exhibition
	10:00 am – 10:30 am	Tea break and networking session		
	10:30 am – 12:00 pm	Session II: Bioenergy policies and programmes-A	Session VI: Biodiesel, biogas, and biohydrogen-A	
	12:00 pm – 13:30 pm	Lunch break		
	13:30 pm – 15:00 pm	Session II Bioenergy policies and programmes-B	Session VI: Biodiesel, biogas, and biohydrogen-B	
	15:00 pm – 15:30 pm	Tea break and networking session		
	15:30 pm – 17:30 pm	Session III: Feedstock development - A	Section VII: Cellulosic biofuels and chemicals	
	18:30 pm	Conference Dinner (Optional)		
24 <sup>th</sup> Mar 2011	9:00 – 10:00 am	Session III: Feedstock development - B	Section VIII: Synthetic biology for fuels and chemicals - A	
	10:00 am – 10:30 am	Tea break and networking session		
	10:30 am – 12:00 pm	Section IV: Waste to energy and/or materials - A	Section VIII: Synthetic biology for fuels and chemicals - B	
	12:00 pm – 13:30 pm	Lunch break		
	13:30 pm -15:0 pm	Section V: Challenges and opportunities	Section VIII: Synthetic biology for fuels and chemicals - C	
	15:00 pm – 15:30 pm	Tea break and networking session		
	15:30 pm – 17:00 pm	Section IV: Waste to energy and/or materials - B		
	17:00 pm	End of the Conference Talks		
25 <sup>th</sup> Mar 2011	9:00 am – 12:00 pm	Technical Tours		
	12:30 pm – 14:00 pm	Lunch		

## **Oral presentations**

### **Lecture Theatre T 77**

#### **Day 1 (23<sup>rd</sup> Mar 2011)**

9:00 am – 10:00 am - Session I: Welcome speech and address by guest of honour (all to attend)

Session Chair – Dr. Geng Anli, President, BioEnergy Society of Singapore

- Keynote address by Guest of Honour, **Mr. Joseph Hui**, Deputy Chief Executive Officer, National Environment Agency, Singapore
- Keynote address, Sustainable Production of Biobased Fuels and Chemicals by **Dr. Wong Pui Kwan**, Deputy Director, Institute of Chemical and Engineering Sciences (ICES)

10:00 am – 10:30 am - Tea break and networking session

10:30 am – 12:00 pm - Session II: Bioenergy policies and programmes-A

Session Chair – Ms. Kavita Gandhi, Executive Director, Sustainable Energy Association of Singapore

- Bioenergy and biorenewable potentials at Indonesia, by **Dr Retno Gumilang Dewi**, The Department of Chemical Engineering, Centre for Research on Energy Policy (CREP), Institut Teknologi Bandung, Indonesia
- Industrial Biotechnology deployment in Southeast Asia, by **Mr. Per Dahlen**, Partner, Portelet Aisa Pte Ltd
- Utilization of oil palm as a renewable source of energy in Malaysia, **Prof. Dr. Abdul Rahman Bin Mohamed**, School of Chemical Engineering, Engineering Campus, University Sains Malaysia

12:00 pm – 13:30 pm - Lunch break

13:30 pm – 15:00 pm - Session II Bioenergy policies and programmes-B

Session Chair - Dr. Iskandar Halim, Research Fellow, Process Systems & Control, Institute of Chemical & Engineering Sciences, A\*star, Singapore

- Biofuels outlook for the next five years: moving ahead, **Dr. Preeti Jain**, Research Manager Asia, Hart Energy Consulting – Global Biofuels Center
- Biorefinery in China, **Distinguished Professor Sun Run-Cang**, Director, Institute of Biomass Chemistry and Technology, Beijing Forestry University, and Director, State

Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou, China

- Comparing the Environmental and Social Impacts of Biodiesel Production from ASEAN Region, **Dr. Iskandar Halim**, Research Fellow, Process Systems & Control, Institute of Chemical & Engineering Sciences, A\*star, Singapore

15:00 pm – 15:30 pm - Tea break and networking session

15:30 pm – 17:30 pm - Session III: Feedstock development - A

Session Chair – **Mr. Per Dahlen**, Partner, Portelet Aisa Pte Ltd

- Biomass feedstock availability in South East Asia: Incidence of High FFA Feedstock from the Oil Palm Industry, by **Dr. Richard Cropp**, Director Cosmopolitan Synergies Sdn Bhd, Malaysia
- Grain based biofuels, **Dr. Duan Gang**, Director, Application/Tech Service, Asia Pacific, Genencor, a Danisco Division
- Giant King Grass: a dedicated Energy crop for bioenergy and biorefineries, by **Dr. Carl Kukkonen**, CEO, VIASPACE Green Energy SEA Pvt Ltd, Singapore
- Improving Jatropha curcas as a viable feedstock for biofuel, **Mr. Lo Loong Chueng**, Senior Executive (Business Development), JOil (Singapore) Pte Ltd

17:30 pm First day wrap – up.

18:30 pm – Conference dinner (optional)

**Day 2 (24<sup>th</sup> Mar 2011)**

9:00 am – 10:00 am - Session III: Feedstock development - B

Session Chair - **Dr. Sung Do Song**, Agro Genesis Pte Ltd, Singapore

- Sweet Sorghum- dynamics of sugar yield in relation to different phenological stages, **Prof. Srinivasa Rao P**, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Indian Institute of Chemical Technology (IICT), India.
- The Effect of Miracle Sweet (Ms-35) Fertilizer on Yield and Quality of Cassava at Lampung Province, **Dr. Sung Do Song**, Agro Genesis Pte Ltd, Singapore

10:00 am – 10:30 am - Tea break and networking session

10:30 am – 12:00 pm – Section IV: Waste to energy and/or materials - A

Session Chair: **Mr. Per Dahlen**, Partner, Portelet Aisa Pte Ltd

- Urban biomass to energy and materials, by **Assoc./Prof. Wang Jing-Yuan**, Co-Director, Residues & Resource Reclamation Centre, Nanyang Environment and Water Research Institute (NEWRI), Nanyang Technological University
- Waste treatment and energy recovery, by **Prof. Feng Yujie**, Assistant Director, State Key Laboratory of Urban Water Resource & Environment, Harbin Institute of Technology, China

12:00 pm – 13:30 pm - Lunch break

**13:30 pm -15:00 pm- Section V: Challenges and opportunities**

Session Chair, **Mr. Patrick Chan**, Director, Industry Development, Singapore Business Federation

- Biodiversity and bioenergy in the ASEAN region, by **Ms Amy Choong**, Republic Polytechnic, Singapore
- Bio-renewables conversion: a Singapore perspective, by **Mr. Liang Ting Wee** – Director, Energy & Chemicals, Economic Development Board, Singapore
- Developing new technologies for commercial bioenergy applications, by **Dr. Geng Anli**, Senior Lecturer and Technology Development Manager, School of Life Sciences and Chemical Technology, Ngee Ann Polytechnic

15:00 pm – 15:30 pm - Tea break and networking session

**15:30 pm – 16:00 pm – Section IV: Waste to energy and/or materials - B**

Session Chair - **Mr. Allan Lim**, CEO, Alpha Synovate Pte Ltd

- High Efficiency Conversion of Carbonaceous Waste Streams into High Quality Energy, **Mr. Guus Keder**, Indra Scientific SA, Brussels, Belgium

16:00 pm - Concluding remarks by **Mr. Per Dahlen**, Vice President of BioEnergy Society of Singapore (BESS)

## Lecture Theatre 78

Day 1 (23<sup>rd</sup> Mar 2011)

10:30 am -12:00 pm - Session VI: Biodiesel, biogas, and biohydrogen-A

Session Chair – Assoc/Prof. Li Zhi, Department of Chemical and Biomolecular Engineering, National University of Singapore

- Microalgae fuels and biohydrogen, by Prof. Chang Jo-Shu, Natinal Cheng Kung University, Taiwan
- High throughput Energy Efficient Process Intensification Technology for Biodiesel Production, Dr. Hiran Vedam, Consultant, Biaktor Asia

12:00 pm – 13:30 pm - Lunch break

13:30 pm – 15:00 pm - Session VI: Biodiesel, biogas, and biohydrogen-B

Session Chair: Dr Md. Mahabubur Rahman Talukder, Senior Research Fellow, Industrial Biotechnology, Institute of Chemical & Engineering Sciences, A\*star, Singapore

- Biofuels – hype and alternative reality, by Mr. Tang Weng Fai, AVP, A\*STAR Exploit Technologies Pte Ltd, Singapore
- Efforts on development of tools for transformation of microalgae, Dr. Zhao Hua, Senior Research Fellow, Industrial Biotechnology, Institute of Chemical & Engineering Sciences, A\*star, Singapore
- Oil-rich biomass to biodiesel and chemicals, Dr. Md. Mahabubur Rahman Talukder, Senior Research Fellow, Industrial Biotechnology, Institute of Chemical & Engineering Sciences, A\*star, Singapore

15:00 pm – 15:30 pm - Tea break and networking session

15:30 pm – 17:30 pm - Section VII: Cellulosic biofuels and chemicals

Session Chair – Dr. Wu Jinchuan, Program Manager, Industrial Biotechnology, Institute of Chemical and Engineering Sciences, A\*star, Singapore

- Lignocellulose bioethanol and lactic acid production, Prof. Akihiko Kondo, Kobe University, Japan.
- Effect of removing lignin and hemicelluloses from lignocellulosic materials on the bBioethanol production, Distinguished Professor Sun Run-Cang, Director, Institute of Biomass Chemistry and Technology, Beijing Forestry University, and Director, State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou, China

- Biobutanol production from lignocellulosic biomass, **Asst/Prof. He Jianzhong**, Division of Environmental Science and Engineering, Faculty of Engineering, National University of Singapore
- Production of furfural from xylose using sulfonic ion-exchange resins (Amberlyst) and simultaneous stripping, **Mr. Iker Agirrezabal-Telleria**, Department of Chemical and Environment Engineering, University of the Basque Country (ETSI), Alameda Urquijo s/n, 48013, Bilbao, Spain

Wrap- up of first day.

## **Day 2 (24<sup>th</sup> Mar 2011)**

### 9:00 am – 10:00 am – Section VIII: Synthetic biology for fuels and chemicals - A

Session Chair, **Dr. Jiang Rongrong**, Division of Chemical and Biomolecular Engineering, Nanyang Technological University, Singapore

- Green chemicals and fuels from renewable resources – the role of metabolic engineering and microbiology innovations, by **Dr. Paul Campbell**, Chief Science Officer, Glycos Biotechnologies, Inc. USA
- Production of cellulosic bioethanol using protein- and metabolic engineering, **Prof. Jin-Ho Seo**, Department of Food Science and Biotechnology, Seoul National University, Korea;

10:00 am – 10:30 am - Tea break and networking session

### 10:30 am – 12:00 pm – Section VIII: Synthetic biology for fuels and chemicals - B

Session Chair: **Assoc/Prof. Kesen Ma**, Department of Biology, University of Waterloo, Canada

- Model-driven systems analysis of microbial cell factories for bioenergy and biorefinery, **Asst/Prof. Lee Dong-Yup**, Chemical and Biomolecular Engineering, NUS
- Engineering global transcription factor cAMP receptor protein for improved biobutanol tolerance, **Asst/Prof. Jiang Rongrong**, School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore
- Characterization of hyperthermophilic enzymes involved in the fermentation of ethanol and hydrogen, **Assoc/Prof. Kesen Ma**, Department of Biology, University of Waterloo, Canada

12:00 pm – 13:30 pm - Lunch break

### 13:30 pm – 15:00 pm – Section VIII: Synthetic biology for fuels and chemicals - C

Session Chair: **Dr. Ji Lianghui**, Associate Director, SRP, Temasek Lifesciences Laboratory, Singapore.

- Enzyme technology for bioenergy and biorefinery, by **Dr. Wu Wenping**, Senior Director, R&D China, Novozymes (China) Investment Co. Ltd.
- Identification of metabolic bottlenecks for anaerobic growth of *Pichia stipitis* by genome scale metabolic modelling and analysis, **Dr. Balaji Balagurunathan**, Research Fellow, Institute of Chemical and Engineering Sciences (ICES), A\*star, Singapore
- Genetically Engineered *Ustilago maydis* for biosurfactant production using crude glycerol as feedstock, **Dr. Ji Lianghui**, Associate Director, SRP, Temasek Lifesciences Laboratory, Singapore.

15:00 pm – 15:30 pm - Tea break and networking session

15:30 pm

Concluding remarks by **Dr. Wu Jinchuan**, Program Manager, Industrial Biotechnology, Institute of Chemical and Engineering Sciences, A\*star, Singapore

### **Poster presentations**

- Poster – 01: Sustainability analysis of palm oil suppliers for biodiesel production using triple bottom line approach, **Mr. Adhitya Arief**, Senior Research Engineer, Process Systems & Control, Institute of Chemical & Engineering Sciences, A\*star, Singapore
- Poster – 02: Economical analysis model in *Jatropha Curcas* plantation of rural farmers in Thailand under shared benefits business with investor, **Mr. Khumthorn Nawalertpanya**, Naresuan University, Pitsanulok, Thailand
- Poster – 03: Linking biodiesel and biohydrogen production through the dark fermentation of crude glycerol: applying the biorefinery concept, **Mr. Cristiano Varrone**, ENEA-Italian Agency for New Technologies, Energy and Sustainable Development, Laboratory for biomass and bioenergy, Rome, Italy; State Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology. Harbin, China
- Poster – 04: Bioconversion of horticultural waste to fuel ethanol, **Dr. Geng Anli**, Senior Lecturer, School of Life Sciences and Chemical Technology, Ngee Ann Polytechnic, Singapore.
- Poster - 05: The effect of miracle sweet (Ms-35) fertilizer on yield and quality of cassava at Lampung province, **Dr. Sung Do Song**, Agro Genesis Pte Ltd, Singapore
- Poster – 06: Engineering *Escherichia coli* for improving butanol tolerance and production with artificial transcription factors, **Mr. Yang Kyung Seok**, Korea Advanced Institute of Science and Technology, Daejeon, Korea
- Poster – 07: Microorganisms tolerate to butanol stress by regulating the fatty acid composition of plasma membrane, **Mr. Bui Le Minh**, Korea Advanced Institute of Science and Technology, Daejeon, Korea
- Poster – 08: Isolation and screening of microalgae for lipids production, **Dr. Charmaine Lloyd**, Lecturer, School of Life Sciences and Chemical Technology, Ngee Ann Polytechnic, Singapore

- Poster – 09: Stabilization and optimization of free fatty acid content in *Jatropha Curcas L.* crude oil, **Miss Saiwan Buathong**, Faculty of Engineering, Department of Chemical Engineering, King Mongkut’s University of Technology Thonburi, Bangkok, Thailand
- Poster – 10: High throughput Energy Efficient Process Intensification Technology for Biodiesel Production, **Dr. Hiran Vedam**, Consultant, Biaktor Asia

### **Site visits (optional)**

#### **Day 3 (25<sup>th</sup> Mar 2011)**

9:00 am – 12:00 pm: site visits

- Ibris Bio-Energy Pte Ltd, Singapore
- Institute of Chemical and Engineering Sciences (ICES)

12:30 pm – 14:00 pm: lunch

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