


Personal information

Name	Po-Ting Chen	
Title	Professor	
Office	I0805	
Phone	+886-62433131 ext.3926	
Email	ptchen@stust.edu.tw	
Education	Chemical Engineering Ph. D.	
Research Interests	Genetic Engineering, Synthetic Biology, Precision Fermentation, Food Processing	
Laboratory	Genetic Engineering Lab	
Work Experience		
Webpage		

Publications

Journal Papers

1. Yao-Dong Lyu, **Po-Ting Chen*** 2024 Development of a Chitin-based Purification System Utilizing Chitin-Binding Domain and TEV Protease Cleavage for Efficient Recombinant Protein Recovery. *Journal of Agricultural and Food Chemistry*. 72(40) 22217-22228 [SCI]
2. Shulhn-Der Wang, **Po-Ting Chen**, Miao-Hsi Hsieh, Jiu-Yao Wang, Chung-Jen Chiang, Li-Jen Lin* 2024 Xin-Yi-Qing-Fei-Tang and its critical components reduce asthma symptoms by suppressing GM-CSF and COX-2 expression in RBL-2H3 cells. *Journal of Ethnopharmacology*. 330, 118105 [SCI]
3. Ci-En Ge, Ming-Zhi Cai, **Po-Ting Chen*** 2024 Construction of an Autolytic System in *Escherichia coli* Nissle 1917 for Efficient Release of Intracellular Recombinant Proteins. *Journal of the Taiwan Institute of Chemical Engineers*. 160, 105271 [SCI]
4. Po-Hsun Chou, **Po-Ting Chen*** 2024 Development of the Cre-Cas 2.0 System for Evaluating Acetoin Production in *Bacillus subtilis*. *Journal of the Taiwan Institute of Chemical Engineers*. 160, 105239 [SCI]
5. Tzu-Han Lin, Shu-Yun Cheng, Yi-Fen Lin, **Po-Ting Chen*** 2024 Development of the Low-Temperature Inducible System for Recombinant Protein Production in *Escherichia coli* Nissle 1917. *Journal of Agricultural and Food Chemistry*. 72(13), 7318-7325 [SCI]
6. **Po-Ting Chen**, Pei-Chi Chen, Jiu-Yao Wang, Shulhn-Der Wang, Li-Jen Lin* 2023 Evaluation of You-Gui-Wan critical compounds inhibiting ALOX-5 and HDC gene expression in RBL-2H3 cells using a fractional factorial design. *Journal of Ethnopharmacology*. 305, 116122 [SCI]
7. Billriz E. Condor, Mark Daniel G. de Luna, Yu-Han Chang, Jih-Heng Chen, Yoong Kit Leong, **Po-Ting Chen**, Chun-Yen Chen, Duu-Jong Lee, Jo-Shu Chang* 2022

Bioethanol production from microalgae biomass at high-solids loadings. *Bioresource Technology*. 363, 128002.

8. Shu-Yun Cheng, Tzu-Han Lin, **Po-Ting Chen*** 2022 Integration of Multiple Phage Attachment Sites System to Create the Chromosomal T7 System for Protein Production in *Escherichia coli* Nissle 1917. *Journal of Agricultural and Food Chemistry*. 70(33), 10239-10247.
9. Ming-Zhi Cai, Phei Er Kee, Hui Suan Ng*, **Po-Ting Chen*** 2022 Development of *Bacillus subtilis* self-inducible expression system for keratinase production using piggery wastewater. *Journal of the Taiwan Institute of Chemical Engineers*. 137, 104218. [SCI]
10. Billriz E. Condor, Mark Daniel G. de Luna, Ralf Ruffel M. Abarca, Yu-Han Chang, Yoong Kit Leong, Chun-Yen Chen, **Po-Ting Chen**, Duu-Jong Lee, Jo-Shu Chang* 2022 Optimization and modeling of carbohydrate production in microalgae for use as feedstock in bioethanol fermentation. *International Journal of Energy Research*. 46:19300-19312 [SCI]
11. Dillirani Nagarajan, Naomi Oktarina, **Po-Ting Chen**, Chun-Yen Chen, Duu-Jong Lee, Jo-Shu Chang* 2022 Fermentative lactic acid production from seaweed hydrolysate using *Lactobacillus* sp. and *Weissella* sp. *Bioresource Technology*. 344, 126166. [SCI]
12. Ming-Zhi Cai, **Po-Ting Chen*** 2021 Novel combined Cre-Cas system for improved chromosome editing in *Bacillus subtilis*. *Journal of Bioscience and Bioengineering*. 132(2), 113-119 [SCI]
13. Phei Er Kee, Hip Seng Yim, Akihiko Kondo, Stephenie Yoke Wei Wong, **Po-Ting Chen**, John Chi-Wei Lan*, Hui Suan Ng* 2021 Incorporation of electric fields to ionic liquids-based aqueous biphasic system for enhanced recovery of extracellular *Kytococcus sedentarius* TWHKC01 keratinase. *Journal of the Taiwan Institute of Chemical Engineers*. 125, 35-40. [SCI]
14. Yi-Jun Lan, Shih-I Tan, Shu-Yun Cheng, Wan-Wen Ting, Chengfeng Xue, Tzu-Han Lin, Ming-Zhi Cai, **Po-Ting Chen***, I-Son Ng* 2021. Development of *Escherichia coli* Nissle 1917 derivative by CRISPR/Cas9 and application for gamma-aminobutyric acid (GABA) production in antibiotic-free system. *Biochemical Engineering Journal*. 168, 107952. [SCI]
15. Phei Er Kee, John Chi-Wei Lan*, Hip Seng Yim, Yin Hui Chow, **Po-Ting Chen**, Hui-Suan Ng* 2021. Efficiency of polymersalt aqueous two-phase electrophoresis system for recovery of extracellular *Kytococcus sedentarius* TWHKC01 keratinase. *Process Biochemistry*. 100, 199-206. [SCI]
16. **Po-Ting Chen**, Zih-Syuan Hong, Chieh-Lun Cheng, I-Son Ng, Yung-Chung Lo, Dillirani Nagarajan, Jo-Shu Chang* 2020. Exploring fermentation strategies for enhanced lactic acid production with polyvinyl alcohol-immobilized *Lactobacillus plantarum* 23 using microalgae as feedstock. *Bioresource Technology*. 308, 123266. [SCI]
17. **Po-Ting Chen***, Cheng-Huan Liu, Yu-Ting Chen, Fang-Yu Hsu, Jei-Fu Shaw* 2020. Isolation, Expression and characterization of the thermophilic recombinant esterase from

- Geobacillus thermodenitrificans* PS01. Applied Biochemistry and Biotechnology. 191, 112-124. [SCI]
18. Hui Suan Ng, Phei Er Kee, Hip Seng Yim, **Po-Ting Chen**, Yu-Hong Wei, John Chi-Wei Lan* 2020. Recent advances on the sustainable approaches for conversion and reutilization of food wastes to valuable bioproducts. Bioresource Technology 302, 122889. [SCI]
 19. Yi-Fen Lin, Po-Chang Su, **Po-Ting Chen*** 2020. Production and characterization of a recombinant thermophilic trehalose synthase from *Thermus antranikianii*. Journal of Bioscience and Bioengineering. 129(4), 418-422. [SCI]
 20. Heng-Hui Su, Jian-Chy Chen, **Po-Ting Chen*** 2020. Production of recombinant human epidermal growth factor in *Bacillus subtilis*. Journal of the Taiwan Institute of Chemical Engineers. 106, 86-91. [SCI]
 21. Kai-Wen Lee, Chee Wun How, Lei Chen, **Po Ting Chen**, John Chi-Wei Lan*, Hui-Suan Ng* 2019. Integrated extractive disruption of *Gordonia terrae* cells with direct recovery of carotenoids using alcohol/salt aqueous biphasic system. Separation and Purification Technology. 223, 107-112 [SCI]
 22. You-Jin Yu, Zhiyang Chen, **Po Ting Chen**, I-Son Ng*, 2018. Production, characterization and antibacterial activity of exopolysaccharide from a newly isolated *Weissella cibaria* under sucrose effect. Journal of Bioscience and Bioengineering. 126(6), 769-777. [SCI]
 23. Si-Yu Li, I-Son Ng, **Po Ting Chen**, Chung-Jen Chiang*, Yun-Peng Chao* 2018. Biorefining of protein waste for production of sustainable fuels and chemicals. Biotechnology for Biofuels. 11,256 [SCI]
 24. Xin-Ru Jiang, Yi-Fen Lin, **Po Ting Chen***, 2018. Trehalose production via merged secretion, purification, and immobilization of trehalose synthase in *Bacillus subtilis*. Journal of the Taiwan Institute of Chemical Engineers. 82, 23-27. [SCI]
 25. Yu-Ze Dong, Wen-Shous Chang, **Po Ting Chen***, 2017. Characterization and Overexpression of a Novel Keratinase from *Bacillus polyfermenticus* B4 in Recombinant *Bacillus subtilis*. Bioresources and Bioprocessing. 4, 47. [SCI]
 26. Yong-Yang Lin, **Po Ting Chen***, 2017. Development of polyhydroxybutyrate biosynthesis in *Bacillus subtilis* with combination of PHB associated genes derived from *Ralstonia eutropha* and *Bacillus megaterium*. Journal of the Taiwan Institute of Chemical Engineers. 79, 110-115. [SCI]
 27. Po-Chang Su, Wei-Chun Hsueh, Wen-Shous Chang, **Po Ting Chen***, 2017. Enhancement of chitosanase secretion by *Bacillus subtilis* for production of chitosan oligosaccharides. Journal of the Taiwan Institute of Chemical Engineers. 79, 49-54. [SCI]
 28. Chun-Yen Chen, Ai-Ling Kao, Zheng-Chia Tsai, Te-Jin Chow, Hsin-Yueh Chang, Xin-Qing Zhao, **Po-Ting Chen**, Hsiang-Yen Su and Jo-Shu Chang*, 2016. Expression of type 2 diacylglycerol acyltransferase gene DGTT1 from *Chlamydomonas reinhardtii* enhances lipid production in *Scenedesmus obliquus*. Biotechnology Journal. 11, 336-344. [SCI]
 29. **Po Ting Chen***, Yi-Chung Chen, Yong-Yang Lin, Heng-Hui Su, 2015. Strategy for efficient production of recombinant *Staphylococcus epidermidis* lipase in *Bacillus subtilis*. Biochemical Engineering Journal, 103, 152-157. [SCI]

30. Cheng-Huan Liu, **Po Ting Chen**, Chung-Jen Chiang, Jei Fu Shaw, Yun-Peng Chao. 2015. Development of a thermo-regulated expression vector in *Escherichia coli* B strain. Journal of the Taiwan Institute of Chemical Engineers. 53, 1-5. [SCI]
31. Chung-Jen Chiang, Guan-Lin Yeh, **Po Ting Chen**, Ting-Hsiang Lin, Wen-Song, Hwang, Yun-Peng Chao*. 2014 Development of a genomic engineering tool in *Saccharomyces cerevisiae*. Journal of the Taiwan Institute of Chemical Engineers, 45(1), 24-31. [SCI]
32. I-Son Ng*, **Po Ting Chen***, Yuzhe Li, Yi-Chung Chen, Bor-Yann Chen, Yinghua Lu. 2014. Draft Genome Sequence of the Bioelectricity-Generating and Dye-Decolorizing Bacterium *Proteus hauseri* ZMd44. Genome announcements 2(1), e00992-13.
33. Chung-Jen Chiang, **Po Ting Chen**, Chien Yu Yeh, Zei Wen Wang, Yun-Peng Chao*. 2014. A useful method integrating production and immobilization of recombinant cellulose. Applied Microbiology and Biotechnology, 97:9185-9192. [SCI]
34. Chung-Jen Chiang, **Po Ting Chen**, Chien Yu Yeh, Yun-Peng Chao*. 2013. Statistical optimization of one-step immobilization process for recombinant endoglucanase from *Clostridium thermocellum*. Process Biochemistry. 48: 1886-1892. [SCI]
35. **Po Ting Chen**, Chung-Jen Chiang, Yu-Ting Chen, Hsien-Chung Lin, Cheng-Huan Liu, Yun-Peng Chao*, Jei-Fu Shaw* 2012. Strategy for stable and high-level expression of recombinant trehalose synthase in *Escherichia coli*. Journal of Agricultural and Food Chemistry. 60 (23): 6063–6068. [SCI]
36. Hsu-Han Chuang, **Po Ting Chen**, Wun-Nai Wang, Yu-Ting Chen*, Jei-Fu Shaw*. 2011. Functional Proteomic Analysis of Rice Bran Esterases/Lipases and Characterization of a Novel Recombinant Esterase. Journal of Agricultural and Food Chemistry. 59(5): 2019-2025. [SCI]
37. **Po Ting Chen**, Jei-Fu Shaw, Yun-Peng Chao, Tuan-hua David Ho*, Su-May Yu*. 2010. Construction of chromosomally located T7 expression system for production of heterologous secreted proteins in *Bacillus subtilis*. Journal of Agricultural and Food chemistry. 58(9): 5393-5399. [SCI]
38. **Po Ting Chen**, Chung-Jen Chiang*, Jen-You Wang, Ming-Zei Lee and Yun-Peng Chao*. 2011. Genomic engineering of *Escherichia coli* for production of intermediate metabolites in the aromatic pathway. Journal of the Taiwan Institute of Chemical Engineers. 42:34-40 [SCI]
39. **Po Ting Chen**, Chung-Jen Chiang*, Yun-Peng Chao*. 2010. Medium optimization and production of secreted *Renilla* luciferase in *Bacillus subtilis* by fed-batch fermentation. Biochemical Engineering Journal. 49: 395-400. [SCI]
40. Chung-Jen Chiang, **Po Ting Chen**, Yun-Peng Chao*. 2010 Secreted production of *Renilla* luciferase in *Bacillus subtilis*. Biotechnology Progress. 26: 589-594 [SCI]
41. I-Son Ng, Chen-Wei Li, Shuang-Pi Chan, Jiun-Ly Chir, **Po Ting Chen**, Chii-Gong Tong, Su-May Yu*, Tuan-hua David Ho*. 2010 High-level production of a thermoacidophilic b-glucosidase from *Penicillium citrinum* YS40-5 by solid state fermentation with rice brans. Bioresource Technology. 101: 1310-1317. [SCI]
42. I-Son Ng, Chen-Wei Li, Yi-Fang Yeh, **Po Ting Chen**, Jiun-Ly Chir, Chin-Hua Ma, Su-May Yu, Tuan-hua David Ho*, Chii-Gong Tong*. 2009 A novel endoglucanase from the thermophilic bacterium *Geobacillus* sp. 70PC53 with high activity and stability over a broad range of temperatures. Extremophiles. 13:425-435. [SCI] Extremophiles
43. Chung-Jen Chiang, Jen-You Wang, **Po Ting Chen**, and Yun-Peng Chao*. 2009. Enhanced

levan production using chitin-binding domain fused levansucrase immobilized on chitin beads. *Applied Microbiology and Biotechnology*. 82:445-451. [SCI]

44. Chung-Jen Chiang, **Po Ting Chen**, Yun-Peng Chao*. 2008. Replicon-free and markerless methods for genomic insertion of DNAs in phage attachment sites and controlled expression of chromosomal genes in *Escherichia coli*. *Biotechnology and Bioengineering*. 101: 985-995. [SCI]
45. **Po Ting Chen**, Chung-Jen Chiang, Yun-Peng Chao*. 2007. Medium optimization for the production of recombinant nattokinase by *Bacillus subtilis* using response surface methodology. *Biotechnology Progress*. 23:1327-1332. [SCI]
46. **Po Ting Chen**, Chung-Jen Chiang, Yun-Peng Chao*. 2007. Strategy to approach stable production of recombinant nattokinase in *Bacillus subtilis*. *Biotechnology Progress*. 23:808-813. [SCI]
47. **Po Ting Chen** and Yun-Peng Chao*. 2006. Enhanced production of recombinant nattokinase in *Bacillus subtilis* by the elimination of limiting factors. *Biotechnology Letters*. 28:1595-1600.[SCI]
48. Yun-Peng Chao, Wen-Shing Law, **Po Ting Chen**, and Wen-Ben Hung. 2002. High production of heterologous proteins in *Escherichia coli* using the thermo-regulated T7 expression system. *Applied Microbiology and Biotechnology*. 58:446-453. [SCI]
49. Yun-Peng Chao, Chung-Jen Chiang, **Po Ting Chen**. 2000. Optimum ratio of D-carbamoylase to D-hydantoinase for D-p-hydroxyphenylglycine productivity. *Biotechnology Letters*. 22:99-103. [SCI]
50. Yun-Peng Chao, Hongyong Fu, Tsuey-Er Lo, **Po Ting Chen**, and Jenn-Jye Wang. 1999. One-step production of D-p-hydroxyphenylglycine by recombinant *Escherichia coli* strains. *Biotechnology Progress*. 15, 1039-1045. [SCI]

Conference Papers

- 1.
- 2.

Projects

NSTC Projects:

Year	Project Title (number)	Period
113	創新微藻工程技術於直接空氣碳捕捉再利用及高密度培養製程開發(2/2) 113-2218-E-006-014- (Co-Investigator)	20240701~20250630
112	創新微藻工程技術於直接空氣碳捕捉再利用及高密度培養製程開發(1/2) 112-2218-E-006-022- (Co-Investigator)	20230701~20240630
112	乙偶姻之生物製程開發 112-2221-E-218-003-MY3 (Principal Investigator)	20230801-20260731
112	岩藻糖基乳糖之生物製程開發 112-2221-E-218-004-MY3 (Principal Investigator)	20230801-20260731
112	以果皮分離之非釀酒酵母菌進行低酒精啤酒釀造開發之研究 112-2637-E-218-006-(Co-Investigator)	20230801~20240731
111	風味添加劑乙偶姻之生物製程開發 111-2221-E-218 -001- (Principal Investigator)	20220801~20230731
111	以克魯弗畢赤酵母釀造低酒精精釀啤酒及品質指標建立之研究(II) 111-2637-E-218 -003-(Co-Investigator)	20220801~20230731
110	以克魯弗畢赤酵母釀造低酒精精釀啤酒及品質指標建立之研究 110-2637-E-218 -006 -(共同主持人)	20210801~20220731
109	開發角蛋白酶醱酵策略和產品製造 109-2622-E-218 -003 -CC3 (Principal Investigator)	20200601~20210531
109	生技機能性原料試量產製程技術聯盟(II)(3/3) 109-2622-8-218 -004 -TE4(Co-Investigator)	20200201~20210430
108	發展大腸桿菌 Nissle 1917 表現系統進行海藻糖生物轉化製程 108-2221-E-218 -016 -MY3 (Principal Investigator)	20190801~20220731
108	以微藻養殖固碳與精煉之綠色工程技術引領水產養殖藍色經濟之永續發展--使用微藻生物質醱酵產物開發水產飼料添加劑和化妝品成份 108-2621-M-218-001- (Principal Investigator)	20190801~20200731
108	生技機能性原料試量產製程技術聯盟(II)(2/3) 108-2622-8-218 -001 -TE4(Co-Investigator)	20190201~20200430
107	以創新藻/菌整合系統開發畜牧廢水處理與生質精煉之永續循環程序--建立以畜牧廢水與藻渣為營養源來量產蛋白酶和微藻胜肽之生物精煉製程 107-2621-M-218 -001 - (Principal Investigator)	20180801~20190731
107	乳酸菌胞外多醣體之醱酵策略研究與功能性評估	20180601~20190531

	107-2622-E-218 -001 -CC3 (Principal Investigator)	
107	生技機能性原料試量產製程技術聯盟(II)(1/3) 107-2622-8-218 -001 -TE4(Co-Investigator)	20180201~20190131
106	發展大腸桿菌 Nissle 1917 表現系統進行海藻糖生物轉化製程 106-2221-E-218 -029 - (Principal Investigator)	20170801~20180731
106	生技機能性原料試量產製程技術聯盟(3/3) 106-2622-8-218 -002 -TE4(Co-Investigator)	20170201~20180131
105	運用枯草桿菌發展聚羥基脂肪酸酯之生物精鍊製程(III) 105-2221-E-218 -041 - (Principal Investigator)	20160801~20170731
105	生技機能性原料試量產製程技術聯盟(2/3) 105-2622-8-218 -002 -TE4(Co-Investigator)	20160201~20170131
104	運用枯草桿菌發展聚羥基脂肪酸酯之生物精鍊製程(II) 104-2221-E-218 -030 - (Principal Investigator)	20150801~20160930
104	以枯草桿菌開發人類表皮生長因子量產製程 104-2632-E-218 -001 -(Co-Investigator)	20150801~20161031
104	生技機能性原料試量產製程技術聯盟(1/3) 104-2622-E-218 -002 -(Co-Investigator)	20150201~20160131
103	幾丁寡糖製造程序之開發 103-2622-E-218 -004 -CC3 (Principal Investigator)	20141101~20151231
102	發展新穎海藻糖生物精鍊製程 102-2221-E-218 -029 - (Principal Investigator)	20130801~20140731
101	運用枯草桿菌發展聚羥基脂肪酸酯之生物精鍊製程 101-2221-E-218 -035 - (Principal Investigator)	20120801~20130731
100	以染色體工程技術發展枯草桿菌表現系統生產海藻糖合成酶 100-2221-E-218 -018 - (Principal Investigator)	20110801~20120731
099	以染色體工程策略來穩定生產 <i>Picrophilus torridus</i> 海藻糖合成酶 99-2218-E-218 -002 - (Principal Investigator)	20101001~20110930

Government Projects:

Year	Project Title (number)	Period
106	樹葡萄萃取技術開發及其抗氧化活性之評估 (Co-Investigator)	2017/01-2017/12
99	生質柴油副產物再利用之綠色精煉製程三年計畫	2010/12-2013/11

Industry Collaboration Projects:

Year	Project Title (number)	Period
112	納豆抽出物製作開發計畫(III) (Principal Investigator)	2023/06-2023/12
112	納豆抽出物製作開發計畫(II) (Principal Investigator)	2023/01-2023/06
111	納豆抽出物製作開發計畫(Principal Investigator)	2022/07-2022/12
111	角蛋白酶原料製程評估計畫(Principal Investigator)	2022/01-2022/06
109	胜肽製程評估計畫(Principal Investigator)	2020/09-2021/08
109	利用大腸桿菌製造 1, 5-戊二胺-第三期 (Co-Investigator)	2020/07-2021/06
108	胜肽產品量產製程開發計畫(II) (Principal Investigator)	2019/09-2020/08
108	50 週年校慶紀念啤酒製作 (Principal Investigator)	2019/10-2019/12
108	糖質分解酵母篩選測試 (Principal Investigator)	2019/02-2019/10
107	胜肽產品量產製程開發計畫 (Principal Investigator)	2018/08-2019/07
106	功能性胜肽生產菌株開發 (Principal Investigator)	2017/08-2018/07
105	中草藥材超音波萃取 (Principal Investigator)	2016/12-2017/11
105	角蛋白酶量產菌株建構 (Principal Investigator)	2016/08-2017/07
104	幾丁聚糖酶醱酵量產 (Principal Investigator)	2015/08-2016/07
104	黑豆水解條件分析 (Principal Investigator)	2015/04-2015/11
104	香蜂草面膜開發計畫(II) (Principal Investigator)	2015/01-2015/12
103	紅薏仁麩皮超音波萃取 (Principal Investigator)	2014/09-2015/07
103	蛋白酶最適化量產開發計畫 (Principal Investigator)	2014/04-2014/11
103	香蜂草面膜開發計畫 (Principal Investigator)	2014/01-2014/06
102	蛋白酶量產菌株開發計畫 (Principal Investigator)	2013/10-2014/07
101	枯草桿菌醱酵槽製程測試 (Principal Investigator)	2012/12-2013/12
100	動物飼料添加劑生產測試 (Principal Investigator)	2011/03-2011/07

Patent

- 1.
- 2.

Professional Certificates

- 1.
- 2.

