

The 6th iBioK Asian Workshop

“Innovative bioproduction: production of fuels, and bulk & fine chemicals from biomass”

Date: December 7th-8th, 2015

Place: Centennial Hall, Kobe University

December 7th

9:20- Prof. Akihiko Kondo (Kobe University, Japan)

Opening remarks

Chair : Prof. Hong-Wei Yen

9:30- Prof. Sunghoon Park (Pusan National University, Korea)

“Construction of 3-hydroxypropionic acid pathway using novel inducible promoters”

9:50- Prof. Jiang Min (Nanjing Tech University, China)

“Metabolic engineering of succinate-producing strains for improved resistance under acidic and osmotic conditions”

10:10- Prof. Zhi Li (National University of Singapore, Singapore)

“Engineering of active and recyclable biocatalysts for efficient biotransformation ”

10:30- Prof. Yu-Kaung Chang (Ming Chi University of Technology, Taiwan)

“Nanofiber membrane chromatography: preparation and application to protein separation ”

10:50 Coffee Break

Chair : Prof. Gyoo Yeol Jung

11:10- Prof. Mitsuo Umetsu (Tohoku University, Japan)

“Module library approach for bottom-up chimera/hybrid protein design”

11:30- Assoc. Prof. Chong Zhang (Tsinghua University, China)

“Intermediate-sensor assisted push-pull strategy: a technique that improves natural product production in microbial cell factories”

11:45- Prof. Hsiang-Yu Wang (National Tsing Hua University, Taiwan)

“Microfluidic bioreactor for screening cultivation conditions of microalgae”

12:00 Lunch

Chair : Prof. Zhi Li

13:30- Dr. Ji Liu (National University of Singapore, Singapore)

“Discovery of new ene reductase for preparation of chiral aromatic compounds by cascade biotransformation”

13:45- Senior Assist. Prof. Takashi Osanai (Meiji University, Japan)

“Cyanobacterial metabolic engineering by genetic manipulation of transcriptional”

14:00- Prof. Yu-Shen Cheng (National Yunlin University of Science and Technology, Taiwan)

“Think outside the cell: the thinkable role of cell wall carbohydrates in the bioprocess development for microalgal biofuel production”

14:15- Prof. Min-Kyu Oh (Korea University, Korea)

“Metabolic engineering of microbial cells for 2,3-butanediol production”

14:30- Assoc. Prof. Guang-Yu Yang (Shanghai Jiao Tong University, China)

“Development and optimization of the enzymatic system for synthesis and remodeling of glycosphingolipids”

14:45- Poster session, Coffee Break

Chair : Prof. Tomohisa Hasunuma

16:15- Prof. I-Son Ng (National Cheng Kung University, Taiwan)

“Enhanced exopolysaccharide production and probiotic activity from *Lactobacillus rhamnosus* ZY”

16:30- Dr. Shuhei Noda (Riken, Japan)

“Metabolic design of a platform *Escherichia coli* strain producing various chorismate derivatives”

16:45- Dr. Angeline Ong Shufen (Institute of Chemical and Engineering Sciences, A*STAR, Singapore, Singapore)

“Efficient production of L-lactic acid from cellubiose by thermophilic *Bacillus coagulans*”

17:00- Assoc. Prof. Yung-Hun Yang (Konkuk University, Korea)

“Production of microbial diamine”

December 8th

Chair : Prof. Jiang Min

9:00- Prof. Honwei Yu (Zhejiang University, China)

“Construction of lycopene-overproducing *Saccharomyces cerevisiae* by combining directed evolution and metabolic engineering”

9:20- Prof. Hong-Wei Yen (Tunghai University, Taiwan)

“An integrated system of microalgae cultivation combined with yeast fermentation”

9:40- Dr. Jin Chuan Wu (Institute of Chemical and Engineering Sciences, A*STAR, Singapore)

“Lactic acid from lignocellulose: How far from commercialization?”

10:00- Prof. Hiroshi Takagi (Nara Institute of Science and Technology, Japan)

“Stress tolerance of baker’s yeast during bread-making processes ”

10:20 Coffee Break, Photography

Chair : Assoc. Prof . Chiaki Ogino

10:40- Prof. Jong Moon Park (POSTECH, Korea)

“Application of MES(Microbial Electrosynthesis System) to CCU(Carbon Capture and Utilization)”

11:00- Assoc. Prof. Fumio Matsuda (Osaka University, Japan)

“Integrated metabolome, proteome, and fluxome analysis of central carbon metabolism in microbial cell factories”

11:15- Assoc. Prof. Gyoo Yeol Jung (POSTECH, Korea)

“Pathway rebalancing for chemical producers by synthetic regulators”

11:30- Prof. Song Yang (Qingdao Agricultural University, China)

“Genomic and metabolomic analysis of the molecular mechanism of 1-butanol tolerance in the adaptive evolution of *Methylobacterium extorquens* AM1”

11:45- Prof. Akihiko Kondo (Kobe University, Japan)

Closing remarks

Poster session December 7th 14:45-16:15

1	Korea	Satish Kumar Ainala	Pusan National University	Metabolic engineering of <i>Citrobacter amalonaticus</i> for CO-dependent hydrogen production
2		Mukesh Sairam	Pusan National University	Precise control of bacterial gene expression by bicistronic design of promoter region
3		Yun-nam Choi	POSTECH	Activation of pentose phosphate pathway in cyanobacteria to improve growth and ethanol production
4	China	Xin-Hui XING	Tsinghua University	Comparative study on DNA damage levels by different mutation methods for construction of microbial mutation libraries
5		Fuqiang Ma	Shanghai Jiao Tong University	Double-color fluorescence-activated droplet sorting for ultrahigh throughput screening of enzyme enantioselectivity
6		Wu Mingke	Nanjing Tech University	Osmotic-resistance mechanism analysis and metabolic engineering of succinic acid production in <i>Escherichia coli</i> based on regulation of ATP system
7		Lan-Yu Cui	Tsinghua University	Medium design for stable cultivation and high production of mevalonate by recombinant <i>Methylobacterium extorquens</i> AM1
8		Pingping Zhou	Zhejiang University	Highly efficient biosynthesis of astaxanthin in <i>Saccharomyces cerevisiae</i> by integration and tuning of algal <i>crtZ</i> and <i>bkt</i>
9	Taiwan	Jo-Shu Chang	National Cheng Kung University	High-value products from microalgae-based biorefineries
10		Jui-Jen Chang	China Medical University	Superior enzyme complex: designer expression of the cellulosomal genes for cellulolytic refinery
11		Si-Yu Li	National Chung Hsing University	The heterologous expression of form I Rubisco induces the glyoxylate shunt in <i>Escherichia coli</i>
12		Po-Ting Chen	Southern Taiwan University of Science and Technology	Secretion of Recombinant Chitosanase for production of chitosan oligosaccharides
13		Sheng-Chung Yang	Metal Industry Research and Development Center	The CO ₂ -Assisted Pressurized-Liquid Processing for Microalgae Disruption
14		Chun-Yen Chen	National Cheng Kung University	Outdoor cultivation of <i>Chlorella sorokiniana</i> MB-1 in open-pond photobioreactors for microalgal lutein production
15	Singapore	Qingxin Li	Institute of Chemical and Engineering Sciences, A*STAR, Singapore	Production of D-lactic acid by combined use of <i>Weissella</i> sp. S26 and <i>Bacillus</i> sp. ADS3

16		Kickenweiz Thomas	Institute of Chemical and Engineering Sciences, A*STAR, Singapore	Integrated expression of key cellulases in <i>Pichia pastoris</i>
17		Qingxin Li	Institute of Chemical and Engineering Sciences, A*STAR, Singapore	Microbial production of rhamnolipids from lignocellulose
18	Japan	Nobuyuki Okahashi	Osaka University	¹³ C-metabolic flux analysis of IPA-producing <i>E. coli</i> at growth and non-growth phases
19		Kento Tokuyama	Osaka University	Effect of nutrient starvation on stationary phase for efficient 3-hydroxypropionic acid production in <i>Escherichia coli</i>
20		Ryosuke Yamada	Osaka Prefecture University	Global metabolic engineering of glycolytic pathway via multi-copy integration in <i>Saccharomyces cerevisiae</i>
21		Hajime Nakatani	Nagoya University	Application of a fibrous trimeric autotransporter adhesin from <i>Acinetobacter</i> sp. Tol 5 to the nanofiber display system
22		Jun Ishii	Kobe University	From mannan and lignocellulosic biomass to biochemicals: cell surface display and metabolic engineering in yeast <i>Saccharomyces cerevisiae</i>
23		Keiji Nishida	Kobe University	Pin-point genome editing without cleaving DNA
24		Satoshi Wakai	Kobe University	Lactic acid and cellulases production using <i>Aspergillus</i> cell factories
25		Norimasa Kashiwagi	Kobe University	Engineering of <i>Streptomyces lividans</i> for the production of heterologous proteins
26		Musashi Takenaka	Kobe University	Visualization of cellulase displayed on yeast with atomic force microscopy
27		Kentaro Inokuma	Kobe University	Development of bioethanol production from chitinous substrates
28		Prihardi Kahar	Kobe University	Development of Platform Yeast Strain Capable of Direct Fermentation of Raw Biomass to Ethanol
29		Jyumpei Kobayashi	Kobe University	Improvement of oxidized glutathione fermentation by thiol redox metabolism engineering in <i>Saccharomyces cerevisiae</i>
30		JaeMin Lee	Kobe University	Screening cellulase and hemicellulase of Actinomycetes induced by baggase
31		Daisuke Sasaki	Kobe University	Comprehensive Metabolomic Analysis of Microflora in Stable and Deteriorated Methane Fermentation
32		Zenpei Shimatani	Kobe University	New Plant Breeding Techniques: Application of Target-AID System and Homologous Recombination

33		Toshihide Matsuno	Kobe University	A platform technology for genetic engineering of the oleaginous yeast <i>Yarrowia lipolytica</i>
34		Satomi Banno	Kobe University	Development of novel genome editing method for bacteria by base substitution
35		Yuichi Kato	Kobe University	Dynamic metabolomics together with transcription analysis revealed salinity-induced starch-to-lipid biosynthesis switching in alga <i>Chlamydomonas</i> sp. JSC4
36		Motonori Kudou	Kobe University	Directed evolution and protein engineering of alcohol dehydrogenase for utilization of NADH
37		Naoko Okai	Kobe University	Production of protocatechuic acid by <i>Corynebacterium glutamicum</i>
38		Masahiro Tominaga	Kobe University	Liquid-based iterative recombineering method for the continuous and parallel operation of genome engineering
39		Kengo Sasaki	Kobe University	Recovery of lignin from rice straw hydrolysate with membrane separation
40		Yota Tsuge	Kobe University	Production of a UV-absorbing amino acid by recombinant <i>Corynebacterium glutamicum</i>
41		Chiaki Ogino	Kobe University	Development and Evaluation of i-CBP yeast suitable for ionic liquid pretreated biomass
42		Satoko Nakamura	Kobe University	3-Amino-4-hydroxybenzoic acid production from a sugar mixture of glucose and xylose by recombinant <i>Streptomyces lividans</i>
43		Yuya Nishimura	Kobe University	Yeast protein-tag for synthetic biological approach to overexpress target proteins
44		Tsutomu Tanaka	Kobe University	Direct cadaverine production from cellobiose using β -glucosidase displaying <i>Escherichia coli</i>
45		Takuya Matsumoto	Kobe University	D-lactic acid production from xylooligosaccharide using xylosidase displaying <i>Lactobacillus plantarum</i>
46		Hiroshi Teramura	Kobe University	Organosolv pretreatment of sorghum bagasse using a low concentration of hydrophobic solvents such as 1-butanol or 1-pentanol
47		Takayuki Arazoe	Kobe University	Genome editing in the rice blast fungus with CRISPR/Cas system