



**Hong-Wei Yen (顏宏偉)**

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***Education***

Doctor of Philosophy (Biosystems Engineering), Clemson University, USA, 2004.  
Master of Science (Chemical Engineering), National Tsing-Hua University, Taiwan, 1995.  
Bachelor (Chemical Engineering), Tunghai University, Taiwan, 1993.

***Academic Positions***

1/2019-                    Courtesy Professor, Patel College, University of South Florida, USA  
8/2014-                    Professor, Tunghai University, Taiwan  
2/2011- 7/2014        Associate Professor, Tunghai University, Taiwan.  
8/2005-1/2011        Assistant Professor, Tunghai University, Taiwan.  
2/2005-7/2005        Assistant Professor, National Taipei University of Technology, Taiwan

***Research and Administration Positions***

1/2019-7/2019        Visiting scholar, Patel College (Prof George Phillippidis), Tampa, Fl, USA.  
11/2018-12/2018    Visiting scholar, Applied Science (Prof Yuuki Yazawa ), Chiba Institute of Technology, Chiba, Japan  
1/2016-7/2018        Dean of International Office, Tunghai University, Taiwan  
8/2016-7/2018        Director of Taiwan Education Center (Jakarta), Indonesia.  
6/2015-8/2015        Visiting scholar, Chemical Science and Engineering (Prof Akihiko Kondo), Kobe University, Kobe, Japan  
2/2012- 7/2013        Director of Innovation and Incubation Center, Tunghai University  
6/2012-8/2012        Visiting scholar, Chemical and Biomedical Engineering (Prof Lu-Kwang Ju), University of Akron, OH, USA  
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### *Academic Service*

- 8/2017- Editorial Board Member-Biochemical Engineering Journal  
8/2018- Editorial Board Member-Journal of Physical Science

### *Editors for Scientific Journals*

**Guest editor**, 2019, "Advances in Oleaginous Microorganism Technologies for Biofuels and Bioproducts" in Sustainability (MDPI)

[https://www.mdpi.com/journal/sustainability/special\\_issues/OleaginousMicroTech\\_BiofuelsBioproducts](https://www.mdpi.com/journal/sustainability/special_issues/OleaginousMicroTech_BiofuelsBioproducts)

**Guest editor**, 2019, "Sustainable Coastal Urbanization - Circular Economy for Water, Food, and Energy" in Frontiers in Energy Research

<https://www.frontiersin.org/research-topics/10044/sustainable-coastal-urbanization---circular-economy-for-water-food-and-energy>

### *Industrial Experiences*

2004-2005 Senior Researcher, R&D department, Yung-Shin Pharmaceutical Company, Taiwan

1997-1999 Supervisor, Fermentation Division, Yung-Shin Pharmaceutical Company, Taiwan

1995-1997 Engineer, Biotechnology Division, Yung-Shin Pharmaceutical Company, Taiwan

### *Research Fields*

- a) Fermentation process and fermenter design
- b) The application of supercritical extraction
- c) Anaerobic digestion
- d) The cultivation of photosynthetic microorganisms

My research field is about the development of fermentation process, especially focusing on the anaerobic digestion of biomass for biomethane production, microbial oils fermentation from oleaginous yeast and microalgal biomass as well, the applications of microalgae on wastewater treatment and varied bioproducts production through the microbial process. To be a chemical engineering, the process scale-up is also another attraction to me. We also try to combine the fermentation process with downstream procedures to make the whole production more efficient.



## Curriculum Vitae

Since 2010, he has published over 40 research papers related to the fermentation process development

### *Awards*

2017 Excellent Publication of Tunghai University  
2016 Excellent Publication of Tunghai University  
2015 Excellent Publication of Tunghai University  
2014 Excellent Publication of Tunghai University  
2013 Excellent Publication of Tunghai University  
2012 Excellent Publication of Tunghai University  
2011 Excellent Publication of Tunghai University

### *Keynote Speakers*

**Keynote Speaker**, on the 3<sup>rd</sup> International Conference on Chemical and Material Engineering, 19th-20th September 2018, Semarang, Indonesia.

**Plenary Speaker**, on the 21<sup>th</sup> Symposium of Young Asian Biochemical Engineers' Community, 15-17, October, 2015, Seoul, Korea.

### *Publications*

Dillirani Nagarajana, Adi Kusmayadi, **Hong-Wei Yen (顏宏偉)**, Cheng-Di Dong, Duu-Jong Lee and Jo-Shu Chang, **2019** Current advances in biological swine wastewater treatment using microalgae-based processes. *Bioresource Technology* (SCI).

Adi Kusmayadi, George Philippidis and **Hong-Wei Yen (顏宏偉)\***, **2019** Application of computational fluid dynamics (CFD) to raceways combining paddlewheel and CO<sub>2</sub> spargers to enhance microalgae growth. *Journal of Bioscience and Bioengineering* (SCI),.

Yoong Kit Leong, Pau-Loke Show, John Chi-Wei Lan, Rambabu Krishnamoorthy, Dinh-Toi Chu, Dillirani Nagarajan, **Hong-Wei Yen (顏宏偉)**, Jo-Shu Chang\*, **2019** Application of thermo-separating aqueous two-phase system in extractive bioconversion of polyhydroxyalkanoates (PHAs) by *Cupriavidus necator* H16. *Sustainability, Bioresource Technology*, 287.



Curriculum Vitae

Kit Wayne Chew, Shir Reen Chia, **Hong-Wei Yen (顏宏偉)**, Saifuddin Nomanbhay, Yeek-Chia Ho and Pau Loke Show,\*, **2019** Transformation of Biomass Waste into Sustainable Organic Fertilizers. *Biotechnology and Bioprocess Engineering. Sustainability*, 11, 2266; doi:10.3390/su11082266

**Hong-Wei Yen (顏宏偉)\***, Gowthami Palanisamy<sup>2</sup> and Guo-Chih Su, **2019** The influences of supplemental vegetable oils on the growth and  $\beta$ -carotene accumulation of oleaginous yeast- *Rhodotorula glutinis*. *Biotechnology and Bioprocess Engineering*.

**Hong-Wei Yen (顏宏偉)\***, Chun Yu Hu and Wei-Siang Liang, **2019** A cost efficient way to obtain lipid accumulation in the oleaginous yeast *Rhodotorula glutinis* using supplemental waste cooking oils (WCO). *Journal of Taiwan Institute of Chemical Engineer*, 97, 80-87.

Ling Lee, Chih-Yuan Hsu and **HW Yen (顏宏偉)\***. **2017** The effects of hydraulic retention time (HRT) on chromium (VI) reduction using autotrophic cultivation of *Chlorella vulgaris*. *Bioprocess and Biosystem Engineering (SCI)*, 40, 1725-1731.

Yue Wang, Shih-Hsin Ho, **HW Yen (顏宏偉)**, Dillirani Nagarajan, Nan-Qi Ren, Shuangfei Li, Zhangli Hu, Duu-Jong Lee, Akihiko Kondo, Jo-Shu Chang. **2017** Current advances on fermentative biobutanol production using third generation feedstock. *Biotechnology Advances (SCI)*, 35, 1049-1059.

**HW Yen (顏宏偉)\***, Pin-Wen Chen, Chih-Yuan Hsu and Ling Lee, **2017**. The use of autotrophic *Chlorella vulgaris* in chromium (VI) reduction under different reduction conditions. *Journal of Taiwan Institute of Chemical Engineer (SCI)*, 74, 1-6.

**HW Yen (顏宏偉)\***, Chih-Yuan Hsu and Pin-Wen Chen, **2016**. An integrated system of autotrophic *Chlorella vulgaris* cultivation using CO<sub>2</sub> from the aerobic cultivation process of *Rhodotorula glutinis*. *Journal of Taiwan Institute of Chemical Engineer (SCI)*, 62, 158-161.

**HW Yen (顏宏偉)\***, Yu-Ting Liao & Yi Xian Liu, **2016**. The cultivation of oleaginous *Rhodotorula mucilaginosa* in an airlift bioreactor by using seawater. *Journal of Bioscience and Bioengineering (SCI)*, 121, 209-212.

**HW Yen (顏宏偉)\*** and Meng-Hua Chiang, **2015**. Using the mycelium-covered cereals as an efficient inoculation method for rapamycin fermentation in a 15-L fermenter by using *Streptomyces hygroscopicus*. *Bioresources and Bioprocessing*, 2, 43-46.

De-Shun Lin, **HW Yen (顏宏偉)**, Wei-Chen Kao, Chieh-Lun Cheng, Wen-Ming



## Curriculum Vitae

- Chen, Chieh-Cheng Huang, Jo-Shu Chang\*, **2015**. Biobutanol production from glycerol with *Clostridium pasteurianum* CH4: The effects of butyrate addition and in-situ butanol removal via membrane distillation. *Biotechnology for Biofuels* (SCI), 8, 168-179.
- Yue Wang, Wanqian Guo, **HW Yen (顏宏偉)**, Jo-Shu Chang\*, Yung-Chung Lo, Chieh-Lun Cheng, Carol Huang, Nanqi Ren, **2015**. The cultivation of carbohydrate-rich *Chlorella vulgaris* JSC-6 with swine wastewater for simultaneous nutrients and COD reduction. *Bioresource Technology* (SCI), 198, 619-625.
- HW Yen (顏宏偉)**\*, Jung-Tzu Chang and Jo-Shu Chang, **2015**. The growth of oleaginous *Rhodotorula glutinis* in an internal-loop airlift bioreactor by using mixture substrates of rice straw hydrolysate and crude glycerol. *Biomass and Bioenergy*, 80, 38-43.
- HW Yen (顏宏偉)**, Shih-Hsin Ho, Chun-Yen Chen, and Jo-Shu Chang\*, **2015**. CO<sub>2</sub>, SO<sub>x</sub> and NO<sub>x</sub> removal from flue gas via microalgae cultivation: a review. *Biotechnology Journal*, 10,829-839.
- HW Yen (顏宏偉)**\*, Yu-Ting Liao & Yi Xian Liu, **2015**. The growth of oleaginous *Rhodotorula glutinis* in an airlift bioreactor on crude glycerol through a non-sterile fermentation process. *Bioprocess and Biosystems Engineering* (SCI), 38, 1541-1546.
- HW Yen (顏宏偉)**\*, Yi Xian Liu and Jo-Shu Chang, **2015**. The effects of feeding criteria on the growth of oleaginous yeast-*Rhodotorula glutinis* in a pilot-scale airlift bioreactor. *Journal of Taiwan Institute of Chemical Engineer* (SCI), 49, 67-71,
- HW Yen (顏宏偉)**, Sheng-Chung Yang, Chi-Hui Chen, Jesisca Cen and Jo-Shu Chang\*, **2015**. Supercritical fluid extraction of valuable compounds from microalgal biomass. *Bioresource Technology* (SCI), 184, 291-296.
- HW Yen (顏宏偉)**\* and Jung-Tzu Chan, **2015**. Growth of oleaginous *Rhodotorula glutinis* in an internal-loop airlift bioreactor by using lignocellulosic biomass (LCB) hydrolysate as the carbon source. *Journal of Bioscience and Bioengineering* (SCI), 119, 580-584.
- HW Yen (顏宏偉)**\*, Pin-Wen Chen and Li-Juan Chen, **2015**. The synergistic effects for the co-cultivation of oleaginous yeast- *Rhodotorula glutinis* and microalgae-*Scenedesmus obliquus* on the biomass and total lipids accumulation. *Bioresource Technology* (SCI), 184, 148-152.
- HW Yen (顏宏偉)**\*, Fang-Tzu Li<sup>1</sup> and Jo-Shu Chang, **2014**. The influences of pH control strategies on the distribution of 1,3-propanediols and 2,3-butanediols



## Curriculum Vitae

production by an isolated indigenous *Klebsiella* sp. Ana-WS5. *Bioresource Technology* (SCI), 159, 292-296.

**HW Yen (顏宏偉)\*** and Yung-Lin Li, **2014**. The effects of viscosity and aeration rate on rapamycin production in an airlift bioreactor by using *Streptomyces hygroscopicus*. *Journal of the Taiwan Institute of Chemical Engineers* (SCI), 45, 1149-1153.

**HW Yen (顏宏偉)\*** and Yi Xian Liu, **2014**. The application of airlift bioreactor for the cultivation of aerobic oleaginous yeast- *Rhodotorula glutinis* with different aeration rates. *Journal of Bioscience and Bioengineering* (SCI), 118, 195-198.

**HW Yen (顏宏偉)\***, Fang-Tzu Li<sup>1</sup> and Jo-Shu Chang, **2014**. The effects of dissolved oxygen level on the distribution of 1,3-propanediol and 2,3-butanediol produced from glycerol by an isolated indigenous *Klebsiella* sp. Ana-WS5. *Bioresource Technology* (SCI), 153, 374-378.

**HW Yen (顏宏偉)\***, Fang-Tzu Li, Chiao-Ling Wong and Jo-Shu Chang, **2014**. The pH effects on the distribution of 1, 3-propanediol and 2, 3-butanediol produced simultaneously by using an isolated indigenous *Klebsiella* sp. Ana-WS5. *Bioprocess and Biosystems Engineering* (SCI), 37, 425-431.

Chiao-Ling Wong, **HW Yen (顏宏偉)\***, Chung-Liang Lin, and Jo-Shu Chang\*, **2014**. Effects of pH and fermentation strategies on 2, 3-butanediol production with an isolated *Klebsiella* sp. Zmd30 strain. *Bioresource Technology* (SCI), 152, 169-176.

**HW Yen (顏宏偉)\*** and Hsin-Pei Hsiao, **2013**. Effects of dissolved oxygen level on rapamycin production by pellet-form of *Streptomyces hygroscopicus*. *Journal of Bioscience and Bioengineering* (SCI), 116, 366-370.

Chun-Yen Chen, Xin-Qing Zhao, **Hong-Wei Yen (顏宏偉)**, Shih-Hsin Ho, Chieh-Lun Cheng, Duu-Jong Lee, Feng-Wu Bai\*, and Jo-Shu Chang, **2013**. Microalgae-based carbohydrates for biofuel production (review paper). *Biochemical Engineering Journal* (SCI), 78, 1-10.

**HW Yen (顏宏偉)\*** and Jung-Tzu Chang, **2013**. A two-stage cultivation process for the growth enhancement of *Chlorella vulgaris*. *Bioprocess and Biosystems Engineering* (SCI), 36, 1797-1801.

**HW Yen (顏宏偉)\***, Hsin-Pei Hsiao and Li-Juan Chen, **2013**. The enhancement of rapamycin production using *Streptomyces hygroscopicus* through a simple pH-shifted control. *Journal of the Taiwan Institute of Chemical Engineers* (SCI), 44, 743-747.

**HW Yen (顏宏偉)\*** & Yi-Cheng Wang, **2013**. The enhancement of butanol production



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by in-situ butanol removal using biodiesel extraction in the fermentation of ABE (acetone-butanol-ethanol). *Bioresource Technology*, 245, 224-228.

**HW Yen (顏宏偉)**, I-Chen Hu, Chun-Yen Chen, Shih-Hsin Ho, Duu-Jong Lee, and Jo-Shu Chang\*, **2013**. Microalgae-based biorefinery – from biofuels to natural products (review paper). *Bioresource Technology*, 135, 166-174.

**HW Yen (顏宏偉)\***, Wei-Cheng Chiang and Cheng-Hsiung Sun, **2012**. Effects of mutual shading, pressurization and oxygen partial pressure on the autotrophical cultivation of *Scenedesmus obliquus*. *Journal of the Taiwan Institute of Chemical Engineers (SCI)*, 43, 820-824.

**HW Yen (顏宏偉)\***, Ya-Chun Yang and Yi-Huan Yu, **2012**. Using crude glycerol and thin stillage for the production of microbial lipids through the cultivation of *Rhodotorula glutinis*, *Journal of Bioscience and Bioengineering (SCI)*, 114, 453-456.

**HW Yen (顏宏偉)\***, Zhi-Heng Chen and I-Kuan Yang, **2012**. Use of the Composite Membrane of Poly(ether-block-amide) and Carbon Nanotubes (CNTs) in a Pervaporation System incorporated with Fermentation for Butanol Production by *Clostridium acetobutylicum*. *Bioresource Technology*, 109, 105-109.

**HW Yen (顏宏偉)\*** and Ya-Chun Yang, **2012**. The effects of irradiation and microfiltration on the cells growing and total lipids production in the cultivation of *Rhodotorula glutinis*. *Bioresource Technology*, 107, 539-541.

**HW Yen (顏宏偉)\*** Shang-Fu Lin and I-Kuan Yang, **2012**. Use of poly(ether-block-amide) in pervaporation coupling with a fermenter to enhance butanol production in the cultivation of *Clostridium acetobutylicum*. *Journal of Bioscience and Bioengineering (SCI)*, 113, 372-377.

**HW Yen (顏宏偉)\***, Wei-Cheng Chiang and Cheng-Hsiung Sun, **2012**. Supercritical fluid extraction of lutein from *Scenedesmus* cultured in an autotrophical photobioreactor. *Journal of the Taiwan Institute of Chemical Engineers (SCI)*, 43, 53-57.

**顏宏偉**，張智勇 “以高油脂微生物生產生質柴油之可行性”，*化工技術*，2011，vol 220, 50-58,。

**HW Yen (顏宏偉)\*** and Zhiyong Zhang, **2011**. Enhancement of cell growth rate by light irradiation in the cultivation of *Rhodotorula glutinis*. *Bioresource Technology*, 102, 9279-9281.

**HW Yen (顏宏偉)\***, Ruei-Jei Li and Te-Wei Ma, **2011**. The development process for a continuous acetone-butanol-ethanol (ABE) fermentation by immobilized *Clostridium acetobutylicum*. *Journal of the Taiwan Institute of Chemical Engineers (SCI)*, 42, 902-907.



Curriculum Vitae

- HW Yen (顏宏偉)\*** and Ruei-Jei Li, **2011**. The effects of dilution rate and glucose concentration on continuous acetone-butanol-ethanol fermentation by *Clostridium acetobutylicum* immobilized on bricks. *Journal of Chemical Technology and Biotechnology (SCI)*, 86, 1399-1404.
- HW Yen (顏宏偉)\*** and Zhiyong Zhang, **2011**. Effects of dissolved oxygen level on cell growth and total lipids accumulation in the cultivation of *Rhodotorula glutinis*. *Journal of Bioscience and Bioengineering (SCI)*, 112, 71-74.
- HW Yen (顏宏偉)\***, Cheng-Hsiung Sun and Te-Wei Ma, **2011**. The comparison of lutein production by *Scenedesmus sp.* in the autotrophic and in the mixotrophic cultivation. *Applied Biochemistry and Biotechnology (SCI)*, 164, 353-361.
- HW Yen (顏宏偉)\*** and Jia-Lin Kang, **2010**. Lactic acid production directly from starch in a starch-controlled fed-batch operation using *Lactobacillus amylophilus*. *Bioprocess and Biosystems Engineering (SCI)*, 33, 1017-1023.
- HW Yen (顏宏偉)\*** and Yi-Chih Lee, **2010**. Production of lactic acid from raw potato starch by *Rhizopus oryzae* in sodium alginate capsules. *Applied Biochemistry and Biotechnology (SCI)*, 62, 607-615.
- HW Yen (顏宏偉)\***, Tsia-Ju Chen, Wei-Chin Pan and Hsien-Jen Wu, **2010**. Effects of neutralizing agents on lactic acid production by *Rhizopus oryzae* using sweet potato starch. *World J of Microbiology and Biotechnology (SCI)*, 26, 437-441.
- HW Yen (顏宏偉)\***, Chang-Yu Feng and Jia-Lin Kang, **2009**. Cultivation of *Rhodobacter sphaeroides* in the stirred bioreactor with different feeding strategies for CoQ<sub>10</sub> production. *Applied Biochemistry and Biotechnology (SCI)*, 160, 1441-1449
- HW Yen(顏宏偉)\*** and Tsu-Yuan Shih, **2009**. Coenzyme Q<sub>10</sub> production by *Rhodobacter sphaeroides* in stirred tank and in airlift bioreactor. *Bioprocess and Biosystems Engineering (SCI)*, 32, 711-716
- HW Yen(顏宏偉)\*** and DE Brune, **2007**. Anaerobic codigestion of algal sludge and waste paper to produce methane. *Bioresource technology (SCI)*, 98, 130-134
- HW Yen(顏宏偉)\*** and CH Chiu, **2007**. The influences of aerobic-dark and anaerobic-light cultivation on CoQ<sub>10</sub> production by *Rhodobacter sphaeroides* in the submerged fermenter. *Enzyme and Microbial Technology (SCI)*, 41, 600-604.