

Chen, Cheng-Liang (陳誠亮)

Professor

B.S. in Chemical Engineering
National Taiwan University, 1979

M.S. in Chemical Engineering
National Taiwan University, 1981

Ph.D. in Chemical Engineering
National Taiwan University, 1987

Research and Professional Interests

Process Integration and Optimization

Production Planning and Scheduling

Control Systems Design

Journal Papers

1. Lin, Y.K., V.H. Nguyen, J. C.C. Yu, C.W. Lee, Y.H. Deng, Jeffrey C.S. Wu, Kevin C.W. Wu, K.L. Tung, **C.L. Chen**, "Biodiesel production by pervaporation-assisted esterification and pre-esterification using graphene oxide/chitosan composite membranes," *Journal of the Taiwan Institute of Chemical Engineers*, 79, 23–30 (2017). (SCI, EI)
2. Lee, J.-Y., Tseng, L.-H., **Chen, C.-L.**, "A Mathematical Technique for Optimal Design of Hybrid Power Systems Considering Demand-side Management," *Computer Aided Chemical Engineering*, 40, pp. 2431-2436 (2017).
3. Le, S.N.T., Lee, J.-Y., Chiu, J.-C., **Chen, C.-L.**, "Waste energy recovery - Including pressure and thermal energy - From LNG regasification," *Chemical Engineering Transactions*, 61, pp. 1123-1128 (2017).
4. Lee, J.Y., **Chen, C.L.**, "A proposal for charting the undergraduate process control course for the 21st century," *Journal of the Taiwan Institute of Chemical Engineers*, (2017).
5. Lee J.Y., **Chen, C.L.**, "Recent Advances in Process Integration and Its Applications," *Process Integration and Optimization for Sustainability*, 2,141–142 (2018). <https://doi.org/10.1007/s41660-018-0068-8>
6. Le, S., J.Y. Lee, **C.L. Chen**, "Waste cold energy recovery from liquefied natural gas (LNG) regasification including pressure and thermal energy," *Energy*, 152 770–787 (2018). (SCI, EI) (DOI 10.1016/j.energy.2018.03.076)
7. Ong, C.-W., **Chen, C.-L.** "Techno-economic analysis of seawater freezing desalination using liquefied natural gas," *Chemical Engineering Transactions*, 70, 373-378 (2018).
8. Dai, S.-B., Lee, H.-Y., **Chen, C.-L.**, "Design and Economic Evaluation for Production of Ethyl Lactate via Reactive Distillation Combined with Various Separation Configurations," *Computer Aided Chemical Engineering*, 44, pp. 127-132 (2018).
9. Dai, S.B., Lee, H.Y., **Chen, C.L.**, "Design and Economic Evaluation for the Production of Ethyl Lactate via Reactive Distillation Combined with Various Separation Configurations," *Ind. Eng. Chem. Res.*, 58, 6121–6132 (2019). (SCI, EI) DOI: 10.1021/acs.iecr.8b03343
10. Wong, C.W., **Chen, C.L.**, "Technical and Economic Evaluation of Seawater Freezing Desalination Using Liquefied Natural Gas," *Energy*, 181, 429-439 (2019). DOI: 10.1016/j.energy.2019.05.193

11. Chung, J.L., Le, S. and **Chen, C.L.**, “New Perspective on the Augmented Taiwan Energy Flow Diagram,” *Low Carbon Economy*, 10, 59-80 (2019). doi: 10.4236/lce.2019.102005.
12. Ren, L.X., Chang, F.L., Kang, D.Y. and **Chen, C.L.**, “Hybrid membrane process for post-combustion CO₂ capture from coal-fired power plant,” *J. Membrane Science*, 603, 118001-118014 (2020). <https://doi.org/10.1016/j.memsci.2020.118001>
13. Chen, K.C., Lee, J.Y. and **Chen, C.L.**, “Hollow Fiber-based Rapid Temperature Swing Adsorption Process for Carbon Capture from Coal-fired Power Plants,” *Separation and Purification Technology*, 247, 116958-116969 (2020). <https://doi.org/10.1016/j.seppur.2020.116958>
14. Sawaki, N. and **Chen, C.L.**, “Cost evaluation for a two-staged reverse osmosis and pressure retarded osmosis desalination process,” *Desalination*, 497, 114767 (2021) <https://doi.org/10.1016/j.desal.2020.114767> Cited by 4
15. Wong, C.W., **Chen, C.L.**, “Intensification, Optimization and Economic Evaluations of the CO₂-capturing Oxy-combustion CO₂ Power System Integrated with the Utilization of Liquefied Natural Gas Cold Energy,” *Energy*, 234, 121255 (2021). <https://doi.org/10.1016/j.energy.2021.121255>
16. Lee, H.Y., You, T.S., **Chen, C.L.**, “Energy efficient design of bio-butanol purification process from acetone butanol ethanol fermentation,” *Journal of the Taiwan Institute of Chemical Engineers*, 130, 104015 (2022), <https://doi.org/10.1016/j.jtice.2021.08.003>
17. Lee, H.Y., Yeh, M.H., Chen, Y.Y., **Chen, C.L.**, “Design and control of a comprehensive Ethylenediamine (EDA) process with external/internal heat integration,” *Separation and Purification Technology*, 293, 121137 (2022) <https://doi.org/10.1016/j.seppur.2022.121137>
18. Li, Z.W., Huang, T.Y., Lee, J.Y., Wang, T.H., Wang, S., Jia, X.P., **Chen, C.L.**, Zhang, D., “Crisp and Fuzzy Optimization Models for Sustainable Municipal Solid Waste Management,” *J. Cleaner Production*, 370, 133536 (2022). <https://doi.org/10.1016/j.jclepro.2022.133536>
19. Pan, S.J., Tsai, M.L., **Chen, C.L.**, Lin, P.T., Lee, H.Y., “Investigation of Machine Learning Methods for Predictive Maintenance of the Ultra-High-Pressure Reactor in a Polyethylene-Vinyl Acetate Production Process,” *Electronics*, 12, 580 (2023). <https://doi.org/10.3390/electronics12030580>
20. Chiou, H.H., Lee, C.J., Wen, B.S., Lin, J.X., **Chen, C.L.**, Yu, B.Y., “Evaluation of alternative processes of methanol production from CO₂: Design, optimization, control, techno-economic, and environmental analysis,” *Fuel*, 343, 127856 (2023). <https://doi.org/10.1016/j.fuel.2023.127856>

Conference Papers

1. Chang, C.Y., S.H. Wang, Y.C. Huang, **C.L. Chen**, “Transient Response Analysis of High Pressure Steam Distribution Networks in A Refinery,” 6th AdCONIP 2017, Taipei, Taiwan. (大會主席)
2. Le, S.N.T., J.Y. Lee, J.C. Chiu, **C.L. Chen**, “Waste Energy Recovery – Including Pressure and Thermal Energy – From LNG Regasification,” PRES’17, Prague, 2017.

3. Dai, S.B., Lee, H.Y., **Chen, C.L.**, “Design and Economic Evaluation for Production of Ethyl Lactate via Reactive Distillation Combined with Various Separation Configurations,” 13th International Symposium on Process Systems Engineering (PSE 2018), July 1-5, San Diego, California, USA, 2018.
4. Ren, L.X., Kang, D.Y., **Chen, C.L.**, “Hybrid Membrane Process for Post-combustion CO₂ Capture from Coal-fired Power Plants,” 6th International Workshop on Process Intensification (IWPI 2018), Nov 7-8, Taipei ROC, 2018. (大會主席)
5. Dai, S.B., Lee, H.Y., **Chen, C.L.**, “Reactive Distillation and Pervaporation Process for Production of Ethyl Lactate,” 6th International Workshop on Process Intensification (IWPI 2018), Nov 7-8, Taipei ROC, 2018. (大會主席)
6. Chen, K.C., Lee, J.Y., **Chen, C.L.**, “Hollow Fibre-based Rapid Temperature Swing Adsorption Process for Carbon Capture from Coal-fired Power Plants,” PRES'19, Oct 20-23, Crete, Greece, 2019.
7. Ren, L.X., **Chen, C.L.**, Kang, D.Y., “Hybrid Membrane Separation Process for Post-combustion CO₂ Capture for Coal-fired Power Plants,” 8th PSE Asia, Jan 13-16, Bangkok, Thailand, 2019.
8. Cheng, H.H., Chen, S.C., **Chen, C.L.**, “Dynamics and control of the steam utility supply system in a (fictional) refinery,” 8th PSE Asia, Jan 13-16, Bangkok, Thailand, 2019.
9. Chen, S.C., H.H. Cheng, **Chen, C.L.**, “Modeling and Analysis of Steam Pipe Networks,” 8th PSE Asia, Jan 13-16, Bangkok, Thailand, 2019.
10. Huang, J., Lee, H.Y., **Chen, C.L.**, “A Comparative Study of Extractive Distillation and Azeotropic Distillation for Purification of Bioethanol from Dilute Feed,” APCChE 2019, Sep 23-27, Sapporo, Japan, 2019.
11. Sawaki, N., **Chen, C.L.**, “Analysis of energy efficiency for various reverse osmosis based desalination technologies,” APCChE 2019, Sep 23-27, Sapporo, Japan, 2019.
12. Chen, K.C., **Chen, C.L.**, “Hollow Fiber-based Rapid Temperature Swing Adsorption Process for Carbon Capture from Coal-fired Power Plants,” PSE Asia 2020, Nov 4-6, Taipei, TW, 2020. (大會主席)
13. You, T.S., Lee, H.Y., **Chen, C.L.**, “Energy-efficient Design of Bio-butanol Purification Process from Acetone-Butanol-Ethanol Fermentation,” PSE Asia 2020, Nov 4-6, Taipei, TW, 2020. (大會主席)
14. Ong, C.W., **Chen, C.L.**, “Oxy-Fuel Power Generation with CO₂ Capture using Liquefied Natural Gas Cold Energy,” PSE Asia 2020, Nov 4-6, Taipei, TW, 2020. (大會主席)
15. Lee, H.Y., Tsau, Y.Y., **Chen, C.L.**, “Novel Ethyl Lactate Production Process Design using Reactive Distillation and Membrane-Distillation Configuration,” PSE Asia 2020, Nov 4-6, Taipei, TW, 2020. (大會主席)

Technology Transfer

1. “製程模擬評估及教育訓練計畫” · 新鼎系統股份有限公司 · 01/01/2014-12/31/2016,

210 萬元.

Honors and Others

1. 臺灣大學傅斯年研究獎(2005年)
2. 石延平教授論文獎(2006年)
3. 台灣大學優良社會服務獎(2012年)
4. 指導尹晉霆、黃睿、邱榮傑同學榮獲台灣化學工程學會104年「大學部學生程序設計競賽」第一名李國鼎獎，2015年10月
5. 指導 張峰林同學，榮獲2016亞洲區程序系統工程研討會口頭報告「傑出學生論文獎」，2016
6. 台灣化學工程學會第63屆賴再德教授獎(105年度)，2016
7. 指導吳榮昕、陳維軒同學榮獲台灣化學工程學會110年「大學部學生程序設計競賽」第三名趙榮澄獎，2021年11月

