

# Poster Session I

15:10~16:00, June 23 (Friday), 1<sup>st</sup> and 2<sup>nd</sup> floors International Conference Hall

(Poster # PA-1~PA-16; PB-1~PB-5; PC-1~PC-5; PD-1~PD-12; PE-1~PE-8; PF-1~PF-6; PG-1~PG-5, PH-1~PH-4)

## Topic A: Agro-biotechnology and Natural products

### PA-1: Inhibitory effects of *Siegesbeckia orientalis* extracts on angiotensin converting enzyme

*Ci Luo*<sup>1</sup>, *Yi-Chen Lee*<sup>2</sup>, *Chi-Chang Chang*<sup>3</sup>, *Hsia-Fen Hsu*<sup>1</sup> and *Jer-Yiing Houn*<sup>1,4</sup>, <sup>1</sup>Department of Nutrition, I-Shou University, Kaohsiung City, Taiwan <sup>2</sup> Department of Nutrition Therapy, E-Da Hospital, Kaohsiung City, Taiwan <sup>3</sup> Department of Obstetrics & Gynecology, E-Da Da-Chang Hospital/I-Shou University, Kaohsiung City, Taiwan <sup>4</sup> Department of Chemical Engineering, I-Shou University, Kaohsiung City, Taiwan Email: [jjyhoung@isu.edu.tw](mailto:jjyhoung@isu.edu.tw) Project no: ISU-104-IUC-01, MOST# 104-2221-E-214-046

### PA-2: Biological activity of *Cistanche deserticola* Extract

*Shu-Ting Yang*<sup>1,2</sup>, *Chun-Sheng Hang*<sup>1,3\*</sup>, <sup>1</sup> Biotechnology, Southern Taiwan University of Science and Technology, Tainan, Taiwan <sup>2</sup> Email: [ma4h0104@stust.edu.tw](mailto:ma4h0104@stust.edu.tw) \* Email: [cs\\_chang@stust.edu.tw](mailto:cs_chang@stust.edu.tw) \* Advisor

### PA-3: Influence of alternating current electric field (ACEF) processing on the organization fission of tomato

*Ting-Wei Hsu*<sup>1</sup>, *Jia-Zhen Zhuang*<sup>1</sup>, *Chi-En Liu*<sup>1</sup>, *Chao Kai Chang*<sup>2</sup>, *Po-Hsien Li*<sup>1</sup> and *Chang-Wei Hsieh*<sup>3\*</sup> <sup>1</sup>Department of Medicinal Botanicals and Health Applications, Da-Yeh University, 168 University Rd, Dacun, Chang-Hua, Taiwan, Republic of China. <sup>2</sup>College of Biotechnology and Bioresources, Da-Yeh University, 168 University Rd., Dacun, Chang-Hua, Taiwan, Republic of China. <sup>3</sup>Department of Food Science and Biotechnology, National Chung Hsing University, 145 Xingda Rd., South Dist., Taichung City, Taiwan, Republic of China. Corresponding Author Email : [welson@nchu.edu.tw](mailto:welson@nchu.edu.tw)\* [pohsien@mail.dyu.edu.tw](mailto:pohsien@mail.dyu.edu.tw). MOST #:104-2221-E-005 -098 -MY

### PA-4: Production of bacterial cellulose using Sorghum distiller's residues as nutrient source

*Ching-Ching Hsiao*, *Chin-Shuh Chen*<sup>\*</sup>, Department of Food Science and Biotechnology, National Chung Hsing University, No.145, Xingda Rd., South Dist., Taichung City 402, Taiwan (R.O.C.). Email:[carin810119@gmail.com](mailto:carin810119@gmail.com)

### PA-5: Development of active avocado oil-nanoemulsions for improving the chemical stability of crude extract of black soybean seed coats

*Gaung-Han He*, *Tzung-Han Chou*<sup>\*</sup>, Department of Chemical and Materials Engineering, National Yunlin University of Science and Technology, Yunlin 64002, Taiwan. E-mail: [chouth@yuntech.edu.tw](mailto:chouth@yuntech.edu.tw). MOST #: 105-2622-E-224 020-CC3

### PA-6: In comparison of microwave-assisted and ultrasoundassisted extraction for lutein from fruiting body of *Cordyceps militaris* in solid culture

*Yu-Ting Lin*, *Shih-Ching Chao*, *Yi-Chen Lin* and *Tai-Hao Hsu* <sup>\*</sup> Department of Bioindustry Technology, Da-Yeh University, No.168, University Rd., Dacun, Changhua 51591, Taiwan (R.O.C.) Email: [th0123@mail.dyu.edu.tw](mailto:th0123@mail.dyu.edu.tw) MOST 105-2622-E-212-002 -CC2

**PA-7: Identification and quantitative analysis of pyrrolizidine alkaloids in *Crotalaria verrucosa* L. from Taiwan**

Chuan-Chen Lee<sup>1</sup>, You-Liang Hsieh<sup>1</sup>, Cheng-Hong Hsieh<sup>1,2</sup>, Ya-Chen Yang<sup>1,2</sup>, \*Department of Natural Biotechnology, Nanhua University, Dalin, Chiayi, 62248, Taiwan. Email: jhlin@nhu.edu.tw. <sup>1</sup>Department of Health and Nutrition Biotechnology, Asia University, 500, Lioufeng Rd., Wufeng, Taichung 41354, Taiwan. <sup>2</sup>Food Safety and Inspection Center, Asia University, 500, Lioufeng Rd., Wufeng, Taichung 41354, Taiwan. Email: yachenyang@asia.edu.tw MOST #:103-2313-B-468-003-

**PA-8: Influence of alternating current electric field processing on the quality of tomato.**

Jia-Zhen Zhuang<sup>1</sup>, Xin-Yi Peng<sup>1</sup>, Chi-En Liu<sup>1</sup>, Chao

Kai Chang<sup>2</sup>, Po-Hsien Li<sup>1†</sup>, Chang-Wei Hsieh<sup>3\*</sup>

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**PA-9: Antioxidant activities of fruit juice of emblica fruit (*Phyllanthus emblica* L.) In Taiwan**

Jun-Ru Hu, Zhe-Jia Zhan<sup>1</sup>, Yi-Yun Liao<sup>1 1</sup>, Yue-Horng Yen<sup>1</sup>, Jane-Yii Wu<sup>1,2,3\*</sup>

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**PA-10: Evaluation of Antioxidant Efficiency of Extracts from *Cordyceps Militaris* rice-medium**

Cheng-hsuan Chen<sup>1</sup>, Chun-yen Chiou<sup>1</sup>, Shih-ching Chao<sup>2</sup>, Tai-hao Hsu<sup>1</sup>, Wen-kuang Hsu<sup>1\*†</sup>. Microbiology Laboratory, Department of Bioindustry Technology, Dayeh University, Changhua 51591, Taiwan <sup>2</sup> Dalong Biotechnology Co., Ltd, Taichung City 411, Taiwa. E-mail: andyhsu@mail.dyu.edu.tw

**PA-11: Enzyme pretreatment assisted extraction of lutein from fruiting body of *cordyceps militaris* in solid culture**

Shih-Ching Chao, Yi-Chen, Lin, Yu-Ting Lin and Tai-Hao Hsu\*, Department of Bioindustry Technology, Da-Yeh University, No.168, University Rd., Dacun, Changhua 51591, Taiwan (R.O.C.) Email:th0123@mail.dyu.edu.tw MOST 105-2622-E-212-002 -CC2

**PA-12: Process development and antioxidant activity of coffee leaf fermented beverage**

Shu-Min Wang, Yen-Ping Hsu, Sorgan S.K Tai\* Department of Biotechnology, National Formosa University, Taiwan, R.O.C. Email: sorgan@nfu.edu.tw

**PA-13: Enhancing triterpenoids production in submerged cultures of *Antrodia cinnamomea* by different cultivation strategies.**

Chun-Chia Chiu<sup>1</sup>, Fan-Chiang Yang<sup>\*1</sup>, Te-Wei Ma<sup>2</sup> <sup>1</sup>Department of Chemical and Materials Engineering, Tunghai University, Taiwan <sup>2</sup> Department of Chemical Engineering, Army Academy, Taoyuan 32092, Taiwan. Email :g04310037@thu.edu.tw, MOST #:105-2221-E-029023-

**PA-14: Preliminary study on separation and purification of bromelain**

Jheng-Kun Luo, Bing-Lan Liu\*, Department of Applied Chemistry, Chaoyang University of Technology, Taichung 41349, Taiwan, ROC. Email: fire956109@gmail.com

**PA-15: Detection of grouper nerve necrosis virus by complex chitosan granules**

Wei Chia Wang, Ya Ching Lin, Fooyin University, Department of Biotechnology. Email: wangweigua@hotmail.com.tw

**PA-16: Analysis and identification of sulforaphene and its derivatives in *Raphanus sativus***

Hao-Ren Chang, Bing-Lan Liu\*, Department of Applied Chemistry, Chaoyang University of Technology, Taichung 41349, Taiwan, ROC. Email: jangkiwi0626@gmail.com

**Topic B: Metabolic Engineering and Synthetic Biology**

**PB-1: Production of lactic acid by using engineered strains of *Escherichia coli* isolated from bovine rumen**

Shu-Ya Wang, Syuan-Ping Liou, and Wen-Chien Lee\*, Department of Chemical Engineering, Systems Biology and Tissue Engineering Research Center, National Chung Cheng University, Chiayi, Taiwan, Email: chmwcl@ccu.edu.tw

**PB-2: In vitro biosynthesis of 3-hydroxypropionic acid from biomass**

Ping Shen, Keng-Wei Lee, Yu-Shen Cheng\*, Department of Chemical and Materials Engineering, National Yunlin University of Science and Technology, Yunlin, 64002, Taiwan. Email: M10515001@yuntech.edu.tw, M10515030@yuntech.edu.tw, MOST #: 105-2621-M-224-002

**PB-3: Engineered *Shewanella oneidensis* MR-1 as a genetically-stable strain**

Ying-Chen Yi<sup>1</sup>, Shih-I Tan<sup>1</sup>, I-Son Ng<sup>1</sup>\*. Department of Chemical Engineering, National Cheng Kung University, Tainan 70101, Taiwan. Email: yswu@mail.ncku.edu.tw, MOST# 105-2221-E-006-225-MY3

**PB-4: Integration and expression of the polyhydroxybutyrate biosynthesis-related gene in *Bacillus subtilis***

Yi-Fen Lin, Po-Chang Su, U-Ze Dong And Po Ting Chen\* Department of Biotechnology, Southern Taiwan University of Science and Technology Email: ptchen@stust.edu.tw MOST 105-2221-E-218-041-

**PB-5: Metabolic engineering of *Escherichia coli* nissle for production of butyric acid** Hong-Yan Hong<sup>1</sup>, Yun-Peng Chao<sup>1</sup>, Chung-Jen Chiang<sup>2</sup>\*, Department of Chemical Engineering, Feng Chia University, 100 Wenhwa Rd., Taichung 40724, Taiwan. Department of medical laboratory Science and Biotechnology, China Medical University, 91 Hsue-Shih Road, Taichung 40402, TAIWAN. Email: cjchiang@mail.cmu.edu.tw, MOST 105 - 2221 - E - 039 - 010 - MY3

**Topic C: Biocatalysis & Protein Engineering**

**PC-1: Effects of andrographolide microbial metabolites on pc12 cells**

Song-June He, Ji-Wu Wang, And Chao-Hung Kao\* Department of Biotechnology, Hungkuang University, Taichung, Taiwan Email : chkao@hk.edu.tw

**PC-2: A novel bacterial cell wall binding motif with the potential to develop a multiple applied platform in animal vaccination**

*Pu-Chieh Chang<sup>1</sup>, Shu-Ching Lin<sup>2</sup>, Tien-Lin Chang<sup>1</sup>, Chih-Hung Huang<sup>1\*</sup>. <sup>1</sup> Institute of Biochemical and Biomedical Engineering, National Taipei University of Technology, No.1, Sec. 3, Zhongxiao E. Rd., Da'an Dist., Taipei City 106, Taiwan (R.O.C.) <sup>2</sup>Country Best Biotech Co., LTD, 8F, No.112, Sec. 2, Zhongxiao E. Rd., Zhongzheng Dist., Taipei City 100, Taiwan (R.O.C.). Corresponding author Email: eric5916@gmail.com; Author Email: acallenchang@gmail.com*

**PC-3: Feasibility study of growing a white-rot fungal culture with continuous laccase production using copper on the cathode of MFC to improve electricity generation and decolorization**

*Pei-Hsuan Chang, Yu-Hsiu Chen, Pei-Yu Guo, Chi-Wen Lin\* Department of Safety, Health and Environmental Engineering, National Yunlin University of Science and Technology, 123 University Rd., Sec. 3, Douliou, Yunlin 64002, Taiwan. Email: Linwen@yuntech.edu.tw MOST 105-2221-E-224-003*

**PC-4: Heterologous expression of carbonic anhydrases in *E. coli* and immobilized enzyme on Chitosan for CO<sub>2</sub> sequestration**

*Kao-Pang Hsu, Tai-Hao He, And I-Son Ng\* Department of Chemical Engineering, National Cheng Kung University, Tainan 70101, Taiwan. Email: yswy@mail.ncku.edu.tw MOST 105-2621-M-006 -012 -MY3*

**PC-5: Biosynthesis of homophenylalanine from monosodium glutamate by enzymatic conversion**

*Yu-Chieh Chen<sup>1\*</sup>, Szu-Pei Wu<sup>2</sup>, Tzann-Shun Hwang<sup>1</sup>. <sup>1</sup>Graduate Institute of Biotechnology, Chinese Culture University, Taipei, Taiwan <sup>2</sup>Department of Biotechnology and Pharmaceutical Technology, Yuanpei University, Hsinchu City, Taiwan Yu-Chieh Chen Email: lovedark1120@gmail.com*

**Topic D: Biomedical Science & Engineering**

**PD-1: Antifungal activity of chitosan containing tissue conditioners**

*Ren-Syue Wang, Kuo-Yu Chen\*. Department of Chemical and Materials Engineering, National Yunlin University of Science and Technology, Yunlin, Taiwan. Email: chenkuo@yuntech.edu.tw*

**PD-2: Preparation and evaluation emulsion based microparticles for transdermal drug delivery of metformin**

*Shih-Chieh Wang<sup>1</sup>, Chen-Yu Kao<sup>2,3,\*</sup>. <sup>1</sup> Department of Chemical Engineering, National Taiwan University of Science and Technology, Taipei, 10607, Taiwan; <sup>2</sup>Graduate Institute of Biomedical Engineering, National Taiwan University of Science and Technology, Taipei, 10607, Taiwan; <sup>3</sup> Department of Biomedical Engineering, National Defense Medical Center, Taipei, 11490, Taiwan. Email: ckao@mail.ntust.edu.tw*

**PD-3: Silicon nanowire field-effect biosensor for microRNA detection with multi-points immobilization system**

*Yi – Hsueh Wang, Wei-Cheng Chou, Wen-Yih Chen\*. Department of Chemical & Materials Engineering, National Central University, Taoyuan, Taiwan. Email: wang3219165@yahoo.com.tw*

**PD-4: The influence of the environmental antibiotics on the conjugation of vancomycin-resistant enterococcus**

*Ching-Ting Pai, Jyy-Ning Chen, Che-Chi Shu\*. Department of Chemical Engineering and Biotechnology, National Taipei University of Technology, Taipei City, Taiwan. Email: ccshu2014@gmail.com. MOST#:105-2221-E-027-116 -*

**PD-5: On the importance of Bloom number of gelatin to the development of biodegradable in situ gelling copolymers for intracameral drug delivery**

Yu-Ming Wu<sup>1</sup>, Jui-Yang Lai<sup>1\*</sup>. Institute of Biochemical and Biomedical Engineering, Chang Gung University, Taoyuan 33302, Taiwan. Email: jylai@mail.cgu.edu.tw

**PD-6: Formation and characterization of indomethacin-chitosan hydrochloride composite particles produced using supercritical assisted atomization**

Chih-Pei Yang, Bo-Chun Wu, Jiao-Song Wu, Hsien

Tsung Wu\*. Department of Chemical Engineering, Ming Chi University of Technology 84 Gungjuan Rd., Taishan, New Taipei City 24301, Taiwan. \*Corresponding author, e-mail: stwu@mail.mcut.edu.tw MOST 104 2221-E-131-024

**PD-7: Visualization of live cancer cells in a mixed cell system using fluorescent glucose derivatives**

Jin-Han Yang<sup>1</sup>, Li-Feng Liu<sup>2</sup>, Jau-Yann Wu<sup>1\*</sup>. <sup>1</sup> Department of Chemical Engineering, I-Shou University <sup>2</sup> The School of Medicine for International Students, I-Shou University Email: jywu@isu.edu.tw

**PD-8: Identification of integration sites of cho genome for the generation of high producer cells by CRISPR/CAS9 mediated target integration**

Ying-Jie Wu, Hsueh-Lin Lu, Dalton Chen, Ching Jen Yang, Chi-Chen Hsu, Sheng-Jie Huang, Hsin Lin Lu, Chien-I Lin And Wei-Kuang Chi\*. Bioengineering group, Development Center for Biotechnology, Taiwan Add : 101, Lane 169, Kangning St., Xizhi Dist, New aipei City 22180, Taiwan. Email: outout@dcb.org.tw

**PD-9: Site specific integration of antibody gene into active region of cho genome for high production by CRISPR/CAS9 system**

Hsueh-Lin Lu, Ying-Jie Wu, Dalton Chen, Ching

Jen Yang, Chi-Chen Hsu, Sheng-Jie Huang, Hsin

Lin Lu, Chien-I Lin And Wei-Kuang Chi\*. Bioengineering group, Development Center for Biotechnology, Taiwan 101, Lane 169, Kangning St., Xizhi Dist, New Taipei City 22180, Taiwan.. Email: a150303@dcb.org.tw

**PD-10: Molecular surveillance of *Legionella pneumophila* isolates from environmental and clinical cultures for ST47-LIKE starin**

Zhu-Yun Lee<sup>1</sup>, Chienyan Hsieh<sup>1</sup>, Jui-Chen Hsueh<sup>2</sup>, Wan-June Yu<sup>2</sup>, Yusen E. Lin<sup>2,3</sup>. <sup>1</sup>Department of Biotechnology, <sup>2</sup>Center for Environmental Services, <sup>3</sup>Graduate Institute of Human Resource and Knowledge Management, National Kaohsiung Normal University, Kaohsiung, Taiwan. Email: leezhiyun406@gmail.com

**PD-11: Microrna in situ hybridization with neuralized DNA (NDNA) probe**

Tsai-Ling Li, Yu-Hsuan Chang, Yi-Ting Tsai, Wen-Yih Chen\*. Department of Chemical & Materials Engineering, National Central University, Taoyuan, Taiwan Email: sunnyhihii@gmail.com, m4vm020@gmail.com. tina790629@hotmail.com, wychen@ncu.edu.tw\*

**PD-12: Screening and studying the potent ACE inhibitors to block chymase activity** Ching-

Chang Cho<sup>1</sup>, Xing-Yang Xie<sup>1</sup>, Wen-Yeh Hsieh<sup>2</sup>, Chih-Sheng Lin<sup>1</sup>. <sup>1</sup> Department of Biological Science and Technology, National Chiao Tung University, Hsinchu, Taiwan. <sup>2</sup> Division of Chest Medicine, Department of Internal Medicine, Hsinchu Mackay Memorial Hospital, Hsinchu, Taiwan Email: Ching-Chang Cho, ccjwo@yahoo.com.tw; Xing-Yang Xie, osedulcimer@gmail.com; Wen-Yeh Hsieh, 4040@mmh.org.tw; Chih-Sheng Lin, lincs@mail.nctu.edu.tw MMH-HB-10602; MMH-HB-10606; MOST104-2313-B-009-001-MY3

## Topic E: Bioenergy & Biorefinery

### PE-1: Microbial community of thermophilic fermentation of kitchen waste in dry anaerobic digestion

*Shuo-Ting Mai<sup>1</sup>, Hsiao-Hsien Lin<sup>1</sup>, Ting-Wei Liu<sup>1</sup>, Ming-Der Bai<sup>2</sup>, Chih-Chiang Chang<sup>2</sup> And Ching-Ping Tseng<sup>1\*</sup>. <sup>1</sup> National Chiao Tung University Department of Biological Science and Technology <sup>2</sup> Industrial Technology Research Institute Green Energy and Environment Research Laboratories. \*Corresponding author E-mail: cpts@cc.nctu.edu.tw. MOST # (BOE, MOEA) 106-D0109*

### PE-2: The affects of filtration in treating the extracts of weeds on antioxidant activeities and total polyphenols

*Ya-Ling Wang, Hsiao-Ching Lin, Yu-Ting Chen, Jian-Lun Zeng, Jun-Hong Lin\*. Department of Natural Biotechnology, Nanhua University, Dalin, Chiayi, 62248, Taiwan. Email: jhlin@nhu.edu.tw*

### PE-3: Development of novel alternative biodiesel fuels for reducing pm emissions and pm-related genotoxicity

*Po-Ming Yang<sup>1</sup>, Chia-Chi Wang<sup>2,3</sup>, Ying-Chi Lin<sup>2,3</sup>, Syu-Ruei Jhang<sup>1</sup>, Li-Jung Lin<sup>4</sup>, Yuan Chung Lin<sup>1,3\*</sup>, Tzi-Yi Wu<sup>5</sup>. <sup>1</sup>Institute of Environmental Engineering, National Sun Yat-Sen University, Kaohsiung 80424, Taiwan. <sup>2</sup> School of Pharmacy, College of Pharmacy, Kaohsiung Medical University, Kaohsiung 80708, Taiwan. <sup>3</sup> Ph.D. Program in Toxicology, College of Pharmacy, Kaohsiung Medical University, Kaohsiung 80708, Taiwan. <sup>4</sup>Department of Biomedical Engineering, Oregon Health and Science University, Oregon 97239, USA. <sup>5</sup>Department of Chemical Engineering and Materials Engineering, National Yunlin University of Science and Technology, Yunlin 64002, Taiwan. Email: yclin@faculty.nsysu.edu.tw*

### PE-4: Pectin of *Ficus pumila* var. *awkeotsang* : Preparation and application in colon-specific capsule

*Jhao-Syuan, Gu, Yu-Shen, Cheng\*. Department of Chemical and Materials Engineering, National Yunlin University of Science and Technology, Yunlin, 64002, Taiwan. Email: M10510522@yuntech.edu.tw*

### PE-5: Methane production from succinic acid fermentation wastes using two-stage anaerobic fermentation

*Yuan-Jung Chiang<sup>1</sup>, Yung-Chung Lo<sup>1</sup>, Kuan-Jung Li<sup>1</sup>, and Jo-Shu Chang<sup>1,2\*</sup>. <sup>1</sup> Department of Chemical Engineering, National heng Kung University, Tainan, Taiwan <sup>2</sup> Energy Technology and Strategy Center, National Cheng Kung University, Tainan, Taiwan. \*Email: changjs@mail.ncku.edu.tw Grant number: MOST 104-3113-E-006-003*

### PE-6: Using fermentable sugar from water lettuce as ingredient of growth medium

*Cheng-You Wu, Fu-Yao Liu, Che-Chi Shu\*. Department of Chemical Engineering and Biotechnology, National Taipei University of Technology, Taipei City, Taiwan. Email: ccshu2014@gmail.com. MOST#:105-2221-E-027-116 -*

### PE-7: Employing fermentation strategies to enhance lipid production efficiency with

#### *Thraustochytrium* sp. BM2

*Chun-Yen Chen<sup>a</sup>, Meng-Hsiu Lee<sup>b</sup>, Jo-Shu Chang<sup>b,c</sup>. <sup>a</sup>University Center of Bioscience and Biotechnology, National Cheng Kung University, Tainan, Taiwan <sup>b</sup>Department of Chemical Engineering, National Cheng Kung University, Tainan, Taiwan <sup>c</sup>Research Center for Energy Technology and strategy, National Cheng Kung University, Tainan, Taiwan. \*Corresponding Author: changjs@mail.ncku.edu.tw*

### PE-8: Development of Co-culture system for butanol production from pretreated rice straw in a

## **modified VMFB bioreactor**

Chuan Lee<sup>1</sup>, Po-Tai Hu<sup>1</sup>, Yu-Kuo Liu<sup>1</sup> \*. <sup>1</sup> Graduate Institute of Biochemical and Biomedical Engineering, \*E-mail: ykliu@mail.cgu.edu.tw

## **Topic F: Bioprocess Technology & Engineering**

### **PF-1: Production of biopolymer (PHBV) by *Bacillus* sp. H19**

Sheng-Jie Yang, Shan-Yu Chen \*. Yuan Ze University Graduate School of Biotechnology and Bioengineering  
Email: s776862@gmail.com

### **PF-2: Enhancing bioconversion 2-phenylethanol production from l-phenylalanine via extractive fermentation system using pdms sponge**

Yi-Jun Chen<sup>a</sup>, Chin-Hang Shu<sup>a</sup>, \*, Wa Ode Cakra Nirwana<sup>a</sup>, Chandrawati Cahyan<sup>b</sup>. <sup>a</sup>Department of Chemical And Materials Engineering, National Central University, Taoyuan, Taiwan <sup>b</sup>Department of Chemical Engineering, University of Brawijaya, Malang, Indonesia \*Email: chinshu@ncu.edu.tw MOST 105-2221-E-008 1002

### **PF-3: The study of chromium and chemical oxygen demand (COD) reduction and carbon fixation by using *Chlorella vulgaris***

Chih-Yuan Hsu, Hong-Wei Yen\*. Department of Chemical and Materials Engineering, Tunghai University

### **PF-4: Optimizations of alkaline pretreatment and enzymatic hydrolysis of sugarcane bagasse by orthogonal experimental design**

Ru-Long Ai and Wen-Chang Chen\*. Department of Chemical & Materials Engineering, National Yunlin University of Science & Technology, Yunlin 64002, Taiwan, R.O.C.\* E-mail: chenwc@yuntech.edu.tw

### **PF-5: Screening and establishment of platform for cho cell culture and feeding strategy**

Bo-Ting Yu, Chining-Jen Yang, Sheng-Jie Huang, Chun-En Yang, Chichen Hsu, Wei Kuang Chi\*. Development Center for Biotechnology, Bioengineering Group of Institute of Biologics No. 101, Lane 169, Kang-ning Street, Xizhi Dist., New Taipei City. Email: jr99875@dcb.org.tw

### **PF-6: Different ways of *Rhodotorula glutinis* oil extraction and transesterification process discussion**

Jin-An Zheng, Hong-Wei Yen. Department of Chemical and Material Engineering, Tunghai University

## **Topic G: Environmental Biotechnology**

### **PG-1: Removal of gaseous isopropyl alcohol and generation of electricity by double tubebiotrickling filter-microbial fuel cell**

Shin Wen, Hsin-Hui Lin, Si-Hua Fu, Chi-Wen Lin\*. Department of Safety, Health and Environmental Engineering, National Yunlin University of Science and Technology, 123 University Rd., Sec. 3, Douliou, Yunlin 64002, Taiwan, R.O.C Email: Linwen@yuntech.edu.tw MOST#105-2221- E-224- 003

### **PG-2: Production of 1,3 PDO and 2,3 BDO from *Klebsiella* sp.**

Bergas Kristiadi<sup>1</sup>, Dillirani Nagarajan<sup>1</sup>, Kuan-Jung Li<sup>1</sup>, and Jo-Shu Chang<sup>1, 2\*</sup>. <sup>1</sup>Department of Chemical Engineering, National Cheng Kung University, Tainan, Taiwan. <sup>2</sup> Energy Technology and Strategy Center, National Cheng Kung University, Tainan, Taiwan. \*Email: changjs@mail.ncku.edu.tw

**PG-3: The seasonal effect of eutrophication for the monitoring of ponds**

*Feng-Yi Chang, Jia-Jun Liao, Kai-Ti Chuang, Jun Hong Lin\* . Department of Natural Biotechnology, Nanhua University, Dalin, Chiayi, 62248, Taiwan. Email: jhlin@nhu.edu.tw*

**PG-4: Effects of marine oil pollution on environment and microorganism**

*Hsien-Feng Lin, Chien-Yen Chen\*. Department of Earth and Environmental Sciences, National Chung Cheng University, Chiayi, 621, TAIWAN. Email: lpig301201@yahoo.com.tw*

**PG-5: The production of  $\gamma$ -aminobutyric acid (GABA) from waste feedstocks– A preliminary study on screened/isolated microorganism.**

*Shih-Ting Lin, John Chi-Wei Lan\*. Biorefinery and Bioprocess Engineering Laboratory, Department of Chemical Engineering and Material Science, Yuan Ze University, No. 135, Yuan-Tung Road, Chungli, Taoyuan 320, Taiwan. Email: address:lanchiwei@saturn.yzu.edu.tw*

**Topic H: Micro- and Nano- Biotechnology**

**PH-1: Synthesis and characterization of micro/nano cerium oxide using microbial induced precipitation**

*K.-W.Jiang, C.-Y.Chen\*. Department of Earth and Environmental Sciences, National Chung Cheng University, Chiayi, 621, TAIWAN. Email: djppo3@livemail.tw*

**PH-2: Multi-functional magnetic nanoparticles for cell isolation and plasmid adsorption**

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**PH-3: Continuous separation of microalgae cells with different lipid contents by dielectrophoresis in a designed microchannel**

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**PH-4: Microbial induced micro-magnetic particles using for humic acid adsorption**

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