

## 陳霈霓教授 研究室簡介

指導教授：陳霈霓 (專任教授)

最高學歷：生化暨生物科技研究所博士 (PhD)

經歷：1. 中臺科技大學食品營養系 兼任講師

2. 勤益科技大學化工與材料工程系 兼任助理教授

3. 國家衛生研究院環境衛生與職業醫學研究組 博士後研究員

4. 中山醫學大學生化暨生物科技研究所 助理教授

5. 中山醫學大學生化暨生物科技研究所 副教授

6. 中山醫學大學生化微生物免疫研究所 教授

7. 中山醫學大學醫學研究所 教授

研究室地點：研究大樓 8 樓 803-2 室 04-24730022 分機 11685; 辦公室 正心樓 12 樓 1212B 分機:12132

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研究室簡介：近三十年來癌症在國人十大死因排行榜中一直名列前茅，至目前為止仍然有許多問題無法克服，例如抗藥性與癌轉移等問題，導致癌症的復發，雖然相較於以往，在面對各種癌症病人的治療時有多種不同的藥物可供選擇，但令人困擾的是即使選擇不同的化學治療藥物或標靶藥物，一段時間的投予之後經常同樣會出現所謂抗藥性的問題，以至於藥物無法再有效的殺死癌細胞，因此，研發更有效的抗癌藥物或具有癌症預防效果的藥物是重要的研究方向。腫瘤組織中細胞的異質性引發癌症幹細胞存在可能性，研究顯示只有少部份的細胞具備腫瘤生長、復發、抗藥性及轉移的能力，這些細胞稱為癌幹細胞(cancer stem cells, CSCs)，或稱癌起始細胞(cancer initiating cells, CICs 癌幹細胞或腫瘤幹細胞)，為此，利用一些天然化合物驗證其對皮膚癌症幹細胞之重要性，及抑制癌症幹細胞對未來癌症治療，或許是一個很好的方向。癌症的形成是透過許多複雜且多重的過程，其中形成的原因雖然被了解，但治療的效果仍然有限，良性腫瘤還可經由外科手術切除，但是惡性腫瘤治療方式多是以放射線療法與化學療法，且化學療法對人體具有相當大之副作用與傷害，在殺死癌細胞的同時也會傷害正常細胞，因此目前許多研究趨向以天然物成份如多酚類或黃酮類等天然物合併抗癌藥物的使用，期望能加強抗癌藥物的療效，降低抗癌藥物的濃度，達到輔助治療的效果，抑制癌細胞的惡化。化學防癌物質對人體健康影響已被重視，它們對許多化學致癌物之生理及生物效應已陸續被發現，包括抑癌作用，但其有效成分及機制到目前為止都不是很清楚，本實驗是針對多種天然化合物(如：花青素、黃連素、silibinin、EGCG、類黃酮)與天然物萃取物(如：紅茶萃取物或中草藥萃取物)探討其是否會抑制癌細胞侵襲、轉移作用與增生之能力，分析與轉移及增生相關因子及作用分子機轉，並進一步探討其是否會導致癌細胞之細胞凋亡。我們若能利用平常飲食就可大量獲得的花青素與類黃酮，在日常飲食中多攝取這些化合物，可以在未診

斷成癌症之前就達到保護預防的效果，抑制癌症的產生，或是可以抑制癌症的惡化，降低癌細胞增生、位移及侵入的能力，使癌症不會繼續惡化與轉移擴散，並且加強抗癌藥物的療效，減低化療藥物的使用劑量，減少抗癌藥物所產生之副作用，達到預防保健與輔助治療的效果，正是這些方面發展的新道路。

1. 本實驗室研究方向及主題包含：

- (1) 抑制癌細胞轉移及上皮機質轉化作用
- (2) 降低腫瘤生長、血管新生作用及誘導癌細胞死亡
- (3) 腸胃道微生物相(microbiota)及代謝體與癌症之相關性:

過去提及人體微生物菌相，大多在於研究腸道益生菌，現在則有更多證據指出微生物菌相對人體的影響可能不僅止於腸道健康，人類疾病可能起因於宿主與微生物之間微妙的相互作用

- (4) 抑制癌症幹細胞特性及細胞轉移
- (5) 抑制腫瘤抗藥性相關機轉

2. 研發成果：

(1) 論文發表一覽表

學 年 度	姓 名	職 稱	SCI						非 SCI 篇數	與國 外機 構合 作完 成的 篇數
			第一 作者 論文 篇數	非第 一作 者之 通訊 作者 論文 篇數	非第 一或 通訊 作者 之其 他序 位作 者論 文篇 數	總篇 (件) 數 (以上 三項 總和)	IF>5 (不 限作 者 序)	領域 排名 前 20% (以 第一 作者 或通 訊作 者發 表)		
108	陳霈霓	教授	0	4	7	11	2	2	0	0
107	陳霈霓	教授	1	1	4	6	1	2	0	0
106	陳霈霓	教授	1	1	10	12	0	1	1	0
105	陳霈霓	教授	1	1	2	4	0	3	1	0
104	陳霈霓	教授	1	1	4	6	1	3	0	0
103	陳霈霓	教授	0	3	5	8	1	3	0	0
102	陳霈霓	教授	0	1	5	6	1	3	0	0

101	陳霈霓	副教授	1	0	5	6	1	5	0	0
100	陳霈霓	副教授	1	1	2	4	1	2	0	0
99	陳霈霓	副教授	1	1	2	4	0	3	0	0
98	陳霈霓	助理教授	0	0	1	1	0	0	0	0
97	陳霈霓	助理教授	0	0	0	0	0	0	0	0
96	陳霈霓	助理教授	0	1	2	3	1	2	0	0
總計			7	15	49	71	9	29	2	0

#### 論文發表:

1. Chang PY, Hsieh MJ, Hsieh YS, Chen PN, Yang JS, Lo FC, Yang SF, Lu KH. Tricetin inhibits human osteosarcoma cells metastasis by transcriptionally repressing MMP-9 via p38 and Akt pathways. Environ Toxicol. 2017 Aug;32(8):2032-2040.
2. Horng CT, Wu YJ, Chen PN, Chu SC, Tsai CM, Hsieh YS. Koelreuteria Formosana Extract Induces Growth Inhibition and Cell Death in Human Colon Carcinoma Cells via G2/M Arrest and LC3-II Activation-Dependent Autophagy. Nutr Cancer. 2017 Jan;69(1):44-55.
3. Yu CH, Chu SC, Chen PN, Hsieh YS, Kuo DY. Mediation of oxidative stress in hypothalamic ghrelin-associated appetite control in rats treated with phenylpropanolamine. Genes Brain Behav. 2017 Apr;16(4):439-448. (in press)
4. Yu CH, Chu SC, Chen PN, Hsieh YS, Kuo DY. Participation of ghrelin signalling in the reciprocal regulation of hypothalamic NPY/POMC-mediated appetite control in amphetamine-treated rats. Appetite. 2017 Jun 1;113:30-40.
5. Wu SW, Chen PN, Lin CY, Hsieh YS, Chang HR. Everolimus suppresses invasion and migration of renal cell carcinoma by inhibiting FAK activity and reversing epithelial to mesenchymal transition in vitro and in vivo. Environ Toxicol. 2017 Jul;32(7):1888-1898.
6. Lin CY, Hsieh YH, Yang SF, Chu SC, Chen PN, Hsieh YS. Cinnamomum cassia extracts reverses TGF- $\beta$ 1-induced epithelial-mesenchymal transition in human lung adenocarcinoma cells and suppresses tumor growth in vivo. Environ Toxicol. 2017 Jul;32(7):1878-1887. contributed equally as Correspondence.

7. Chen PN, Yang SF, Yu CC, Lin CY, Huang SH, Chu SC, Hsieh YS. *Duchesnea indica* extract suppresses the migration of human lung adenocarcinoma cells by inhibiting epithelial-mesenchymal transition. *Environ Toxicol.* 2017 Aug;32(8):2053-2063.
8. Chen YY, Hsieh MJ, Hsieh YS, Chang YC, Chen PN, Yang SF, Ho HY, Chou YE, Lin CW. Antimetastatic effects of *Rheum palmatum* L. extract on oral cancer cells. *Environ Toxicol.* 2017 Oct;32(10):2287-2294.
9. Ouyang WC, Liao YW, Chen PN, Lu KH, Yu CC, Hsieh PL. Hinokitiol suppresses cancer stemness and oncogenicity in glioma stem cells by Nrf2 regulation. *Cancer Chemother Pharmacol.* 2017 Aug;80(2):411-419.
10. Tung-Wei Hung, Pei-Ni Chen, Hsu-Chen Wu, Sheng-Wen Wu, Pao-Yu Tsai, Yih-Shou Hsieh, Horng-Rong Chang. Kaempferol Inhibits the Invasion and Migration of Renal Cancer Cells through the Downregulation of AKT and FAK Pathways. *International Journal of Medical Sciences.* 2017 Aug; 14:984-993
11. Hsin CH, Huang CC, Chen PN, Hsieh YS, Yang SF, Ho YT, Lin CW. *Rubus idaeus* Inhibits Migration and Invasion of Human Nasopharyngeal Carcinoma Cells by Suppression of MMP-2 through Modulation of the ERK1/2 Pathway. *Am J Chin Med.* 2017 Sep 25:1-16.
12. Feng IC, Hsieh MJ, Chen PN, Hsieh YH, Ho HY, Yang SF, Yeh CB. Cantharidic acid induces apoptosis through the p38 MAPK signaling pathway in human hepatocellular carcinoma. *Environ Toxicol.* 2018 Apr;33(4):514-522
13. Hsing-Chen Wu, Chi-Ting Horng, You-Li Lee, Pei-Ni Chen, Chin-Yin Lin, Chen-Yu Liao, Yih-Shou Hsieh, Shu-Chen Chu. *Cinnamomum Cassia* Extracts Suppress Human Lung Cancer Cells Invasion by Reducing u-PA/MMP Expression through the FAK to ERK Pathways. *International Journal of Medical Sciences.* 2018 Jan15(2): 115-123
14. She-Fang Huang, Shu-Chen Chu, Yi-Hsien Hsieh, Pei-Ni Chen, Yih-Shou Hsieh. *Viola Yedoensis* Suppresses Cell Invasion by Targeting the Protease and NF- $\kappa$ B Activities in A549 and Lewis Lung Carcinoma Cells. *International Journal of Medical Sciences.* 2018 Jan; 15(4): 280-290 contributed equally as Correspondence
15. Yu CH, Hsieh YS, Chen PN, Chen JR, Kuo DY. Knockdown of the transcript of ERK in the brain modulates hypothalamic neuropeptide-mediated appetite control in amphetamine-treated rats. *Br J Pharmacol.* 2018 Feb;175(4):726-739
16. Yang SL, Kuo FH, Chen PN, Hsieh YH, Yu NY, Yang WE, Hsieh MJ, Yang SF.

Andrographolide suppresses the migratory ability of human glioblastoma multiforme cells by targeting ERK1/2-mediated matrix metalloproteinase-2 expression. *Oncotarget*. 2017 Nov 11;8(62):105860-105872.

17. Chu SC, Chen PN, Chen JR, Yu CH, Hsieh YS, Kuo DY. Role of hypothalamic leptin-LepRb signaling in NPY-CART-mediated appetite suppression in amphetamine-treated rats. *Horm Behav*. 2018 Jan 4. 98: 173-182
18. Fang CY, Wu CZ, Chen PN, Chang YC, Chuang CY, Lai CT, Yang SF, Tsai LL. Antimetastatic potentials of salvianolic acid A on oral squamous cell carcinoma by targeting MMP-2 and the c-Raf/MEK/ERK pathway. *Environ Toxicol*. 2018 May;33(5):545-554
19. Lin CL, Lee CH, Chen CM, Cheng CW, Chen PN, Ying TH, Hsieh YH. Protodioscin Induces Apoptosis Through ROS-Mediated Endoplasmic Reticulum Stress via the JNK/p38 Activation Pathways in Human Cervical Cancer Cells. *Cell Physiol Biochem*. 2018;46(1):322-334
20. Yu CH, Chu SC, Yang SF, Hsieh YS, Lee CY, Chen PN. Induction of apoptotic but not autophagic cell death by Cinnamomum cassia extracts on human oral cancer cells. *J Cell Physiol*. 2019;234:5289–5303.通訊作者
21. Han KY, Chen PN, Hong MC, Hseu YC, Chen KM, Hsu LS, Chen WJ. Naringenin Attenuated Prostate Cancer Invasion via Reversal of Epithelial-to-Mesenchymal Transition and Inhibited uPA Activity. *Anticancer Res*. 2018 Dec;38(12):6753-6758.等同第一作者
22. Chen YY, Chang YM, Wang KY, Chen PN, Hseu YC, Chen KM, Yeh KT, Chen CJ, Hsu LS. Naringenin inhibited migration and invasion of glioblastoma cells through multiple mechanisms. *Environ Toxicol*. 2019 Mar;34(3):233-239.
23. Chia-Hung Huang\*, Chih-Jung Chen\*, Pei-Ni Chen, Shian-Shiang Wang, Ying-Erh Chou, Sheng-Chun Hung, Shun-Fa Yang. Impacts of AURKA Genetic Polymorphism on Urothelial Cell Carcinoma Development. *Journal of Cancer* 2019; 10(6): 1370-1374.
24. Chuang CY, Tang CM, Ho HY, Hsin CH, Weng CJ, Yang SF, Chen PN, Lin CW. Licochalcone A induces apoptotic cell death via JNK/p38 activation in human nasopharyngeal carcinoma cells. *Environmental Toxicology* 2019 Jul;34(7):853-860. 等同通訊作者
25. Yih-Farn Liou, Yih-Shou Hsieh, Tung-Wei Hung, Pei-Ni Chen, Yan-Zin Chang, Shao-Hsuan Kao, Shu-Wen Lin, Horng-Rong Chang. Thymoquinone inhibits metastasis of renal cell carcinoma cell 786-O-SI3 associating with

downregulation of MMP-2 and u-PA and suppression of PI3K/Src signaling. International Journal of Medical Science 2019 May 10;16(5):686-695.

26. Hsiao YH, Hsieh MJ, Yang SF, Chen SP, Tsai WC, Chen PN. Phloretin suppresses metastasis by targeting protease and inhibits cancer stemness and angiogenesis in human cervical cancer cells. *Phytomedicine*. 2019 May 18;62:152964. 通訊作者
27. Liou YF, Chen PN, Chu SC, Kao SH, Chang YZ, Hsieh YS, Chang HR. Thymoquinone suppresses the proliferation of renal cell carcinoma cells via reactive oxygen species-induced apoptosis and reduces cell stemness. *Environ Toxicol*. 2019 Nov;34(11):1208-1220.
28. Hung CY, Lee CH, Chiou HL, Lin CL, Chen PN, Lin MT, Hsieh YH, Chou MC. Praeruptorin-B Inhibits 12-O-Tetradecanoylphorbol-13-Acetate-Induced Cell Invasion by Targeting AKT/NF- $\kappa$ B via Matrix Metalloproteinase-2/-9 Expression in Human Cervical Cancer Cells. *Cellular Physiology Biochemistry*. 2019;52(6):1255-1266.
29. Yang WE, Ho YC, Tang CM, Hsieh YS, Chen PN, Lai CT, Yang SF, Lin CW. *Duchesnea indica* extract attenuates oral cancer cells metastatic potential through the inhibition of the matrix metalloproteinase-2 activity by down-regulating the MEK/ERK pathway. *Phytomedicine*. 2019 May 16;63:152960.
30. Chu SC, Chen PN, Yu CH, Hsieh YS, Kuo DY. Role of hypoxia-inducible factor-1 $\alpha$  in regulating oxidative stress and hypothalamic neuropeptides-mediated appetite control. *Brain Res*. 2019 Jul 8:146329.
31. Chu SC, Chen PN, Yu CH, Hsieh YS, Kuo DY. Double immunofluorescent evidence that oxidative stress-associated activation of JNK/AP-1 signaling participates in neuropeptide-mediated appetite control. *Eur Neuropsychopharmacol*. 2019 Nov 29 (11), 1235-1249 (N PRESS)
32. Yang SF, Chen YS, Chien HW, Wang K, Lin CL, Chiou HL, Lee CY, Chen PN, Hsieh YH. Melatonin attenuates epidermal growth factor-induced cathepsin S expression in ARPE-19 cells: implications for proliferative vitreoretinopathy. *J Pineal Res*. 2019 Oct 12:e12615
33. Huang SF, Chu SC, Hsu LS, Tu YC, Chen PN, Hsieh YS. Antimetastatic effects of gossypol on colon cancer cells by targeting the u-PA and FAK pathways. *Food Funct*. 2019 Dec 11;10(12):8172-8181. 等同通訊作者
34. Chen YT, Hsieh MJ, Chen PN, Weng CJ, Yang SF, Lin CW. Erianin Induces Apoptosis and Autophagy in Oral Squamous Cell Carcinoma Cells. *Am J Chin*

Med. 2020;48(1):183-200.

35. Chen YC, Chen PN, Lin CW, Yang WE, Ho YT, Yang SF, Chuang CY. Cantharidic acid induces apoptosis in human nasopharyngeal carcinoma cells through p38-mediated upregulation of caspase activation. Environ Toxicol. 2020 Jan 9. 1-9 等同第一作者
36. Chu YH, Su CW, Hsieh YS, Chen PN, Lin CW, Yang SF. Carbonic Anhydrase III Promotes Cell Migration and Epithelial-Mesenchymal Transition in Oral Squamous Cell Carcinoma. Cells. 2020 Mar 13;9(3):E704.
37. Hsieh PL, Liao YW, Hsieh CW, Chen PN, Yu CC. Soy Isoflavone Genistein Impedes Cancer Stemness and Mesenchymal Transition in Head and Neck Cancer Through Activating miR-34a/RTCB Axis. Nutrients. 2020 Jun 29;12(7):E1924
38. Weng WC, Chen CJ, Chen PN, Wang SS, Hsieh MJ, Yang SF. Impact of Gene Polymorphisms in GAS5 on Urothelial Cell Carcinoma Development and Clinical Characteristics. Diagnostics (Basel). 2020 Apr 28;10(5):260.
39. Ho HY, Lin FC, Chen PN, Chen MK, Hsin CH, Yang SF, Lin CW. Tricetin Suppresses Migration and Presenilin-1 Expression of Nasopharyngeal Carcinoma through Akt/GSK-3 $\beta$  Pathway Am J Chin Med 2020;48(5):1203-1220.

## (2)

### 一、計劃總表（當年度執行中及申請中）

學年度	姓名	政府機關	非政府機關
108	陳霈霓	1	0
107	陳霈霓	1	0
106	陳霈霓	1	0
105	陳霈霓	0	1
104	陳霈霓	1	0
103	陳霈霓	1	1
102	陳霈霓	0	1
101	陳霈霓	1	0
100	陳霈霓	1	0
99	陳霈霓	1	0
98	陳霈霓	1	0
總計		9	3

## (3) 教師出席學術研討會一覽表

1. Berberine Inhibits Cervical Cancer Cells Invasion *in Vitro* and Suppress Tumor Growth and Metastasis *in Vivo* (2011). (8<sup>th</sup> International Conference Functional

**Foods for Chronic Diseases: Science and Practice ) 15 May - 17 May 2011**  
University of Nevada, Las Vegas, USA

2. Study of the inhibitory effects and its mechanisms of *Rubus idaeus* on invasion and migration of lung cancer cells (2011) 第二十六屆生物醫學聯合學術年會
3. Multiple mechanism of *Euphorbia lathyris* extract prevent atherosclerotic process in the different phases (2010) 第二十五屆生物醫學聯合學術年會
4. Black Tea Polyphenols Reverses Epithelial-to-Mesenchymal Transition and Suppresses Cancer Invasion in Human Oral Cancer cells (**2012 Nature Anticancer Drugs, Jun 29-Jul 5, Olomouc**)
5. A Fraction of *Rubus idaeus* Extracts Inhibits Invasion and Migration Potential of Human A549 Lung Cancer Cells by Suppression Epithelial-to-Mesenchymal Transition and Akt Pathway. 2013 生命科學與生物工程會議 (**2013 International Conference on Life Science & Biological Engineering, Nov 6- 10, Osaka, Japan )**
6. Hinokitiol Inhibits Cancer Invasion via Down-regulation of Proteinase and Rho Family Expression in Human Cervical Cancer Cells in Vivo and in Vitro. 2013 生命科學與生物工程會議 (**2013 International Conference on Life Science & Biological Engineering, Nov 6- 10, Osaka, Japan**)
7. Thymoquinone induces autophagy and apoptosis in oral cancer cells 第二十八屆生物醫學聯合學術年會(**The 28th Joint Annual Conference of Biomedical Sciences, 2013, Mar 23-24, Taipei**)
8. Gossypol inhibits invasion potential of human cervical carcinoma cells in vitro and in vivo 第二十九屆生物醫學聯合學術年會(**The 29th Joint Annual Conference of Biomedical Sciences, 2014, Mar 15-16, Taipei**)
9. Berberine reverses epithelial-to-mesenchymal transition and inhibits metastasis and tumor-induced angiogenesis in metastatic cervical cancer cells. 2014 第十屆國際癌症研究會議 (**10<sup>th</sup> 2014 National Cancer Research Institute (NCRI) Cancer Conference, Nov 1- 6, Liverpool, UK**)
10. The inhibitory effect of abietic acid on melanoma cancer metastasis and invasiveness in vitro and in vivo. **2015 The 2nd International Biotechnology, Chemical Engineering and Life Science Conference. July 20-22. Japan Hokkaido**
11. Cinnamomum cassia extracts suppress human lung cancer cells invasion by reducing u-PA/MMP expression through the FAK to ERK pathways 第三十二屆天然藥物國際研討會 (**The 32 International symposium on Nature Products. 2017, Oct 13-14. Taichung**)
12. Induction of Apoptotic but not Autophagic Cell Death by *Cinnamomum cassia*



Extracts on Human Oral Cancer Cells.**2018 TLSBE-The 3rd International Conference on Life Sciences and Biological Engineering. Sep 10-12 Japan, Fukuoka**

13. Phloretin Reverses Epithelial-to-mesenchymal Transition and Inhibits Invasion in Human Cervical Cancer Cells. **The 5th Asia - Pacific Conference on Life Science and Biological Engineering; APLSBE. March 26, 2019 through March 28, 2019, Japan**
14. Phloretin suppresses angiogenesis and tumor growth in human cervical carcinoma. **2019 The International Research Symposium on Engineering and Technology, 2019 IRSET 2019, 2019 through July 3, 2019, Japan**
15. Gossypol reverses TGF- $\beta$ 1-induced invasion and epithelial-mesenchymal transition in human cervical carcinoma cells. **2019 Global Conference on Engineering and Applied Science, 2019 GCEAS. July 16, 2019 through July 18, Japan**
16. The Inhibitory Effect of Mentha on Proliferation and Migration of Human Osteosarcoma 143B Cells. 第 34 屆天然藥物研討會 **(The 34th Symposium of Natural Products)** October 17-19, 2019, Taoyuan, Taiwan
17. Cinnamaldehyde induces apoptosis in human Osteosarcoma cells. 第 34 屆天然藥物研討會 **(The 34th Symposium of Natural Products)** October 17-19, 2019, Taoyuan, Taiwan
18. Antimetastatic Potentials of Black Tea Extract on Human Melanoma Cells by Targeting the MMP and u-PA Pathway. 第 34 屆天然藥物研討會 **(The 34th Symposium of Natural Products)** October 17-19, 2019, Taoyuan, Taiwan (Chang Gung University of Science and Technology)

(4) 實驗室目前成員：共 6 人

(1) 博士後研究員：1 人

(2) 研究助理：2 人

(3) 博士班：2

(4) 碩士班：2

3. 研究室精神：基礎研究與臨床研究的緊密結合

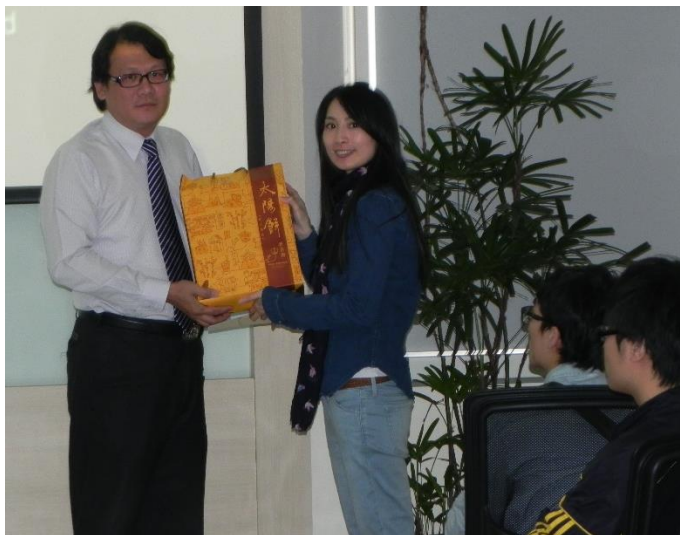
4. 聯絡方式：陳霈霓教授：研究大樓 8 樓 803-2 室 04-24730022 分機 11685;  
辦公室 正心樓 12 樓 1212B 分機:12132 E-mail : [peini@csmu.edu.tw](mailto:peini@csmu.edu.tw)

5. 照片提供：說明如下：

(1) 陳霈霓教授

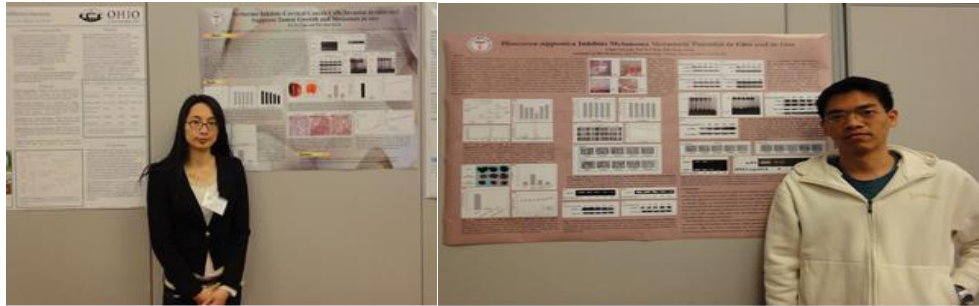


(2) 企業參訪



102 學年度海昌企業參訪之負責老師

(3) 參加國際研討會



帶領博士班學生參加 (2011) 第八屆國際機能食品與疾病會議 (8<sup>th</sup> International Conference Functional Foods for Chronic Diseases: Science and Practice ) University of Nevada, Las Vegas, USA

109 年度為(2020.1-2020.12)

108 年度為(2019.1-2019.12)

107 年度為(2018.1-2018.12)

106 年度為(2017.1-2017.12)

105 年度為(2016.1-2016.12)

104 年度為(2015.1-2015.12)

103 年度為(2014.1-2014.12)

102 年度為(2014.1-2014.12)

101 年度為(2012.1-2012.12)

100 年度為(2011.1-2011.12)

99 年度為(2010.1-2010.12)

98 年度為(2009.1-2009.12)

97 年度為(2008.1-2008.12)

96 年度為(2007.1-2007.12)