Conference Programme

PROGRAMME OVERVIEW

Date	Time	TLL Auditorium	Lobby
30th May 2016	8:50 am – 11:00 am	Session I: plenary talks	Poster Presentation and Exhibition
	11:00 am – 11:30 am	Tea break and networking session	
	11:30 am – 13:00 pm	Session II: Food and Ingredients I	
	13:00 pm – 14:00 pm	Lunch break (poster session)	
	14:00 pm – 16:10 pm	Session III: Fuels and Bioenergy I	
	16:10 pm – 16:30 pm	Tea break and networking session	
	16:30 pm – 18:00 pm	Session IV: Biobased Chemicals I	
	18:00 pm	End of Day 1	
31st May 2016	9:00 am – 10:30 am	Section V: Food and Ingredients II	
	10:30 am – 11:00 am	Tea break and networking session	
	11:00 am – 12:30 pm	Section VI: Fuels and Bioenergy II	
	12:30 pm – 13:30 pm	Lunch break	
	13:30 pm – 15:30 pm	Section VII: Biobased Chemicals II	
	15:30 pm – 16:00 pm	Tea break and networking session	
	16:00 pm – 17:00 pm	Section VIII: Young scientists' symposium	
	17:00 pm – 17:30 pm	Award presentation	
	18:00 pm – 20:30 pm	Conference Dinner at Aquamarine (Mandarin Hotel)	
1st Jun 2016	8:30 am – 13:00 pm	Technical Tours (Optional)	
	13:00 pm – 14:00 pm	Lunch	

ORAL PRESENTATIONS

Day 1 – 30th May 2016

9:00 am – 11:00 am

Session I: Plenary talks

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

8:50 am – 9:00 am: Welcome Address by Dr. Anli GENG

Plenary talks

9:00 am – 9:30 am: Microbial synthesis of fuels and chemicals via synthetic biology, Prof. Huiming ZHAO, Principal Investigator, Department of Chemical and Biomolecular Engineering, University of Illinois at Urbana-Champaign, USA; Metabolic Engineering Research Laboratory, A*STAR, Singapore

9:30 am – 10:00 am: Vision for agriculture, food and nutrition, Dr. John MANNERS, Director, CSIRO Agriculture, Black Mountain Laboratories, Australia.

10:00 am – 10:30 am: Enzymatic processes for industrial applications, Prof. Yasuhisa ASANO, Biotechnology Research Centre, Toyama Prefectural University, Japan.

10:30 am – 11:00 am: Futurol, a complete territorial biorefinery for the production of 2G Ethanol, Dr. Paul COLONNA, Director of Bioenergy, Biomolecules and Biomaterials from Renewable Carbon, 3BCar, INRA, France.

Technical talks

Day 1 – 30th May 2016

11:30 am – 13:00 pm

Session II: Food and Ingredients I

Session Chair: Dr Lianghui JI, Head, Biomaterials & Biocatalysts Laboratory, Temasek Life Sciences Laboratory, Singapore

11:30 am – 12:00 pm: Keynote presentation, metabolic engineering of oleaginous yeast, Dr. Jean-Marc NICAUD, Director, INRA, Centre De Biotechnologie Agro-Industrielle, France.

12:00 pm – 12:30 pm: Invited presentation, secrets behind lipid production by red yeasts, Prof. Zongbao ZHAO, Division of Biotechnology, Dalian Institute of Chemical Physics, Chinese Academy of Science, China.

12:30 pm – 13:00 pm: Mimicking natural pathways for de novo biosynthesis of high-value added chemicals in bacteria, Ping XU, School of Life Sciences and Biotechnology, Shanghai Jiaotong University, China

Day 1 – 30th May 2016

14:00 pm – 16:00 pm

Session III: Fuels and Bioenergy I

Session Chair – Assoc/Prof. Kun-Lin YANG, Department of Chemical and Biomolecular Engineering, National University of Singapore

14:00 pm – 14:30 pm: Keynote presentation, update on biodiesel and biogas production from palm oil and its waste in Malaysia, Dr. Soh Kheang LOH, Head of Energy & Environment Unit, Engineering and Processing Division, Malaysian Palm Oil Board, Malaysia.

14:30 pm – 14:50 pm: Invited presentation - valorisation of organic residues for the production of bio-based products: A contribution to the bio-based economy, Prof. Carol S.K. LIN, Assistant Professor, School of Energy and Environment, City University of Hong Kong, Hong Kong.

14:50 pm – 15:10 pm: Invited presentation, biomass resources and trading in Asia, Mr. Saku RANTANEN, CEO, Tasma Bioenergy, Singapore.

15:10 pm – 15:30 pm: Three-stage anaerobic digestion of food waste, Dr. Jingxin ZHANG, E2S2 office, National University of Singapore.

15:30 pm – 15:50 pm: Conversion of high recalcitrant lignocellulose into fermentable sugars through whole slurry saccharification – Our Current Understanding, Prof. Shao-Yuan LEU, The Hong Kong Polytechnic University, Hong Kong

Day 1 – 30th May 2016

16:30 pm – 18:00 pm

Session IV: Biobased Chemicals I

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

16:30 pm – 17:00 pm: Keynote presentation, in vitro pathway engineering for the synthesis of high-value chemicals, Prof. Dunming ZHU, Investigator and Vice President, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin, China.

17:00 pm – 17:20 pm: Invited presentation, biocatalytic preparation of 1,2,3,4-tetrahydroquinoline-4-ol and 2-substituted 1,2,3,4-tetrahydroquinoline derivatives, Prof. Yongzheng CHEN, Deputy Dean, School of Pharmacy, Zunyi Medical University, China

17:20 pm – 17:40 pm:Development of inducible promoter-based biosensors for high throughput screening of lignin-degrading enzyme library, Dr. Barindra SANA, p53 Lab, A*STAR, Singapore

17:40 pm – 18:00 pm: Recombinant xylose-fermenting yeast construction for the co-production of ethanol and muconic acid, Tingting LIU, R&D Scientist, Ngee Ann Polytechnic, Singapore

Day 2 – 31st May 2016

9:00 am – 10:30 pm

Session V: Food and Ingredients II

Session Chair: Dr Ee Lui ANG, Co-Principal Investigator, Metabolic Engineering Research Laboratory (MERL), A*Star, Singapore.

9:00 am – 9:30 pm: Keynote presentation, construction of terpenoid pathway in E. coli by rapid and efficient assembling "lego blocks" of gene cassettes, Prof. Heng-Phon TOO, Biochemistry Dept, NUS; BTI, Biotrans Innov Platform, A*STAR, Singapore.

9:30 pm – 10:00 pm: High-efficiency, multi-copy, markerless integration of large biochemical pathways in Saccharomyces cerevisiae, Dr. Youyun LIANG, Metabolic Engineering Research Laboratory (MERL), A*Star, Singapore.

10:00 pm – 10:30 pm: Cultivation and analysis of secondary volatile compounds of Basidiomycetes, Kleofas VANESSA, Biotransformation Innovation Platform, A*Star, Singapore

Day 2 – 31st May 2016

11:00 am – 12:30 pm

Session VI: Fuels and Bioenergy II

Session Chair: Assist/Prof. Ning YAN, Department of Chemical and Biomolecular Engineering, National University of Singapore

11:00 am – 11:30 am: Keynote presentation, algae biofuels: a sustainable alternative? Prof. Siew Moi PHANG, Institute of Biological Sciences, Faculty of Science; Director, Institute of Ocean & Earth Sciences (IOES), University of Malaya, Malaysia.

11:30 am – 11:50 am: Coupling of algal phytoremediation and biofuel production, Dr. Shy Chyi WUANG, Temasek Polytechnic, Singapore

11:50 am – 12:10 pm: Development of Clostridium beijerinckii strains for biobutanol production from lignocellulosic biomass, Dr. Huang MIAO, Temasek Polytechnic, Singapore

12:10 pm – 12:30 pm: Metabolic engineering to minimizing enzyme use in biofuels production, Prof. Vijay SINGH, University of Illinois at Urbana-Champaign, USA

Day 2 – 31st May 2016

13:30 pm – 15:30 pm

Session VII: Biobased Chemicals II

Session Chair – Assoc/Prof. Jianzhong HE, Department of Civil and Environmental Engineering, National University of Singapore

13:30 pm – 14:00 pm: Keynote presentation, renewable nylon: engineering yeast to produce polymer intermediates from fatty acids, Dr. Thomas BEARDSLEE, Vice President of R&D, Verdezyne, Inc. USA.

14:00 pm – 14:30 pm: Keynote presentation, biorenewable value chains based on diacids and furanics, Prof. Sangyong KIM, Director of Renewable Chemical Center, Green Material and Process Group, Korea Institute of Industrial Technology (KITECH), Korea

14:30 pm – 14:50 pm: Invited presentation, Jatropha curcas: an emerging model for woody energy crops, Dr. Jian YE, Principal Investigator, Institute of Microbiology, Chinese Academy of Science, China

14:50 pm – 15:10 pm: Invited presentation, designing synthetic microbial consortium for bio-manufacturing, Assist Prof Kang ZHOU, Department of Chemical and Biomolecular Engineering, National University of Singapore.

15:10 pm – 15:30 pm: Invited presentation, a biotechnological process efficiently co-produces two high value-added products, glucose and xylooligosaccharides, from sugarcane bagasse, Prof. Jia-Xun FENG, Dean of College of Life Science and Technology, Guangxi University, China.

Day 2 – 31st May 2016

16:00 pm – 17:00 pm

Session VIII: Young Scientist Symposium

Session Chair: Dr. Xingding ZHOU, Lecturer, Ngee Ann Polytechnic, Singapore

16:00 pm – 16:20 pm: Recombinant xylose-fermenting Saccharomyces cerevisiae construction through rapid DNA assembly and high-efficiency lignocellulose hydrolysates fermentation, Mr. Shuangcheng HUANG, Ngee Ann Polytechnic, Singapore

16:20 pm – 16:40 pm: Physiological and molecular characterizations of the microbial interactions in cocultures of Clostridium cellulovorans 743B and Rhodopseudomonas palustris for hydrogen production from cellulose, Mr. Hongyuan LU, City University of Hong Kong.

16:40 pm – 17:00 pm: Valorisation of food waste via fungal hydrolysis and lactic acid fermentation, Mr. Tsz Him KWAN, City University of Hong Kong, Hong Kong

Day 2 – 31st May 2016

17:00 pm – 17:30 pm

Session IX: Awards Presentation

- **Best poster awards**

- **BESS Achievement Awards**

Day 2 – 31st May 2016

18:00 pm – 20:30 pm: Conference Dinner

Day 1&2: 30th - 31st May 2016

POSTER PRESENTATIONS

1. The use of Design of Experiment (DOE) to improve product yield in engineered and wild-type strains, Mr. Si Te NGOH, Temasek Lifesciences Laboratories, Singapore
2. RNA-seq and de novo transcriptome analysis identified the metabolic bottleneck and key genes/enzymes in non-model yeasts, Dr. Jie HU, Temasek Lifesciences Laboratories Singapore.
3. An Isopropanol-butanol producing Clostridium, Mr. Chen ZHANG, National University of Singapore
4. Modification of lignin as natural surfactants for home care applications, Ms. Jessica SEE, Singapore Polytechnic, Singapore
5. On-site cellulase production and high-titer ethanol production form oil palm empty fruit bunch using recombinant xylose-fermenting yeast, Miss Lili ZHAI, Ngee Ann Polytechnic, Singapore.
6. Enhanced butyl-butyrate production from an acetone-butanol-ethanol (ABE) fermentation system, Mr. Fengxue XIN, National University of Singapore
7. Case study on supercritical CO_2 drying plant and CO_2 regeneration options, Dr. Cindy Lai Yeng LEE, Newcastle University (SIT Singapore)
8. High efficiency succinic acid production from glycerol via in situ fibrous bed bioreactor with an engineered *Yarrowia lipolytica*, Mr. Chong LI, City University of Hong Kong, Hong Kong
9. Techno-economic analysis of a food waste valorization process for polylactic acid (PLA) fibre production from food waste, Mr. Tsz Him KWAN, City University of Hong Kong, Hong Kong
10. Production of value-added chemicals using yeast strains isolated from fruit waste, Dr. Huang MIAO, Temasek Polytechnic, Singapore
11. Production of adipic acid from sugar beet residue via combined synthetic Escherichia coli and chemical catalyst, Dr. Hongfang ZHANG, Metabolic Engineering Research Laboratory (MERL), A*Star, Singapore.
12. A Triphasic System for Production of Butyl Butyrate in Culture Media through Esterification, Mr. Choong Hey NG, National University of Singapore.
13. Performance assessment of biofuel production in an algae-based remediation system, Dr. Shy Chyi WUANG, Temasek Polytechnic, Singapore.

14. Isolation and Optimization of Lipid Production in Selected Malaysian Thraustochytrids, Dr. Yeong Hui Yin, University of Malaya, Malaysia.
15. Acclimatization of a mixed-animal manure inoculum to the anaerobic digestion of *Axonopus compressus* as characterized by DGGE and Illumina MiSeq, Jonathan T.E. LEE, Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore.
16. Overexpression of Elaeis guineensis Jacq. glycolytic genes and their impact on lipid accumulation in yeast and plant model system, by RUZLAN Nurliyana and Jaime Yoke Sum LOW, Chief Scientist II, Sime Darby Technology Centre Sdn. Bhd. Malaysia.
17. Plant tissue culture as a platform for production of biochemical, Dr. Somika BHATNAGAR, Head, Plant Transformation and Tissue Culture, Temasek Life Sciences Laboratory, Singapore
18. Characterization of Chlamydomonas diacylglycerol acyltransferases reveals their distinct substrate specificities and functions in microalgal triacylglycerol biosynthesis, Assist/Prof. Jin LIU, Peking University, China
19. Optimization on hydrolysis of corn cob for high yield production of xylo-oligosaccharides in pilot scale, Dr. Dongxu ZHANG, Zhejiang Xuwei Biotechnology Co. Ltd. China.
20. Optimization of Ionone Production in Metabolically Engineered E.coli, Dr. Xixian CHEN, Research Scientist, Biotransformation Innovation Platform, A*star, Singapore
21. Red Yeast as a Synthetic Biology Platform – Production of High-value oils and Terpenoids. John KOH, Temasek Life Sciences Laboratory, Singapore

SITE VISITS (OPTIONAL)

Day 3 – 1 Jun 2016

- 8:00 am - 8:30 am: Assemble at TLL lobby
- 8:30 am – 9:00 am: TLL to Nanyang Technological University (NTU)
- 9:00 am – 11:00 am: visit NTU
  - Chinese herb garden.
  - School of Biological Science (SBS)
  - Singapore Centre for Environmental Life Sciences Engineering (SCELSE)
- 11:00-11:30 am: Tea break on bus and transport from NTU to Biopolis
- 11:30 am – 12:00 pm: visit Institute of Bioengineering and Nanotechnology, A*star
- 12:00 pm - 12:30 pm: visit Metabolic Engineering Research Laboratory (MERL), A*Star
- 12:30-13:00 pm: visit Biotransformation Laboratory, A*Star
- 13:00 - 14:00 pm: Lunch

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