

# 2018 BEST CONFERENCE

**& International Symposium on Biotechnology and Bioengineering**

## PROGRAM LIST

**28-30 June 2018**

**Hong-Yue Technology Research Building  
National Taipei University of Technology, Taipei**

**Conference Website: <http://best2018.conf.tw>**

**Hosted by**

The Biotechnology and Biochemical Engineering Society of Taiwan (BEST)

**Organized by**

Department of Chemical Engineering and Biotechnology  
National Taipei University of Technology

**Co-Organizer:**

Ministry of Science and Technology  
Ministry of Health and Welfare  
International Academia-Industry Alliance of NTUT  
Engineering & Technology Promotion Center  
Healthcare Industry Development Association across the Strait

# PROGRAM OVERVIEW

Thursday, June 28

Time	Agenda
18:00 - 20:00	<b>Welcome Reception</b> MIRAMAR GARDEN TAIPEI, 1F

Friday, June 29

Time	Agenda																				
08:30 - 12:00	<b>BEST Board of Directors and Supervisors Meeting</b> <b>Pre-Conference Tour</b> (Invited only)																				
12:00 - 13:00	<b>Registration</b> (Entrance of International Conference Hall, 12:00-17:30) <b>Exhibition opens, Poster session I setup</b>																				
13:00 - 13:30	<b>Opening</b> Welcome Address: Dr. Thomas C.-K. Yang (Vice-President of NTUT) & Ching-Kuan Lin (President of BEST) Opening Remarks: Dr. Chester Ho Honorary Awards Ceremony (International Conference Hall)																				
13:40 - 14:20	<b>Opening Plenary Speech</b> 2018 BEST Medal Awardee Prof. Wen-Chien Lee National Chung Cheng University, Taiwan Chair: Prof. Wen-Teng Wu, NCKU (International Conference Hall)																				
14:30 - 15:00	<table border="1"> <thead> <tr> <th><b>Keynote Speech I</b></th> <th><b>Keynote Speech II</b></th> <th><b>Keynote Speech III</b></th> </tr> </thead> <tbody> <tr> <td>Prof. Masahiro Takagi Japan Advanced Institute of Science and Technology, Japan Chair: Prof. Jo-Shu Chang, NCKU (International Conference Hall)</td> <td>Prof. Seung Pil Park Korea University, Korea Chair: Prof. Wen-Chien Lee, CCU (Room B424)</td> <td>Prof. Rujikan Nasanit Silpakorn University, Thailand Chair: Prof. I-Son Ng, NCKU (Room B425)</td> </tr> </tbody> </table>	<b>Keynote Speech I</b>	<b>Keynote Speech II</b>	<b>Keynote Speech III</b>	Prof. Masahiro Takagi Japan Advanced Institute of Science and Technology, Japan Chair: Prof. Jo-Shu Chang, NCKU (International Conference Hall)	Prof. Seung Pil Park Korea University, Korea Chair: Prof. Wen-Chien Lee, CCU (Room B424)	Prof. Rujikan Nasanit Silpakorn University, Thailand Chair: Prof. I-Son Ng, NCKU (Room B425)														
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15:00 - 16:00	Coffee break, Exhibitions and networking <b>Poster Session I</b> <b>Topics:</b> Biocatalysis and Protein Engineering; Micro- and Nano-biotechnology; Environmental Biotechnology; Agro-biotechnology and Natural Products (Hong-Yue Technology Research Building, Lobby, 1F)																				
16:00 - 17:35	<table border="1"> <thead> <tr> <th colspan="4"><b>Parallel Oral Sessions I</b></th> </tr> <tr> <th><b>Session I-1</b></th> <th><b>Session I-2</b></th> <th><b>Session I-3</b></th> <th><b>Session I-4</b></th> </tr> </thead> <tbody> <tr> <td>Biocatalysis and Protein Engineering (I) (Int. Conference Hall)</td> <td>Micro- and Nano-biotechnology (Room B424)</td> <td>Environmental Biotechnology (Room B425)</td> <td>Agro-biotechnology and Natural Products (Room 226)</td> </tr> <tr> <td>Chair: Prof. Ling Chao <b>Invited Speech</b> Prof. Kazuhito Fujiyama Osaka University, Japan</td> <td>Chair: Prof. Chih-Chen Hsieh Abstract No.: 0029 0092 0097 0199 0239</td> <td>Chair: Prof. Chao-Ling Yao Abstract No.: 0009 0054 0132 0136 0156</td> <td>Chair: Prof. Yaw-Nan Chang Abstract No.: 0048 0130 0143 0204 0227</td> </tr> <tr> <td>Abstract No.: 0008, 0014, 0042, 0050, 0133</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	<b>Parallel Oral Sessions I</b>				<b>Session I-1</b>	<b>Session I-2</b>	<b>Session I-3</b>	<b>Session I-4</b>	Biocatalysis and Protein Engineering (I) (Int. Conference Hall)	Micro- and Nano-biotechnology (Room B424)	Environmental Biotechnology (Room B425)	Agro-biotechnology and Natural Products (Room 226)	Chair: Prof. Ling Chao <b>Invited Speech</b> Prof. Kazuhito Fujiyama Osaka University, Japan	Chair: Prof. Chih-Chen Hsieh Abstract No.: 0029 0092 0097 0199 0239	Chair: Prof. Chao-Ling Yao Abstract No.: 0009 0054 0132 0136 0156	Chair: Prof. Yaw-Nan Chang Abstract No.: 0048 0130 0143 0204 0227	Abstract No.: 0008, 0014, 0042, 0050, 0133			
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18:30 - 20:30	<b>Conference Banquet</b> COSMOS HOTEL TAIPEI, 1F																				

## Saturday, June 30

Time	Agenda			
08:10 - 08:40	<b>Registration</b> (Entrance of International Conference Hall, 08:10-12:30) <b>Exhibition opens, Poster session II setup</b>			
08:40 - 09:20	<u><b>Conference Theme Plenary Speech</b></u> Professor Oliver Rackham President of Synthetic Biology Australasia (SBA) The University of Western Australia, Australia Chair: Prof. Sheng-Tung Huang, NTUT (International Conference Hall)			
09:30 - 10:00	<u><b>Keynote Speech IV</b></u> Prof. Hyung Joon Cha Pohang University of Science and Technology, Korea Chair: Prof. Sheng-Shih Wang, NTU (International Conference Hall)	<u><b>Keynote Speech V</b></u> Prof. Chiaki Ogino Kobe University, Japan Chair: Prof. Cheng-Kang Lee, NTUST (Room B424)	<u><b>Keynote Speech VI</b></u> Prof. Mohamad Faizal Ibrahim Universiti Putra, Malaysia Chair: Prof. Yung-Chuan Liu, NCHU (Room B425)	
10:00 - 11:00	Coffee Break, Exhibitions and networking <u><b>Poster Session II</b></u> <b>Topics:</b> Bioenergy and Biorefinery; Biomedical Science and Engineering; Metabolic Engineering and Synthetic Biology; Cell Culture and Bioprocessing (Hong-Yue Technology Research Building, Lobby, 1F)			
11:00 - 12:30	<b>Parallel Oral Sessions II</b>			
	<b>Session II-1</b> Bio-industrial Forum (Int. Conference Hall)	<b>Session II-2</b> Bioenergy and Biorefinery (I) (Room B424)	<b>Session II-3</b> Biomedical Science and Engineering (I) (Room B425)	<b>Session II-4</b> Metabolic Engineering and Synthetic Biology (Room 226)
	Chair: Dr. Wei-Kuang Chi Co-chair: Chia-Hwa Lee <b>Invited Speech</b> Dr. Wei-Kuang Chi Development Center for Biotechnology, Taiwan EYT Health Technology Co., Ltd. BIONIN Biotechnology, Inc. CellMax Life, Inc.	Chair: Prof. C. Will Chen Abstract No.: 0036 0082 0103 0137 0139	Chair: Prof. Jen-Huang Huang Abstract No.: 0011 0016 0017 0079 0090	Chair: Prof. Yi-Huang Hsueh Abstract No.: 0028 0069 0123 0180 0212
12:30 - 13:50	<b>Lunch</b> (B3F Dinning Area) <b>2018 BEST Member Annual Meeting</b> (Room 227)			
14:00 - 15:30	<b>Parallel Oral Sessions III</b>			
	<b>Session III-1</b> Biocatalysis and Protein Engineering (II) (Int. Conference Hall)	<b>Session III-2</b> Bioenergy and Biorefinery (II) (Room B424)	<b>Session III-3</b> Biomedical Science and Engineering (II) (Room B425)	<b>Session III-4</b> Cell Culture and Bioprocessing (Room 226)
	Chair: Prof. Jiasheng Yu Abstract No.: 0058 0168 0203 0208 0215	Chair: Prof. Jun-Hsien Wang Abstract No.: 0147 0149 0154 0159 0169	Chair: Prof. Chi-Hsien Liu Abstract No.: 0081 0150 0164 0173 0230	Chair: Prof. Min-Ying Wang Abstract No.: 0107 0118 0135 0163 0224
15:35 - 16:00	<b>Closing &amp; Award Presentation Ceremony</b> (International Conference Hall)			

# Opening Plenary Speech

Wen-Chien Lee

(2018 BEST Medal Awardee)

13:40–14:20, Friday June 29, 2018

International Conference Hall

Chair: Prof. Wen-Teng Wu, National Cheng Kung University

## From biological macromolecules to small molecules: purification and upstream processing

Wen-Chien Lee

*Department of Chemical Engineering, National Chung Cheng University, Minhsiung 621*

Bioproducts are substances made by living organisms and can be classified into small molecules, macromolecules and particulate products. Proteins are biological macromolecules that dictate virtually all activities of a cell. Therefore, protein purification is important for bioscience and biotechnology research and in the production of protein drugs. For the affinity chromatography of proteins and other bioactive molecules, we have developed several polymer and non-polymer-based microparticles especially as nonporous and molecularly imprinted supports. Non-linear chromatography has been revisited, resulting in a novel plate-height equation for scaling-up a non-linear chromatographic process and in determining the thermodynamic and kinetic constants characterizing non-linear chromatography. Predicted equations for describing elution behavior of proteins in affinity chromatography were also developed. Furthermore, two-dimensional gel electrophoresis platform was established to extend our study from protein purification to proteomics. This proteomic approach was employed to excavate biomarkers for two diseases, oral cancer and biliary atresia, as well as the study of circadian desynchronization in animal model and neuronal differentiation of human mesenchymal stem cells. The investigation of proteomes in recombinant *Escherichia coli* before and after induction for over-expressing foreign protein led to some novel findings on the alteration of metabolic pathways and expression of cellular proteins in the recombinant bacterial cells. In addition, the genetic manipulation for yielding enzymatically active inclusion bodies in the recombinant *E. coli* over-expressing protein has been demonstrated. As the bioproducts were switched to small molecules like bioethanol and bio-based organic acids including succinic acid, D- and L-lactic acids, the utilization of sugars from cellulosic parts of plant biomass as the raw material was *particularly* of interest. Genetic engineering on production strains could significantly enhance the product yield. Technologies for the co-production of value-added compounds like xylitol and xylooligoscharides were developed in order to reduce the overall production cost of bioethanol and bio-based organic acids from lignocellulosic biomass.

# Conference Theme Plenary Speech

**Oliver Rackham**

**08:40–09:20, Saturday June 30, 2018**

**International Conference Hall**

**Chair: Prof. Sheng-Tung Huang, National Taipei University of Technology**

## **Engineered protein scaffolds to target nucleic acids**

Oliver Rackham

*Harry Perkins Institute of Medical Research and Centre for Medical Research, The University of Western  
Australia, Nedlands 6009, Australia*

*School of Molecular and Chemical Sciences, The University of Western Australia, Crawley 6009, Australia*

*E-mail: [oliver.rackham@uwa.edu.au](mailto:oliver.rackham@uwa.edu.au)*

Post-transcriptional regulation of gene expression is ubiquitous and fundamental for the control of cell growth, differentiation and the complex developmental programs of multicellular eukaryotes. Because of their modular structure, repeat domain proteins are particularly well suited for these processes and have been widely adopted throughout evolution. This presentation focuses on a family of RNA-binding repeat domain proteins: the pentatricopeptide repeat (PPR) proteins, which play key roles in mitochondrial gene expression. We have used mouse models and next generation sequencing approaches to reveal the mechanisms by which PPR proteins function. Furthermore, in recent work we have created synthetic proteins inspired by PPR proteins. These artificial proteins have revealed the code for RNA binding by natural PPR domains and provide unique tools for manipulating cellular RNAs. The design of proteins that can bind any RNA sequence of interest and modulate its function will be important to elucidate the mechanisms by which genes are controlled at the RNA level and for new therapeutic approaches.

# Keynote Speech I

Masahiro Takagi

14:30–15:00, Friday June 29, 2018

International Conference Hall

Chair: Prof. Jo-Shu Chang, National Cheng Kung University

## Endocytic Movements of Biomaterials in Both Actual and Artificial Membranes

Masahiro TAKAGI<sup>a</sup> and Naofumi SHIMOKAWA

<sup>a</sup> School of Materials Science, Japan Advanced Institute of Science and Technology

E-mail: takagi@jaist.ac.jp

Grant number(s) for acknowledgments: The Grant-in-Aid for Scientific Research (C) (JP17K05610) (N.S)

“Thermal Biology” (JP15H05928) (M.T) Scientific Research (B) (JP26289311) (M.T)

**【 Background 】** The cell membrane is based on structure of lipid bilayer, and is constituted with hundreds kinds of phospholipid molecules. In recent years, it has been suggested that there is a domain structure called “Lipid raft” in membrane. Rafts contain high concentration of sphingolipids and cholesterol. Rafts concentrate receptor proteins and their dynamics are related to membrane trafficking and intracellular signaling. But mechanism of raft dynamics in intracellular signaling is still unknown. As the examples for the studies about membrane dynamics and signal transduction, I would like to introduce the cell-sized liposome and use of the liposome and cultured cells for studies of neurotoxicity of amyloid and drug delivery system.

**【Lipid raft and neurotoxicity of amyloid $\beta$ 】** Amyloid beta ( $A\beta$ ) is a peptide responsible for the development of Alzheimer’s disease (AD). Misfolding and accumulation of the peptide can lead to neural cell apoptosis through endoplasmic reticulum (ER) stress. We have speculated that the endocytic transport of  $A\beta$  causes ER stress. We have demonstrated important factors affecting endocytic transport such as oxysterols, glycosyl chains of membranes, and the nano-structures (oligomers and protofibrils) of  $A\beta$ .

**【Drug delivery by nanoemulsions】** Nanoemulsions of a lipophilic vitamin, retinol palmitate (vitamin A; VA), have a therapeutic effect on corneal damage. We have shown that the vesicles that absorbed nanoemulsions formed from the plasma membrane as real endocytosis, and were transported to the area around the nucleus. Consequently, it is likely that nanoemulsions entered the cell by membrane mediated transport at raft region, delivering vitamin to the cell nucleus effectively and enhancing the effects of vitamins.

These findings reveal that endocytic movements (in particular raft-dependent endocytic movements) are very important for signal transduction.

# Keynote Speech II

Seung Pil Pack

14:30–15:00, Friday June 29, 2018

Room B424

Chair: Prof. Wen-Chien Lee, National Chung Cheng University

## **Marine-derived molecular biomineralizations: silica-forming proteins and their applications**

Ki Baek Yeo, Sung Ho Kim, Ryeo Gang Son, Mi-Ran Ki, and Seung Pil Pack<sup>\*,a</sup>

<sup>a</sup>*Department of Biotechnology and Bioinformatics, Korea University, Sejong 30019, Korea*

*E-mail: spack@korea.ac.kr*

Silica with nontoxic and highly biocompatible characteristics can be applied for tissue scaffolds, drug-delivery system, biosensors and imaging. For silica synthesis, conventional methods typically require a combination of high temperatures and extreme pH and also it is difficult to prepare controlled structures. However, the discovery of the critical molecules involved in biosilicification found both in diatoms (silaffins and polyamines) and sponges (silicateins) brings out understandings about silica forming process in vivo and has presented a new paradigm for silica synthesis under ambient or mild conditions. Here, we reported new silica-forming peptides (SFP), named EctP1 and EctP2. They were also genetically fused to the N- or C-terminus of other protein. The SFP-fused proteins showed silicification ability. In addition, silicified SFP-fused protein exhibited an organic-inorganic complex form. These results indicate that the SFP fusion system is a novel tool for immobilizing biomolecules on silica material for biological and industrial applications.

# Keynote Speech III

**Rujikan Nasanit**

**14:30–15:00, Friday June 29, 2018**

**Room B425**

**Chair: Prof. I-Son Ng, National Cheng Kung University**

## **Bacteriophages: Antibacterial agents against foodborne pathogens**

Rujikan Nasanit\*, Phiraphat Chaengphaniad, Wongsatorn Sirisurapong, Napakhwan Imklin

*Department of Biotechnology, Faculty of Engineering and Industrial Technology, Silpakorn University,*

*Sanamchandra palace campus, Nakhon Pathom, 73000, Thailand*

*E-mail: nasanit\_r@su.ac.th*

Food is a fundamental requirement of everyday life. However, it is also a primary route of foodborne disease transmission which become a major problem worldwide. The contamination of bacterial pathogens in foods is one of the important causes of foodborne illness. Moreover, the emergence of antibiotic-resistant bacteria has been increasing because of antibiotic overuse nowadays. Therefore, an effort to develop a new technology to control these microbial contaminations for food safety concern along with the quality control of food is continuously challenged. During the last decade, bacteriophages known as bacterial viruses, have gained interest as an alternative approach against pathogenic bacteria in foods, since they are highly specific to bacterial hosts, safe and no effect on food sensory. In this talk, we will provide some examples of bacteriophage control in food industry, both pre- and postharvest applications. Our findings of bacteriophages specific to some foodborne pathogens, *Salmonella* spp. and *Staphylococcus aureus* is also introduced. The advantages and possible disadvantages of phage therapy is then discussed. Finally, the current exploitation of phages as biocontrol agents in the food industry is presented.



# Keynote Speech IV

Hyung Joon Cha

09:30–10:00, Saturday June 30, 2018

International Conference Hall

Chair: Prof. Sheng-Shih Wang, National Taiwan University

## Pre-clinical medical applications of protein glue

Hyung Joon Cha

*Department of Chemical Engineering, Pohang University of Science and Technology, Pohang 37673, Korea*

*E-mail: [hjcha@postech.ac.kr](mailto:hjcha@postech.ac.kr)*

Marine mussel adhesion is known to be mediated by adhesive proteins, which are secreted through the mussel byssus and have great potential as biologically and environmentally friendly adhesive biomaterials due to their biocompatibility and biodegradability. In addition, mussel adhesive proteins (MAPs) have strong adhesion ability even on wet surfaces due to unique amino acid arrangements and composition. However, researches using the natural amino acid composition have been limited due to extreme difficulties in obtaining sufficient quantities of MAPs for practical applications and commercialization. Previously, we successfully produced redesigned new MAP using a bacterial expression system and this MAP showed significant adhesion ability and biological safety. In this talk, I will present our research team's efforts on development of MAP as innovative bioadhesive materials in diverse medical area with proper fabrications and formulations. Also, I will introduce startup company 'Nature Gluetech' for technology commercialization of these innovative medical bioadhesives.

# Keynote Speech V

Chiaki Ogino

09:30–10:00, Saturday June 30, 2018

Room B424

Chair: Prof. Cheng-Kang Lee, National Taiwan University of Science and Technology

## **Bio-refinery strategy by collaboration Asian's partnership**

Chiaki Ogino<sup>1</sup>, Prihardi Kahar<sup>1</sup>, and Akihiko Kondo<sup>2</sup>

<sup>1</sup>Department of Chemical Science and Engineering, Graduate School of Engineering,

<sup>2</sup> Organization of Advanced Science and Technology,

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*Acknowledgments: This work was supported in part by a Science and Technology Research Partnership for Sustainable Development (SATREPS) from collaborating project between JST and JICA, National biological research center (NBRC) of National institute of technology and evaluation (NITE) for providing strains, and a Special Coordination Fund for Promoting Science and Technology, Creation of Innovative Centers for Advanced Interdisciplinary Research Areas (Innovative Bioproduction Kobe) from the Ministry of Education, Culture, Sports and Technology (MEXT) Japan.*

We believe there are many broad candidates available in nature, which can move beyond difficulties to out boundary so that the good platform for fermentation of lignocellulosic biomass could be built without too much genetic modification. However, it is not easy to achieve the candidates due to the unique adaptation possessed by many yeasts upon the environmental stress.

In this study, we have developed the simultaneous method for screening the candidate yeasts, which capable to grow and ferment lignocellulosic lysate into ethanol and fine chemicals such as lactate. By using culture collection in National Bio-resource Collection (NBRC) Japan, and Indonesian National Culture Collection (InaCC), the screening of the yeast strain, having a potential of growing and fermentation in the medium containing fermentation inhibitors, was conducted. Regarding the possibility of bio-resources in Asian for bio-refinery, we would like to discuss also in this presentation.

# Keynote Speech VI

**Mohamad Faizal Ibrahim**

**09:30–10:00, Saturday June 30, 2018**

**Room B425**

**Chair: Prof. Yung-Chuan Liu, National Chung Hsing University**

## **Combination Pretreatment of Oil Palm Biomass into Fermentable Sugars**

Nur Fatin Athirah Ahmad Rizal<sup>a</sup>, Mohamad Faizal Ibrahim<sup>a,b,\*</sup>, Mohd Rafein Mohd Zakaria<sup>a,b</sup>,  
Ezyana Kamal Bahrin<sup>1a,b</sup>, Phang Lai Yee<sup>a</sup>, Suraini Abd-Aziz<sup>a</sup> and Mohd Ali Hassan<sup>a</sup>

<sup>a</sup>*Department of Bioprocess Technology, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Malaysia*

<sup>b</sup>*Laboratory of Biopolymer and Derivatives, Institute of Tropical Forestry and Forest Products, Universiti Putra Malaysia, 43400 UPM Serdang, Malaysia*

\*Correspondence: [faizal\\_ibrahim@upm.edu.my](mailto:faizal_ibrahim@upm.edu.my)

*AFOB-Malaysia Chapter*

*SATREPS-6300156*

Malaysia is the second largest palm oil producer in the world and this industry generates more than 80 million tonnes of biomass every year. Considering the potential of this biomass to be used as a fermentation feedstock, several studies have been conducted to develop the complete process for sugar production. One of the essential processes is the pretreatment to modify the lignocellulosic components by altering the structural arrangement and/or removing lignin component to expose the internal structure of cellulose and hemicellulose for cellulases to digest it into sugars. Each of the pretreatment processes developed have their own advantages and disadvantages. One example is the combination of superheated steam (SHS) with laccase pretreatment together with size reduction which had enhanced the glucose yield. Reduction of size from raw to 0.25 mm plays important role in lignin degradation by laccase that removed 38.7% and 39.6% of the lignin from oil palm empty fruit bunch (OPEFB) and oil palm mesocarp fiber (OPMF), respectively. The subsequent saccharification process of these pretreated OPEFB and OPMF generates glucose yields of 71.5% and 63.0%, which represent a 4.6 and 4.8-fold increment, respectively, as compared to untreated samples.

# ORAL SESSIONS

## Session I-1: Biocatalysis and Protein Engineering (I)

16:00–17:35, Friday June 29, International Conference Hall

Chair: Ling Chao, National Taiwan University

Time	Title	Authors
16:00-16:20	<b>Invited Speech:</b> Recombinant protein production in silkworm, <i>Bombyx mori</i>	Hiroyuki Kajiura, Takao Ohashi, Ryo Misaki, <u>Kazuhito Fujiyama</u>
16:20-16:35	0008: Discovery of novel CCR5 inhibitors by structure-based pharmacophore modeling and molecular dynamics simulations	Hsuan-Yu Lin, Yih Ho, Hsuan-Liang Liu*
16:35-16:50	0014: Establish Constitutive and Inducible Recombinant Expression System by <i>Shewanella oneidensis</i> MR-1	<u>Ying-Chen Yi</u> , I-Son Ng*
16:50-17:05	0042: Comparison on the production of fructosyl amino acid oxidase by different recombinant <i>Escherichia coli</i> and promoter system	<u>Yan-Cheng Chang</u> , Yung-Chuan Liu*
17:05-17:20	0050: Purification of <i>Candida antarctica</i> lipase A overexpressed in <i>Escherichia coli</i> via immobilized metal ion membrane	Tzu-Chi Syu, Yung-Chuan Liu
17:20-17:35	0133: Influence of the molecular weight of recombinant protein on the cell physiology and protein expression in <i>Escherichia coli</i>	<u>Ya-Chu Hsu</u> , Shu-Jyuan Li, Wen-Chien Lee*

## Session I-2: Micro- and Nano- biotechnology

16:00–17:30, Friday June 29, Room B424

Chair: Chih-Chen Hsieh, National Taiwan University

Time	Title	Authors
16:00-16:18	0029: Fabrication and Characterization of EGFR-Targeted Indocyanine Green- Mitomycin C-Incorporated Perfluorocarbon Nano-Agents for Photochemotherapy of Bladder Cancer Cells	<u>Yu-Chun Lin</u> , Yu-Hsiang Lee*
16:18-16:36	0092: The innovatively measuring model of AC-impedance for biochemical analysis in microbial culture system	<u>Chien-An Su</u> , John Chi-Wei Lan*
16:36-16:54	0097: Superparamagnetic iron oxide nanoparticles with surface modification for the capture of human serum albumin	<u>Yi-Ying Huang</u> , Mei-Jywan Syu*
16:54-17:12	0199: Cellulose Nanocrystals Based Antimicrobial Pickering Emulsion	Chynthia Devi Hartono, Cheng Kang-Lee*
17:12-17:30	0239: A chameleon-inspired stretchable electronic skin with interactive color changing controlled by tactile sensing	Ho-Hsiu Chou

### **Session I-3: Environmental Biotechnology**

16:00–17:30, Friday June 29, Room B425

Chair: Chao-Ling Yao, Yuan Ze University

Time	Title	Authors
16:00-16:18	0009 : Optimization of microalgae-to-biofuel systems regarding revenue and environment impact	<u>Wei Wu</u> , Keng-Hsien Lin, Jo-Shu Chang
16:18-16:36	0054 : Inoculation of a Plant Growth Promoting Bacterium in Composting Process	Pin-Yu Lin, Ching-An Lin, Ming-Tse Lin, Chia-Chung Chou, <u>Kow-Jen Duan</u>
16:36-16:54	0132 : Cultivating <i>Chlorella sorokiniana</i> AK-1 with swine wastewater for simultaneous algal biomass production and wastewater treatment	Chun-Yen Chen, En-Wei Kuo, <u>Jo-Shu Chang</u>
16:54-17:12	0136 : Optimization of fermented $\gamma$ -aminobutyric acid (GABA) from nitrogen-rich waste feedstocks	Shih-Ting Lin, <u>John Chi-Wei Lan</u>
17:12-17:30	0156 : Production of 1,3 PDO and 2,3 BDO from renewable feedstock using <i>Klebsiella</i> sp.	Bergas Kristiadi, Dillirani Nagarajan, <u>Jo-Shu Chang</u>

### **Session I-4: Agro-biotechnology and Natural Products**

16:00–17:30, Friday June 29, Room 226, Sixth Academic Building

Chair: Yaw-Nan Chang, National Formosa University

Time	Title	Authors
16:00-16:18	0048 : Enhanced high molecular weight polysaccharides production via <i>Tuber borchii</i> submerged cultivation	<u>Cheng-Chun Chen</u> , Yung-Chuan Liu
16:18-16:36	0130 : Utilization of agro-industrial byproducts as low-cost media for exopolysaccharides production	<u>Apisara Iadcharoen</u> , Benjamas Cheirsilp
16:36-16:54	0143 : The use of sap from felled oil palm tree as low-cost nutrient source for lactic acid production	<u>Asma Billateh</u> , Muchchima Chaiyaphum, Nattha Lojananan, Benjamas Cheirsilp
16:54-17:12	0204 : Pectinous polysaccharides extracted from <i>Ficus awkeotsang</i> Makino is a potential material for colon target delivery capsule production	<u>Jhao-Syuan Gu</u> , Yu-Shen Cheng
17:12-17:30	0227: Developing antimicrobial edible film from <i>Hyptis Suaveolens</i> seed gum and seed essential oil	<u>Guan-Wei Chiu</u> , Yu-Shen Cheng*

## **Session II-1: Bio-industrial Forum**

11:00–12:30, Saturday June 30, International Conference Hall

Chair: Wei-Kuang Chi, Development Center for Biotechnology

Co-chair: Chia-Hwa Lee, International Academia-Industry Alliance of NTUT

Time	Title	Speaker
11:00-11:05	Remarks	Chia-Hwa Lee, CEO
11:05-11:25	<b>Invited Speech:</b> Advanced platform technology for biotherapeutics industry	Dr. Wei-Kuang Chi
11:25-11:40	基因檢測的應用與發展 (EYT Health Technology Co., Ltd.)	楊仁福 營運長
11:40-11:55	保健食品代工之創新服務模式 (BIONIN Biotechnology, Inc.)	陳禧瑩 博士
11:55-12:10	Clinical Applications of Circulating Tumor Cells as Liquid Biopsy for Cancer Prevention, Management and Immunotherapy Selection/Monitoring (CellMax Life, Inc.)	Dr. Tony, Kai-Chuan Chen
12:10-12:30	Discussion	

## **Session II-2: Bioenergy and Biorefinery (I)**

11:00–12:30, Saturday June 30, Room B424

Chair: C. Will Chen, Tatung University

Time	Title	Authors
11:00-11:18	0036 : Direct biodiesel production from wet yeast biomass of <i>Rhodotorula glutinis</i> by <i>in situ</i> transesterification	<u>Shih-Jie Chen</u> , Chi-Yang Yu
11:18-11:36	0082 : Study of Enzymatic Covalent Immobilization Electrode in Biofuel Cells	<u>Adama A. Bojang</u> , Ho Shing Wu
11:36-11:54	0103 : Kinetic of Lignin Degradation Using Catalytic Pyrolysis	<u>Damayanti</u> , Ho-Shing Wu
11:54-12:12	0137 : Biological pretreatment of empty fruit bunch (EFB) using oleaginous <i>Aspergillus tubingensis</i> TSIP9	<u>Rawitsara Intasit</u> , Benjamas Cheirsilp
12:12-12:30	0139 : Separation of free fatty acids (FFAs) from high-FFA crude palm oil-palm kernel oil mix obtained from dry-milling process using vacuum distillation	<u>Nantanit Tohpong</u> , Wiriya Duangsuwan, Poonsuk Prasertsan

### **Session II-3: Biomedical Science and Engineering (I)**

11:00–12:30, Saturday June 30, Room B425

Chair: Jen-Huang Huang, National Tsing Hua University

Time	Title	Authors
11:00-11:18	0011: Extracorporeal shock wave therapy ameliorates liver fibrosis	<u>Chang-Chun Hsiao*</u> , Tian-Zong Chen, Ching-Jen Wang, Kuang-Hung Cheng
11:18-11:36	0016: Discovery of novel irreversible HER2 inhibitors for treating breast cancer	Jhih-Yan Tang, Hsuan-Liang Liu*, Yi Ho
11:36-11:54	0017: Targeted delivery of rosmarinic acid across the blood–brain barrier for neuronal rescue using polyacrylamide-chitosan-poly(lactide-co-glycolide) nanoparticles with surface cross-reacting material 197 and apolipoprotein E	I-Yin Chen, Rajendiran Rajesh, Yung-Chih Kuo*
11:54-12:12	0079: Synthetic Circuit-based Baculovirus for Transgene Expression Control and Selective Killing of Hepatocellular Carcinoma Cells	<u>Mei-Wei Lin</u> , Yen-Wen Tseng, Chih-Che Shen, Mu-Nung Hsu, Chin-Wei Chang, Chung-Ju Yeh, Jaw-Ching Wu, Yu-Chen Hu*
12:12-12:30	0090: Fabrication and characterization of indocyanine green- rifampicin loaded PLGA nanoparticles for photochemo-antibacterial therapy	<u>Chen-Chih Chiu</u> , Yu-Hsiang Lee*

### **Session II-4: Metabolic Engineering and Synthetic Biology**

11:00–12:30, Saturday June 30, Room 226, Sixth Academic Building

Chair: Yi-Huang Hsueh, Yuan Ze University

Time	Title	Authors
11:00-11:18	0028 : Development of genetic circuit platform (GCP) as a high sensitivity biosensor in <i>E. coli</i>	<u>Shih-I Tan</u> , I-Son Ng
11:18-11:36	0069 : Development of a new cre/loxp-based long-term gene expression system in single recombinant baculovirus	<u>Chin-Wei Chang</u> , Liang-Shin Wang, Chih-Che Shen, Li-Yu Sung, Mei-Wei Lin, Yu-Chen Hu
11:36-11:54	0123 : A novel method to tune the noise of gene expression	<u>Iyy-Ning Chen</u> , Shih-Chiang Lo, Che-Chi Shu
11:54-12:12	0180 : Microbial production of <i>n</i> -butyraldehyde in metabolic engineered <i>Escherichia coli</i>	<u>Jason T. Ku</u> , Wiwik Simanjuntak, Ethan I. Lan
12:12-12:30	0212 : High titer production of 2,3-butanediol by flexible cofactor utilization	<u>Keming Liang</u> , Claire R. Shen

### **Session III-1: Biocatalysis and Protein Engineering (II)**

14:00–15:30, Saturday June 30, International Conference Hall

Chair: Jiashing Yu, National Taiwan University

Time	Title	Authors
14:00-14:18	0058: Construction and production of recombinant cecropinB2 via the Ssp dnaB mini-intein system	Yi-Ting Fang, Yung-Chuan Liu*
14:18-14:36	0168: In vitro biosynthesis of 3-Hydroxypropionic acid from glucose using immobilized multi-enzymes	Ping Shen, Yu-Shen Cheng*
14:36-14:54	0203: Application of Elastin-like polypeptide for recombinant proteins purification	<u>Shen-Jung Chen</u> , Ying-Lin Lu, Shen-Long Tsai*
14:54-15:12	0208: Adsorption Behavior of Mussel Adhesive Protein (Mfp-5) on Different Biomaterial Surfaces	Chi-Fong Lin, Kuan-Lin Chen, Pei-Hsuan Chiang, Wen-Yu Su*, Yang Wei*
15:12-15:30	0215: Activity changes of $\alpha$ -Amylase on a glass surface due to different protein-protein interactions involved	Chuan-Tse Kao, Chia-Hua Chang, Tsong-Hsien Wu, Yang Wei*

### **Session III-2: Bioenergy and Biorefinery (II)**

14:00–15:30, Saturday June 30, Room B424

Chair: Jun-Hsien Wang, Minghsin University of Science and Technology

Time	Title	Authors
14:00-14:18	0147 : Enhancing lipid production efficiency of <i>Thraustochytrium</i> sp. BM2 using fermentation strategies with lipids upgrading assessments	Chun-Yen Chen, <u>Meng-Hsiu Lee</u> , Jo-Shu Chang
14:18-14:36	0149 : Evaluation of Two Different Photobioreactors for Microalgae Cultivation in Secondary Effluent from Seafood Processing Plant	<u>Faridah Jehalee</u> , Benjamas Cheirsilp
14:36-14:54	0154 : Methane production from succinic acid fermentation waste via mesophilic anaerobic digestion	<u>Yuan-Jung Chiang</u> , Yung-Chung Lo, Jo-Shu Chang
14:54-15:12	0159 : Biobutanol fermentation with immobilized cells using microalgal biomass as feedstock integrated with in-situ product removal	<u>Ya-Jyun Lin</u> , Yung-Chuong Lo, Jo-Shu Chang
15:12-15:30	0169 : ATP independent in vitro biosynthesis of 3-Hydroxypropionic acid	<u>Lee Keng-wei</u> , Yu-Shen Cheng



### **Session III-3: Biomedical Science and Engineering (II)**

14:00–15:30, Saturday June 30, Room B425

Chair: Chi-Hsien Liu, Chang Gung University

Time	Title	Authors
14:00-14:18	0081: CRISPR Activation for BMSC and ASC Engineering and Enhanced Calvarial Bone Healing	<u>Kai-Lun Huang</u> , Mu-Nung Hsu, Vu Anh Truong, Fu-Jen Yu, Nguyễn Thị Kiều Nương, Yu-Chen Hu*
14:18-14:36	0150: Adipose-derived Stem Cell Sheets Functionalized by Hybrid Baculovirus for Prolonged GDNF Expression and Improved Nerve Regeneration	Mu-Nung Hsu, Han-Tsung Liao, Kuei-Chang Li, Hwei-Hsien Chen, Tzu-Chen Yen, Pavel Makarevich, Yelena Parfyonova, Yu-Chen Hu*
14:36-14:54	0164: SOS Beauty Magic Patch	Hui-Min David Wang*
14:54-15:12	0173: A Digital Molecular Switch for Selective Detection of Cysteine and Aminoacylase-1 in Human Whole Blood.	T.S.T. Balamurugana, Sheng-Tung Huang*
15:12-15:30	0230: Polyelectrolyte Multilayers Coatings on 316L Stainless Steel for Drug Control Release	<u>Hsiang-Wen Chen</u> , Wen-Chi Wang, Ren-Jei Chung*

### **Session III-4: Cell Culture and Bioprocessing**

14:00–15:30, Saturday June 30, Room 226, Sixth Academic Building

Chair: Min-Ying Wang, National Chung Hsing University

Time	Title	Authors
14:00-14:18	0107: Fabrication of human bronchial epithelium culture platform as a model system for studying lung disease	Hsin-Lin Hsieh, Jen-Huang Huang*
14:18-14:36	0118: Reduce CRISPR Off-target Effects by Synthetic Switch and Self-Restricting Cas9	Chih-Che Shen, Yu-Chen Hu*
14:36-14:54	0135: Investigation and Characterization of Plasma Surface Modifications on PHB and PHBV Biopolymers for In Vitro Cellular Studies of Mouse Adipose-Derived Stem Cells	Chih-Kai Chang, Hui-Min David Wang, John Chi-Wei Lan*
14:54-15:12	0163: Cultivation of <i>Chlorella sorokiniana</i> MB-1-M12 using aquaculture wastewater for biomass and lutein production with mixotrophic growth	Jih-Heng Chen, Chun-Yen Chen, Jo-Shu Chang*
15:12-15:30	0224: Development of aqueous two-phase systems comprising cholinium aminoate and polypropylene glycol for protein separation	Ooi Chien Wei*, Song Cher Pin, Nagasundara Ramanan Ramakrishnan

# POSTER SESSIONS

## Poster Session I

15:00–16:00, Friday June 29

Hong-Yue Technology Research Building, Lobby, 1F

Topics: Environmental Biotechnology; Micro- and Nano-biotechnology;

Biocatalysis and Protein Engineering; Agro-biotechnology and Natural Products

Environmental Biotechnology			
Poster No.	Abstract No.	Title	Authors
P-I-01	0032	A highly conducting flower like Au nanoparticles interconnected functionalized CNFs and its enhanced electrocatalytic activity towards hydrazine through direct electron transfer	Mani Sakthivel, Sukanya Ramaraj, <u>Shen-Ming Chen</u> , Bose Dinesh, Kuang-Hsiang Chen
P-I-02	0040	Increasing toluene removal and electricity generation by microbial fuel cells with cathode modification	<u>Li-Chen Lin</u> , Shu-Hui Liu, Chi-Wen Lin
P-I-03	0041	Isolation and application of ammonium-degrading microorganisms	Yun-Sian Wang, Yu-Yu Hsieh, <u>Shiaw-Wei Tyan</u>
P-I-04	0062	Functional Expression and Analysis of LsrR Protein in the Regulation of Bioluminescence in <i>Vibrio orientalis</i>	Yu Ting Chen, <u>Douglas J. H. Shyu</u>
P-I-05	0071	The Seasonal Effect of Eutrophication for the Monitoring of Irrigational Ponds	Kun-Lin Kuo, Guo-Lian Cai, Feng-Yi Chang, Jian-Lun Zeng, <u>Jun-Hong Lin</u>
P-I-06	0078	Biodegradation of Industrial Wastewater by using <i>Bacillus</i> spp.	Jia-Hong Fan, Yi-Chen Wang, <u>Shan-Yu Chen</u>
P-I-07	0096	Optimization of fermentation conditions for the production of carotenoids by a newly isolated strain, <i>Gordonia terrae</i> TWRH-01	Wai Leng Carmen Loh, Kuan-Chieh Huang, Hui Suan Ng, <u>John Chi-Wei Lan</u>
P-I-08	0101	Variation of microbiota in Polyvinyl alcohol feeding waste water	Siao-Jhen Chen, Jeff Hsu, Hsun-Yin Hsu, Po-Hung Wu, <u>Yen-Lin Chen</u>
P-I-09	0120	Isolation and identification of palladium resistant bacteria from heavy metal contaminated soils	<u>Zi-Yi Liao</u> , Chih-Ching Chien
P-I-10	0121	Cultivation of <i>Acidithiobacillus</i> spp. and its potential application in metal bioleaching from chip carrier board	<u>Wing-Sze Ho</u> , Chih-Ching Chien

P-I-11	0160	Lactic acid Production from Glycerol by Genetically Engineered <i>Lactobacillus Plantarum</i>	Naomi Oktarina, Dillirani Nagarajan, <u>Jo-Shu Chang</u>
P-I-12	0166	Extraction of Silica from Agricultural Biomass and Its Application in the Adsorption of Tannic Acid by Functional Modification	<u>Tzong-Horng Liou</u> , Bin-Zhun Cai, Hao-Siang Syu, Teng-Yuan Zhang
P-I-13	0171	Fixed-bed biosorption of gold using extracellular proteins released from a thermophilic bacterium	Pong-Yee Wu, Yin-Lung Han, <u>Jo-Shu Chang</u>
P-I-14	0238	Optimizing Lactic Acid Fermentation with an isolated <i>Lactobacillus plantarum</i> strain	Ming-Jhan Syu, Chih-Yu Huang, <u>Jo-Shu Chang</u>

<b>Micro- and Nano-biotechnology</b>			
Poster No.	Abstract No.	Title	Authors
P-I-15	0018	Homogeneously alloyed nanoparticles of immiscible Ag-Cu with ultrahigh antibacterial activity	<u>Pin I Huang</u> , Liliang Chen, Chia-Hua Lin*
P-I-16	0115	Optimization of complexation process for quercetin and curcumin with cyclodextrins	<u>Guan-Wei Lee</u> , Chi-Hsien Liu*
P-I-17	0125	Fabrication, Physical and Biochemical Characterizations of Polyhydroxybutyrate-cellulose Based Matrix for Protein Recovery	<u>Jing-Hua Huang</u> , John Chi-Wei Lan*
P-I-18	0138	Fabrication and Characterization of Metal Affinity Cellulose-based Adsorbent for Protein Recovery	<u>Russell Tan</u> , John Chi-Wei Lan, Miao Huang*
P-I-19	0142	Controlled Release of Theophylline-Chitosan Composite Particles Prepared Using Supercritical Assisted Atomization	Hou-Cyuan Chen, Hong-Ming Tsai, Hsien-Tsung Wu*
P-I-20	0145	Characterization and Antibacterial Activity of PVA/Chitosan Nanocomposite Membrane Prepared by Electrospinning Technique	Yan-Jun Zhuang, Pin-Xuan Chen, Jia-Ting Zeng, Jie Chen, Yu-Hui He, Jane-Yii Wu*
P-I-21	0185	A Carbon Nanodot-based Electrochemical Immunosensor for Hepatoma-Derived Growth Factor	Yau-Bin Yue, <u>Jau-Yann Wu*</u>
P-I-22	0189	Colorimetric detection of bisphenol A based on anti-aggregation of gold nanoparticles	Ren-Hao Guo, Chia-Yu Chang, Gui-Bing Hong*
P-I-23	0190	Preparation and characterization of solid lipid nanoparticles, nanostructured lipid carriers, and lipid nanoemulsions for encapsulation of the black rice extract	<u>Hsin-Ping Shih</u> , Tzung-Han Chou*

P-I-24	0195	Examining the Influence of Surface-Modified Nanoparticles on Amyloid Fibril Formation of Human Insulin	Chien-Yu Lin, Ning-Hui Lu, Su-Chun How, Zuzana Gazova, Josephine W. Wu, Steven S.-S. Wang*
P-I-25	0217	Preparation of thermosensitive nano-structured hydrogels of poly(N-isopropyl acrylamide) with chlorogenic acids	<u>Tzu-Ting Yu</u> , Chiung-Cheng Huang, Shiow-Ling Lee*

<b>Biocatalysis and Protein Engineering</b>			
Poster No.	Abstract No.	Title	Authors
P-I-26	0021	Effect of Corncob Powder Culture Solution pH on Hemicellulase Production of Microbe CT12	Tse-Chun Lin, Chinshuh Chen, Gee-Kaiteyu
P-I-27	0038	Lipase-Catalyzed Synthesis Of Optically Pure 2-Phenylcyclopropylcarboxylic Acid	Yan-Ru Ye, Shau-Wei Tsai*
P-I-28	0053	Identification of a Tyrosinase Gene from Environmental Bacteria, <i>Bacillus</i> sp. ER1	Kie-Jie Liao, Douglas J. H. Shyu*
P-I-29	0067	Recombinant production thermostable trehalose synthase in <i>Escherichia coli</i> Nissle 1917	<u>Po-Chang Su</u> , Yi-Fen Lin, Po Ting Chen*
P-I-30	0117	Development of Microfluidic-Based Valve Controlling Platform for Continuous Protein Purification	I-Wei Chen, Jen-Huang Huang*
P-I-31	0128	Screening of microorganisms for Duloxetine optically pure intermediate production	Hsin-Hua Chan, Man-Yi Lang, Ya-Ru Lee, Sheng-Yun Chen, Chao-Hung Kao*
P-I-32	0141	Kinetics of heterogeneous esterification for the synthesis of butyl levulinate	Chang-Ju Yu, Chun-Chieh Fan, Hsien-Tsung Wu*
P-I-33	0188	Surface-Independent Enzymatic Antibiofilm Coating Based on 6xDOPA Fused Dispersin B	Zi-Han Liao, Kuan-Jung Chen, Cheng-Kang Lee*
P-I-34	0196	Seeking the Inhibitory Molecules Toward the Ultraviolet C-Induced Aggregation of Human $\gamma$ D-Crystallin Protein	<u>Jian-Hong Lu</u> , Steven S.-S. Wang*, Josephine W. Wu*
P-I-35	0200	Structure related Hemostatic Property of Human Hair Derived Keratins at Different Temperature	Lu-Ping Huang, Kai-Yi Wang, Yong-Hong Chen, Yang Wei*
P-I-36	0202	Conformational changes of mussel adhesive proteins on biomaterial surfaces at different protein-protein interactions	Kuan-Lin Chen, Chi-Fong Lin, Pei-Hsuan Chiang, Yang Wei*

P-I-37	0220	The study of tyrosinase production by Recombinant E. coli	Syu Jia Yu
P-I-38	0231	Preliminary Study on Separation and Purification of Bromelain	Jheng-Kun Luo, Bing-Lan Liu*

<b>Agro-biotechnology and Natural Products</b>			
Poster No.	Abstract No.	Title	Authors
P-I-39	0007	Evaluation of <i>In-vivo</i> Skin-whitening Activity of 3'-Hydroxygenistein	An-Ni Ke, Jiumn-Yih Wu*, Te-Sheng Chang*
P-I-40	0012	Screening for High Hispidin Production of <i>Phellinus</i> Strain and Its Suitable Grain Substrate	Zeng-Chin Liang*, <u>Chin-Hao Ou</u> , Chih-Hung Liang, Chiu-Yeh Wu
P-I-41	0013	Effect of Different Grain Media on the Production of Fruiting Bodies, Cordycepin and Adenine of <i>Cordyceps militaris</i>	Zeng-Chin Liang*, <u>Chun-Yi Chang</u> , Po-Hung Chen, Chih-Hung Liang, Chiu-Yeh Wu
P-I-42	0015	The effects of garlic-derived allyl sulfides on allergen-induced asthma	Shih-cheng, Huang, Chia-Chen Hsieh, Keng-Fan Liu, Shan-yuan, Liang, Wen-Huang Peng, Jen-Chieh Tsai*
P-I-43	0023	Antioxidant Properties of Different Carnations	Gee-Kaite Yu, Tse-Chun Lin*
P-I-44	0024	Angiotensin-Converting Enzyme Inhibitory Activity and $\gamma$ -Aminobutyric Acid Content of Compounded Fermented <i>Tilapia</i> Fillet By-Products and <i>Monostroma nitidum</i> Oligosaccharides	Yu-Hsin Lin, Chung-An Tien, Li-Wen Huang, Meng-Hsuan Yang, Chorng-Liang Pan, Zwe-Ling Kong, Guan-Wen Chen*
P-I-45	0031	Ermentation of black soybean water extracts by <i>Lactobacillus fermentum</i>	<u>Ni-Sin Li</u> , Yaw-Nan Chang*
P-I-46	0044	A study on the optimization of extraction conditions of terpenes and other bioactive compounds from <i>Antrodia camphorata</i> and <i>Vernonia amygdalina</i> using ethanol solution	<u>Sheng Hsiang Lin</u> , Ching Yi Lee*, Wen Lu Weng
P-I-47	0051	Anti-inflammatory components of solid-state fermented <i>Antrodia cinnamomea</i> mycelium	Chih-Hung Liao, Shih-Yu Lee, Li-Shian Shi*
P-I-48	0052	Isolation and characterization of <i>Salmonella</i> -specific bacteriophages from sewage samples in Thailand	<u>Napakhwan Imklin</u> , Rujikan Nasanit*

P-I-49	0064	Reusing soybean dregs in solid state fermentation of medicinal mushrooms and antioxidant properties study	Shun-Wei Wang, Tzu-Jun Fu, Te-Wei Ma, Fan-Chiang Yang*
P-I-50	0065	Effect of the cultivation conditions on the formation of erinacines in the submerged culture of <i>Hericium erinaceus</i>	Yu-Chen Kuo, Shih-Jen Yang, Chih-Hua Chao, Fan-Chiang Yang*
P-I-51	0066	Effect of adding acetate ion on the formation of triterpenoids in the shaking flask cultures of <i>Antrodia cinnamomea</i>	Jun We Ren, Ting Chao, Te-Wei Ma, Fan-Chiang Yang*
P-I-52	0070	Combination of the carbon-nitrogen system and additives to increase the production of recombinant protein in transgenic rice cell suspension culture	<u>Hsiang-Ju Li</u> , Yu-Kuo Liu*
P-I-53	0073	Studies on the Antioxidant Activity of Weeds by Various Extracted Methods	<u>Dong-Sheng Yao</u> , Dong-Hao Li, Jun-Hong Lin*
P-I-54	0075	Fermentation of Black Soybean Water-Extracts by <i>Leuconostoc citreum</i> BCRC 910226	Chia-Ying Tsai, Chi-Chiang Yang, Yaw-Nan Chang*
P-I-55	0076	Optimization of microwave assisted extraction of cordycepin from <i>Cordyceps militaris</i>	<u>Ying-Yin Kuo</u> , Zhong-Wen Lu, Chih-Hung Liang*
P-I-56	0077	Optimization of microwave-assisted extraction of ergothioneine from <i>Pleurotus citrinopileatus</i>	<u>Zhong-wen Lu</u> , Chih-Hung Liang*
P-I-57	0084	The effect of sorghum distillers grains / cow manure mixed compost on earthworm growth	<u>Huang, Zi-Hsin</u> , Huang, Kuan-Wu, Wu, Yin-Wen*
P-I-58	0085	Optimization of heat reflux extraction of Tyrosinase inhibition extract from <i>Cordyceps Militaris</i> rice medium	Cheng-hsuan Chen, Xue-Wei Xue, Tai-Hao Hsu, Wen-Kuang Hsu*
P-I-59	0086	<i>Glossogyne tenuifolia</i> extracts exhibit inhibitory effects on the proliferation and migration of vascular smooth muscle cells	<u>Tzu-Hsien Chang</u> , Chin-Feng Hsuan, Hsia-Fen Hsu, Chi-Chang Chang, Ya-Ling Chen, Jer-Yiing Houg*
P-I-60	0087	Luteolin inhibits proliferation of human endometrial cancer cells via induction of cell cycle arrest and apoptosis	Chi-Chang Chang*, <u>Tzu-Hsien Chang</u> , Ya-Ling Chen, Hsia-Fen Hsu, Jer-Yiing Houg*
P-I-61	0088	UVB-protective and anti-inflammatory effects of banana peel extracts	Yao-Cheng Liou, <u>Xin-Haw Zhou</u> , Yong-Han Hong, Jei-Fu Shaw, Wei-Yi Cheng, Tzu-Hsien Chang, Jer-Yiing Houg*

P-I-62	0089	Comparison of bioactivities and bioactive ingredient contents of <i>Glossogyne tenuifolia</i> produced from different areas in Taiwan	Hsia-Fen Hsu, Shu-Ru Cheng, Chun-Chein Shih, <u>Yi Fang</u> , Jer-Yiing Houng*
P-I-63	0091	Effect of alternating current electric field (ACEF) on inhibiting the browning effect of <i>Pleurotus ostreatus</i> during postharvest storage	Chun-Chi Hsieh, Yun-Chien Chen, Chao-Kai Chang, Chung-Chi Hu, Shih-Wen Fang, Chang-Wei Hsieh*
P-I-64	0093	Surface modification of polylactic acid (PLA) films by plasma treatment and its' preservative effect on <i>Pleurotus ostreatus</i>	Wong Li Wah, Chao-Kai Chang, Chun-Chi Hsieh, Yun-Chien Chen, Shih-Wen Fang, Chang-Wei Hsieh*
P-I-65	0100	Bioconversion of sorghum distillery grains and cattle mauner by <i>Musca domestica</i> (Diptera)	<u>Chun-Yung Chang</u> , Kuan-Lin Huang, Sin-Wei Lin, Yin-Wen Wu*
P-I-66	0110	The ResDE two component system control DegU and $\gamma$ -PGA expression	I-Chi Chou, Yi-Huang Hsueh*
P-I-67	0111	Zinc ion induces $\gamma$ -PGA production in <i>Bacillus subtilis</i>	Ting-An Zhang Cai, Yi-Huang Hsueh*
P-I-68	0113	Random Mutagenesis of <i>resE</i> gene in <i>Bacillus subtilis</i> affects Poly- $\gamma$ -glutamic acid synthesis	<u>Sikhumbuzo Charles Kunene</u> , Yi-Huang Hsueh*
P-I-69	0119	Propolis protects the activity of DNA homologous recombination repair from oxidative DNA damage in 4-aminobiphenyl-treated HepG2 cells	<u>Huey- Nuo Wu</u> , Chih-Ching Chien*
P-I-70	0129	Bioflavonoid Rutin Can Mitigate Ethephon-Induced Leaf Senescence via Multiple Diverse Mechanisms in Sweet Potato Detached Leaves	Yu-Fang Chen, Tin-No Tsai, Hsien-Jung Chen*
P-I-71	0140	Direct shoot regeneration from nodal explants of <i>Cyclocodon lancifolius</i> (Roxb.) Kurz	Li-Kai Deng, Yi-Ling Li, Chin-Wen Ho*
P-I-72	0144	Comparison of Bioactive Components and Antioxidant Activities of Aqueous Extracts From Natural and Cultured Mycelia of The Isolated Cordyceps Cicadae Wu-BFP14	<u>Kun-Wei Li</u> , Ssu-Yun Kao, Jia-Jin Lin, Yue-Horng Yen, Jane-Yii Wu*
P-I-73	0152	Study on the Antimicrobial, Antioxidant, and Protease Inhibition Activities of Sesame Seed Storage Proteins and Their Enzymatic Hydrolysates	Yu-Kai Liao, Douglas J. H. Shyu*
P-I-74	0157	Development of snow lotus cell suspension for cultured and scale up	<u>Chia-Wei, Lu</u> , Li-Fen Huang, Yu-Kuo Liu

P-I-75	0158	Optimizing growth conditions of <i>Pavlova lutheri</i> for the production of fucoxanthin	Chun-Yen Chen, <u>Ping-Yun Liu</u> , Yu-Han Chang, Jo-Shu Chang*
P-I-76	0161	Co-fermentation of <i>Bacillus</i> sp. with <i>Chlorella sorokiniana</i> for disintegration of the microalgal cells	<u>Chen-Yu Chien</u> , Yu-Han Chang, Chun-Yen Chen, Jo-Shu Chang
P-I-77	0162	Co-fermentation of protein-rich microalgae grown on swine wastewater with <i>lactic acid bacteria</i> to develop effective swine feed supplements	<u>Winnie Margareta</u> , Dillirani Nagarajan, Chun-Yen Chen, Jo-Shu Chang*
P-I-78	0167	Enzymatic hydrolysis of Liucheng peel to produce fermentable sugars	Chia-Hung Kuo*, Che-Li Wang
P-I-79	0172	Optimizing extrusion processing of <i>Gynura bicolor</i> petiole and chemopreventive effects of its extract on inflammation	Ya-Ting Chen, Chih-Chung Wu, Jyh-Jye Wang, Shu-Ling Hsieh*
P-I-80	0174	Study on Supercritical CO <sub>2</sub> Extraction of <i>Daphne genkwa</i>	Chih Kai Shu, Wei Zhi Chen, Chiao Sung Wu*
P-I-81	0201	The Study of Separating 6-gingerol and 10-shogol by Simulated Moving Bed Chromatography	Chih-Hsiung Lin, So-Siou Shu, Yu-Ying Lin, Ming-Tsai Liang*
P-I-82	0209	Effects of drying parameters on physical properties and antioxidant activities of non – centrifugal granulated palm sugar from <i>borassus flabellier</i>	Dung Thi Le Huynh*, Po-Hsien Li
P-I-83	0218	Utilization of biological treated spent coffee ground as medium supplement for rearing black soldier fly	<u>Hong-Kai Huang</u> , Yu-Sheng Cheng*
P-I-84	0219	Enhancement of 2-Phenylethanol Production Via Oxygen Supply Control and Extractive Fermentation Using PDMS Sponge	Wa Ode Cakra Nirwana, Yi-Jun Chen, Chin-Hang Shu*
P-I-85	0233	A novel isolated <i>Streptomyces</i> spp. cs526 is able to secrete multiple fungus-inhibition antibiotics	Shao-Chung Liu, Pu-Chieh Chang, Chih-Hung Huang*
P-I-86	0236	Degradation of aflatoxin B1 by <i>Bacillus amyloliquefaciens</i> BF1	Yi-Jyun Chan, Jhong-Cheng Luo, Chien-Yan Hsieh
P-I-87	0237	Study on toxin complex and protease activity of <i>Photobacterium luminescens</i> ATCC29999 with nitrogen source for <i>Plutella xylostella</i> test	Yu-Ting Wang, Chiou-Lian Chen, Feng-Chia Hsieh, Chien-Yan Hsieh
P-I-88	0240	Development of combinatorial effect of biopesticide against <i>Plutella xylostella</i>	Tzu-Hsin Kuo, Feng-Chia Hsieh, Chien-Yan Hsien
P-I-89	0241	Simultaneous Enzymatic Process for Collagen Peptide and Natural Calcium Hydroxylapatite Extraction from Fish Scale	I-Ping Lin, I-Fan Lin*



P-I-90	0245	Evaluation the stability and biological activity of liposomes	Hui-Yu Chuang, Wen-ling Shih
P-I-91	0247	Enhanced ectoine production with a moderately halophilic strain <i>Halomonas salina</i>	Ching-Cha Hsu, Wei-Chuan Chen, Yu-Hong Wei*
P-I-92	0249	Effects of various cultural conditions on the production of ectoine and hydroxyectoine using the halophilic bacterium <i>Corynebacterium glutamicum</i>	<u>Yuan-Gang Syu.</u> Yu-Hong Wei*
P-I-93	0250	Simultaneous production of ectoine and polyhydroxyalkanoates with a halophilic strain <i>Halomonas salina</i> BCRC 17875	<u>Xu-Qin Zhan,</u> Yu-Hong Wei*
P-I-94	0251	Exploring the useful fermentation strategies for producing 1,3-propanediol using <i>Klebsiella pneumoniae</i>	<u>Wei-Chuan Chen,</u> Ya-Lian Ciou, Yin-Chen Lina, Ho-Shing Wu, Yu-Hong Wei*
P-I-95	0252	Ba1-2(2) peptide induced defense responses in <i>Solanum lycopersicum</i> via salicylic acid or methyl jasmonate	<u>Li-Yang Chen,</u> Yu-Chi Chen

## Poster Session II

10:00–11:00, Saturday June 30

Hong-Yue Technology Research Building, Lobby, 1F

Topics: Bioenergy and Biorefinery; Metabolic Engineering and Synthetic Biology;  
Biomedical Science and Engineering; Cell Culture and Bioprocessing

<b>Bioenergy and Biorefinery</b>			
Poster No.	Abstract No.	Title	Authors
P-II-01	0022	Expression of carbonic anhydrase to enhance biomass and chemical production in <i>Chlorella</i> species	<u>Yu-Cheng Lai</u> , Po-Kuei Sung, Way-Rong Lin, I-Son Ng
P-II-02	0039	Removal of toluene and production of electricity by microbial fuel cell using packed anodes	<u>Chen-Han Lin</u> , <u>Guo-Xun Lin</u> , Cheng-Fang Wu, Shu-Hui Liu, Chi-Wen Lin
P-II-03	0043	Biosafety evaluations of the microalgal biomass produced by cultivating <i>Chlorella</i> with aquaculture wastewater and boiler flue gas used for feed additives	<u>Wen-Xin Zhang</u> , Chiu-Mei Kuo, Yi-Chun Yang, Yung-Chun Huang, Hung-Ju Liang, Jian-Shun Huang, Chih-Sheng Lin
P-II-04	0057	Growth and astaxanthin induction of <i>Haematococcus pluvialis</i> and evaluation of the antioxidant activity of the extracted astaxanthin	<u>Yi-Xiu Huang</u> , Chiu-Mei Kuo, Hung-Ju Liang, Chih-Sheng Lin
P-II-05	0060	Arachidonic Acid Production from <i>Mortierella alpina</i> by Using Taro Peel Waste Hydrolysate	Chang Chng Ong, Ting-Yao Lin, <u>Yen-Hui Chen</u>
P-II-06	0112	Production of short-chain alcohols from the corresponding fatty acids	<u>Jung-Heng Wen</u> , Chung-Jen Chiang, Yun-Pegn Chao
P-II-07	0126	Seasonal Characteristics Of Ethonal Production From Miscanthus Juice	<u>Yao-Duo Chang</u> , Fu-Yao Liu, Che-Chi Shu
P-II-08	0134	Addition of glycerol to enhance the production of succinic acid by fermentation of <i>Actinobacillus succinogenes</i> on hydrolysate of Napier grass	<u>Jhih-Sing Lee</u> , Hsin-Yi Teng, Wen-Chien Lee
P-II-09	0170	Production Of High-Value Biodegradable Polyester From Non-Food Biomass	<u>Ting-Yen Huang</u> , Shang-Cheng Lian, Yu-Zhen Wu, C. Will Chen
P-II-10	0181	Production of methane by co-digestion using chicken manure and SMS	<u>Heyao Chang</u> , Shu CH
P-II-11	0187	Enzymatic synthesis of biodiesel from insect	<u>Hoang Chinh Nguyen</u> , Chia-Hung Su
P-II-12	0192	Evaluation of thermal crosslinking of pectinous polysaccharide extracted from the seed of <i>Ficus awkeotsang</i> Makino	<u>Cheng-Hsuan Hsu</u> , Yu-Shen Cheng

P-II-13	0193	<i>In vitro</i> co-biosynthesis of 3-hydroxypropionic acid and 1,3-propanediol from glycerol	<u>Han-Yun Wu</u> , Yu-Shen Cheng
P-II-14	0209	Effect of dissolved oxygen (DO) concentration on COD removed efficiencies and power production capabilities in bacteria-algae fuel cells	<u>Yu-Chang Jiang</u> , Jia-You Wang, Jun-Yu Yao, Yi-Rong Lin, Yi-Yun Liao, Jane-Yii Wu
P-II-15	0210	Microencapsulation of oil within polysaccharides extracted from the seeds of <i>Ficus pumila</i> var. <i>awkeotsang</i> using a milli-fluidic device	<u>Ren-Fang Yang</u> , Yu-Shen Cheng
P-II-16	0221	Effects of surfactants on biodiesel production from wet <i>Rhodotorula glutinis</i> by direct transesterification	<u>Yu-Feng Tu</u> , Chi-Yang Yu
P-II-17	0235	A Study of The Optimal condition for the Growth of <i>Aspergillus niger</i> (BCRC31494, ATCC 10864)	<u>Yu-Lon Chan</u> , Jun-Hsien Wang
P-II-18	0242	Primary recovery of Gamma-aminobutyric acid from cell broth using aqueous-two phase system	<u>Sona Jabang</u> , John Chi Wei Lan

<b>Metabolic Engineering and Synthetic Biology</b>			
Poster No.	Abstract No.	Title	Authors
P-II-19	0094	Engineering of <i>Escherichia coli</i> for succinate production from acetate	<u>Hong-Lin Hou</u> , Chung-Jen Chiang, And Yun-Peng Chao
P-II-20	0102	The <i>resDE</i> regulon affects biofilm formation in <i>Bacillus subtilis</i>	Yi-Huang Hsueh, <u>Ping-Han Tsai</u>
P-II-21	0122	NprRX regulation on surface spreading motility in <i>Bacillus cereus</i>	Yan-Shiang Chiou, Yi-Huang Hsueh
P-II-22	0127	A New Method of Buffering Protein Noise in Gene Expression by Protein-Ligand Interactions	<u>Feng-You Liu</u> , Shih-Chiang, Wun-Sin Jhang, Che-Chi Shu
P-II-23	0131	Construct a bimodal distribution in biochemical system without bistability via the addition of inhibitor	<u>Chao-Xuan You</u> , Shih-Chiang Lo, Che-Chi Shu
P-II-24	0153	Expression of Recombinant Glutamate Decarboxylase (GAD) for Enhancing GABA Production in Beer-Producing Yeast	<u>Pik Kuan Low</u> , John Chi-Wei Lan
P-II-25	0225	The study of methyltransferase production by recombinant <i>E. coli</i>	Yi-Shiuan Chen, Sheng-Chi Wu
P-II-26	0243	The supply of energy for reductive tricarboxylic acid cycle in <i>Escherichia coli</i> for <i>in situ</i> CO <sub>2</sub> recycling	I-Ting Tseng, Sho-Chen Lo, <u>Ching-Hsun Chen</u> , Chia-Hua Yu, Chu-Han Huang, Dong-Yan Wu, Chieh-Chen Huang, Si-Yu Li

<b>Biomedical Science and Engineering</b>			
Poster No.	Abstract No.	Title	Authors
P-II-27	0027	Differentiation of Human Pluripotent Stem Cells into Cardiomyocytes Cultured on Thermo-Responsive Polymer Coated with Extracellular Matrix	<u>Huan-Chiao Su</u> , Yeh-Chia Tseng, Tzu-Cheng Sung, Akon Higuchi
P-II-28	0033	Flux balance analysis predicts Warburg-like effects of hepatocyte deficient	Shao-Chuan Chang, Feng-Sheng Wang*
P-II-29	0034	Constraint-based modeling and human protein atlas toward inferring oncogenes of colorectal cancer	Kuan-Wei Chuang, Feng-Sheng Wang*
P-II-30	0035	Constraint-based modeling with patient clinical RNA-seq towards inferring oncogenes of oral mucosa squamous epithelial cell	Yi-Chen Shu, Feng-Sheng Wang*
P-II-31	0055	Developed an elastic scaffold by Poly(glycerol sebacate) and Ectoine Copolymer for Vascular Tissue Engineering	<u>Chun-Hui Li</u> , Chao-Ling Yao*
P-II-32	0059	Systems Biology Approaches for Deciphering Genome-scale Metabolic Model of Head and Neck	Fang-Yu Li, Feng-Sheng Wang *
P-II-33	0061	Metabolic reprogramming of the genome-scale metabolic network of Liver deficient.	Hsiao-Hsien Tai, Feng-Sheng Wang *
P-II-34	0063	Characterization of Human Hair Keratin for the Biomedical Application	<u>Meng-Yow Hsierh</u> , Hsin-Chen Lin, Huan-Cheng Lee, Ming-Tse Lin*
P-II-35	0095	High glucose induced the oxidative stress and inflammatory response of RAW264.7 macrophage exposure with PM2.5	Shu-Han Chen, Ching-Chang Cho, Chih-Sheng Lin*
P-II-36	0104	Use of Cross-linking and Plasticization to Diversify the Material Properties of Membranes Based on Chitosan and Pectin	<u>Che-Min Lin</u> , Chia-Wei Lee, Hsyue-Jen Hsieh*
P-II-37	0105	Ameliorative effect of Cordyceps cicadae polysaccharide on the progression of diabetic renal damage by regulating MMP-2/TIMP-2	<u>Mei-Chin Mong</u> , Charng-Cherng Chyau, Chin-Chu Chen, Chun-Hung Chiu*
P-II-38	0108	Multi-Unit Cell Culture Platform for High-Throughput Screening	Wei-Han Lai, Jen-Huang Huang*
P-II-39	0114	Curcumin loaded nanoemulsion encapsulated by polyelectrolyte layer-by-layer deposition on the oil core	<u>Ting-Yu Wu</u> , Chi-Hsien Liu*
P-II-40	0116	The functionalization of multi-walled carbon nanotubes with BSA and PEI for gene delivery system	<u>Monika Kumari</u> , Chi-Hsien Liu*
P-II-41	0124	Synthesis and blue-light photopolymerization of branched polyurethane acrylates	Wei-Chih Chen, Kuo-Chung Cheng*
P-II-42	0148	Effects Of Culture Supernatant Of E.Coli Nissle On Colorectal Cancer	Hong-Yan Hong, Yun-Peng Chao, Chung-Jen Chiang*

P-II-43	0175	Triterpenoids produced from the callus suspension culture of <i>Alnus formosana</i> Makino for the apoptosis of cancer cells	Wen-Ta Su, Chun-Yi Hsu
P-II-44	0182	Using EPA to regulator microRNA-378 to increase the targeting drug response rate in KRAS and BRAF mutant colorectal cancer	De-Yi Ji, Cheng-Chi Wang, Wen-Hui Weng, Wai-Hung Leung*
P-II-45	0184	The thermodynamic aspects of the roles of Na <sup>+</sup> on the formation of double stranded DNA containing site-specific methyl phosphotriester linkages	<u>Meng-Wei Wu</u> , Tai-Chih Kuo, Wen-Yih Chena*
P-II-46	0186	Facile Antifouling Coating on Microfiltration Membrane Using Comb-shaped Poly(N-vinylpyrrolidone) with Multivalent Catechol	Trong-Nghia Le, Cheng-Kang Lee*
P-II-47	0191	Improvement of GC-rich RNA detection specificity by phosphate methylated DNA probe design on nanowire field effect transistor	<u>Wei-Cheng Chou</u> , Wen-Yih Chen*
P-II-48	0194	Characteristics of keratin hydrogels using purified protein from human hair	Wen-Chuan Huang, Yang Wei*
P-II-49	0197	Discovery of novel N-glycoside and non-glycoside SGLT2 inhibitors for the treatment of type 2 diabetes mellitus	<u>Chun-Yi Chang</u> , Yih Ho, Hsuan-Liang Liu*
P-II-50	0198	Structure-based virtual screening to identify novel CDK9 inhibitors for the treatment of hepatitis B	Yu-Ru Wang, Yih Ho, Hsuan-Liang Liu*
P-II-51	0211	The senescent-related gene expression analysis in mice	Ya-Han Hsu, Ching-Hua Yeh
P-II-52	0213	Hemoglobin-beta(67Val→Trp)-alpha-1-microglobulin fusion protein as an oxygen carrier	Ting-Wei Wang, Ru-Ya Yang, Kuang-Tse Huang*
P-II-53	0214	High-glucose-induced cell aging establishes an anti-renal aging herbal medicine screening platform	Yu-Jung Liu, Ching-Hua Yeh*
P-II-54	0216	Improved pre-analytical process for miRNA isolation from culture cells by using silica membrane column	<u>Yu-Chi Chen</u> , Wen-Yih Chen*
P-II-55	0222	Engineering Of Escherichia Coli Protein Expression Process	Neng-Hsien Chang, Yue-Chang Chou, Chih-Hsi Fan, Jen-Wei Chang, Wei-Hong Cheng, Ming-Hong Cyue, Wei-Kuang Chi*
P-II-56	0223	High Level scFV Expression Platform Of Pichia Pastoris	Jen-Wei Chang, Dalton Chen, Chih-Hsi Fan, Wei-Hong Cheng, Ming-Hong Cyue, Neng-Hsien Chang, Wei-Kuang Chi*
P-II-57	0234	Developing a Surface Display System for Animal Vaccination by a Protein from Streptomyces spp. with a Cell Wall Binding Ability	Pu-Chieh Chang, Shao-Chung Liu, Chih-Hung Huang*

P-II-58	0183	Evaluation of the Inhibitory Effect of Tetracycline-Alginate Floating Beads on the Growth of <i>H. pylori</i> in a Simulated Gastric Environment.	<u>Y.T. Hsu</u> , Peng-Peng Ip, Fang Liao, Chen-Yu Kao*
P-II-59	0206	Brownian Dynamics Simulations on Spontaneous extension of Adsorbed DNA on cationic Lipid Bilayers along grooved structures	Ming-Yi Chang, Chih-Chen Hsieh*

<b>Cell Culture and Bioprocessing</b>			
Poster No.	Abstract No.	Title	Authors
P-II-60	0019	Periodic Counter-Current Chromatography for Continuous Purification of Monoclonal Antibody	<u>Yue-Chang Chou</u> , Ho-Lung Jiang, Shih-Lung Hse, I-Fen Liu, Wei-Kuang Chi*
P-II-61	0020	Preparation of Polyethyleneimine Modified Hydroxyapatite Composite for C-Phycocyanin Adsorption	Yu Pei Chang, Shu-Jen Chen*
P-II-62	0025	Optimization of Fermentation Conditions for Lincomycin Production by Submerged Culture of <i>Streptomyces lincolnensis</i>	Guan-Hua Chu, Chih-Chuan Tseng, Dey-Chyi Sheu*
P-II-63	0026	A Hybrid-Membrane Migration Method To Isolate High-Purity Of Adipose-Derived Stem Cells From Fat Tissues Through Membranes Coated With Extracellular Matrices	Yu-Chun Lee, Nien-Ju Ku, Akon Higuchi
P-II-64	0030	Continuous Culture of hESCs on Thermoresponsive Polymer Surface	<u>Kuan-Ju Lin*</u> , Jia-Sin Yang, Akon Higuchi
P-II-65	0037	Establishment of Patient-Specific Cancer Cell Lines from Colon Cancer Tissues by Membrane Filtration Method via Nylon Mesh Filter and PLGA-Silk Screen Membranes	<u>Wei-Lun Huang*</u> , Ting-Yeh Chen, Akon Higuchi
P-II-66	0045	The Effect Of Culture Parameter On The Cell Growth and Production In DASGIP 250 Ml Mini-Bioreactorion	Sheng-Jie Huang, Chining-Jen Yang, Chi-Chen Hsu, Chun-En Yang, Bo-Ting Yu, Wei-Kuang Chi*
P-II-67	0046	Screening and Establishment of Platform for DXB11 Cell Culture and Feeding Strategy	Chun-En Yang, Chining-Jen Yang, Sheng-Jie Huang, Bo-Ting Yu, Chi-Chen Hsu, Wei-Kuang Chi*
P-II-68	0047	Optimization of continuous perfusion culture medium by DoE	Bo-Ting Yu, Chining-Jen Yang, Sheng-Jie Huang, Chun-En Yang, Chi-Chen Hsu, Wei-Kuang Chi*

P-II-69	0049	The effect of pH on cell growth and production in 5L-Bioreactor	Mung-Ming Hsu, Chi-Chen Hsu, Chining-Jen Yang, Sheng-Jie Huang, Chun-En Yang, Bo-Ting Yu, Wei-Kuang Chi
P-II-70	0056	Developed a serum-free induction medium for dendritic cells differentiation from human monocytes	<u>Yu-Ting Wang</u> , Chao-Ling Yao*
P-II-71	0068	Studies on the Effects of Antioxidant Activities and Whitening Active Ingredient from the Extracts of Weeds and Its Fermented Products	<u>Ya-Ling Wang</u> , Jun-Hong Lin*
P-II-72	0072	The Fermentation of Weeds for Antioxidant Activities and Total Polyphenols	<u>Chun-Weng Chiu</u> , Shang-Yu Liou, Ya-Ling Wang, Jun-Hong Lin*
P-II-73	0074	Differentiation of Human Amniotic Fluid Stem Cells Cultured on Biomaterials Having Nanosegments	Yu-Ru Huang*, Nien-Ju Ku, Akon Higuchi
P-II-74	0080	A study of gamma-aminobutyric acid production by <i>Lactobacillus spp.</i>	<u>María Janina Carrera Espinoza</u> , Shan-Yu Chen*
P-II-75	0083	Efficient production of ectoine using <i>Sinobaca sp.</i> H24	<u>Ying-Chun Chen</u> , Shan-Yu Chen*
P-II-76	0098	CRISPR/CAS9 Mediated Target Integration of CHO Genome for the Generation of High Producer Cells	Ying-Jie Wu, Hsueh-Lin Lu, Dalton Chen, Wei-Kuang Chi*
P-II-77	0099	Whole Genome Sequencing of High Production Cell Line Reveal a Promising Region for Target Integration.	<u>Ta-Chun Kao</u> , Dalton Chen*
P-II-78	0106	Analysis of Integration Sites in High-Yield Chinese Hamster Ovary (CHO) Cell Clones with Low Copy Integration of Antibody Gene	<u>Hsin-Ru Chan</u> , Hsin-Lin Lu, Han-Yuan Liu, Wei-Kuang Chi*
P-II-79	0109	Formation of Hanging Drop Arrays Using Pressure-Assisted Network for Droplet Accumulation System (PANDAS)	Chin-Yi Cho, Jen-Huang Huang
P-II-80	0146	Repairing of human aortic endothelial cell (HAEC) by exosomes secreted by human mesenchymal stem cell (hMSC)	<u>Yieng-Liang Chen</u> , Wen-Chien Lee*
P-II-81	0151	Enhancement of hMSC proliferation by transduction of Notch 1 intracellular domain-coupled magnetic nanoparticle	<u>Yu-Hsin Kuan</u> , Wen-Chien Lee*
P-II-82	0155	A Serum-free Induction Medium for Monocytes Differentiated from Human Hematopoietic Stem Cells	<u>Yi-Ting Lai</u> , Chao-Ling Yao*
P-II-83	0176	Purification of lysozyme using strong acidic nanofiber membrane	Chien-Yi Lo, <u>Sung-Ta Lin</u> , Yu-Kaung Chang*

P-II-84	0177	Rapid and Efficient Recovery of G6PDH from Highly Turbid Yeast Cell Homogenate Using Dye-Ligand Affinity Chromatography in a Stirred Fluidized Bed	Guan-Yu Lin, <u>Guan-Ting Lin</u> , Yu-Kaung Chang*
P-II-85	0178	Method development for purification of lysozyme using dye-ligand affinity nanofiber membrane	Jia-Lin Hsu, <u>Sung-Ta Lin</u> , Yu-Kaung Chang*
P-II-86	0179	Fluidization and axial liquid mixing characteristics in a stirred Fluidized Bed column	<u>Yu-Jia Tu</u> , Yuan-Chun Pan, Yu-Kaung Chang*
P-II-87	0207	Antifouling Polymer as Size Screening Layer for Size-selective Purification of Hepatitis B core Antigen Virus-like Particle	Hon Wei Ng, Micky Fu Xiang Lee, Chien Wei Ooi, Eng Seng Chan, <u>Beng Ti Tey*</u>
P-II-88	0226	Characterization of polysaccharides purified from a local-isolated marine diatom	Hsing-Li Lai, Ping-Ting Lin, Zheng-Fong Tsai, Wei-Ting Lin, Su-Yuan Lai, Min-Ying Wang*
P-II-89	0228	Production and Purification of Recombinant Infectious Bursal Disease Viruses D78 by Using Microcarrier Culture DF-1 Cell Line	Yu-Hsuan Hsieh, Kai-Syuan Wu, Sheng-Tse Liu, Kuan-Yin Cho, Su-Yuan Lai, Min-Ying Wang*
P-II-90	0229	A serum-free microcarrier-based cell culture process for the production of infectious bursal disease virus P3009	Kai-Syuan Wu, Yu-Hsuan Hsieh, Kuan-Yin Cho, Su-Yuan Lai, Min-Ying Wang*
P-II-91	0232	Production of infectious bursal disease virus mutants with surficial histidine substitution and purification with immobilized metal-ion affinity chromatography	Kuan-Yin Cho, Sheng-Tse Liu, Kai-Syuan Wu, Yu-Hsuan Hsieh, Min-Ying Wang, Su-Yuan Lai*
P-II-92	0253	Preparation of Fe <sub>3</sub> O <sub>4</sub> /Hydroxyapatite Composite for Allophycocyanin and C-Phycobiliprotein Adsorption	Jang-Jung Wang, Shu-Jen Chen*