

**Liu, Hwai-Shen** (劉懷勝)

Professor

B.S. in Chemical Engineering  
National Taiwan University, 1982  
M.S. in Chemical Engineering  
University of Tennessee, 1987  
Ph.D. in Chemical Engineering  
University of Tennessee, 1990

#### **Research and Professional Interests**

Bioprocess Engineering  
Bacterial cellulose  
Biodiesel  
Hige Separation  
Absorption/Stripping/Adsorption  
Carbon dioxide capture

#### **Journal Papers**

1. J. T. Hsieh, M. Y. Wang, J. T. Lai and **H. S. Liu** “A novel static cultivation of bacterial cellulose production by intermittent feeding strategy” *Journal of the Taiwan Institute of Chemical Engineers* 63:46-51 (2016) (SCI, EI)
2. C. T. Kuo, Y. L. Chen, W. T. Hsu, S. C. How, Y. H. Cheng, S. S. Hsueh, **H. S. Liu**, T. H. Lin, J. W. Wu, S. S. S. Wang, “Investigating the effects of erythrosine B on amyloid fibril formation derived from lysozyme” *International Journal of Biological Macromolecules*, 98:159–168 (2017) (SCI, EI) (合著)
3. C. Y. Chiang, D. W. Lee, **H. S. Liu** “Carbon Dioxide Capture by Sodium Hydroxide-Glycerol Aqueous Solution in a Rotating Packed Bed” *Journal of the Taiwan Institute of Chemical Engineers* 72:29-36 (2017) (SCI, EI)
4. C. H. Wang, W. H. Chen, **H. S. Liu**, J. T. Lai, C. C. Hsu, B. Z. Wan “Process development for producing a food-grade glucose solution from rice straws” *Chinese Journal of Chemical Engineering* 26:386-391 (2018) (SCI, EI) (合著)
5. Y. R. Fang, Y. Yeh and **H. S. Liu** “A Novel Strategy of Biodiesel Production from Wet Microalgae by Direct Saponification-Esterification Conversion (DSEC)” *Journal of the Taiwan Institute of Chemical Engineers* 83:23-31(2018) (SCI, EI)

#### **Conference Papers**

1. **H. S. Liu** and C.W. Liu “Applications of Rhodococcus NTU-1: from bio-degradation to bio-flocculation and bio-demulsification” YABEC 2015, Oct. 214-16, Chuncheon, Korea (2015)
2. **H. S. Liu** and J.-Y. Chen “Permeability of bacterial cellulose membranes by various drying methods” 13<sup>th</sup> International Conference on Diffusion in Solids and Liquids, 26-30 June, Vienna, Austria (2017)
3. C. Y. Chiang, D. W. Lee, **H. S. Liu** “Carbon Dioxide Capture by Sodium Hydroxide-Glycerol Aqueous Solution in a Rotating Packed Bed” AIChE annual meeting, Oct 29-Nov 3, Minneapolis, MN, USA (2017)
4. Y. Yeh and **H. S. Liu** “A Novel Strategy of Biodiesel Production from Wet Microalgae by Direct Saponification-Esterification Conversion (DSEC)” ACS national meeting, Aug. 19-23, Boston, MA, USA (2018)

5. W. Y. Huang and **H. S. Liu** “Carbon Dioxide Capture by Sodium Hydroxide in a Rotating Packed bed with in-situ carbonation” 2019 台灣化學工程學會年會, Nov. 8-9, Taichung, *Taiwan* (2019)
6. Y. W. Tang and **H. S. Liu** “Carbon Dioxide Capture by Sodium Hydroxide-Methanol Solution in a Rotating Packed Bed” Asian Pacific Confederation of Chemical Engineering Conference, Sept. 25-27, Sapporo, *Japan* (2019)

### Books

1. **H. S. Liu** and Y. C. Cheng, “Stability Enhancement of Alpha-amylase by Supercritical Carbon Dioxide Pretreatment” in *Bioseparation Engineering* (edited by I. Endo, T. Nagamune, S. Katoh and T. Yonemoto), Elsevier, *Progress in Biotechnology*, Vol. 16, pp149-154 (2000).
2. C. C. Lin and **H. S. Liu**, “Dye Adsorption in Centrifugal Field” in *Bioseparation Engineering* (edited by I. Endo, T. Nagamune, S. Katoh and T. Yonemoto), Elsevier, *Progress in Biotechnology*, Vol. 16, pp 25-28 (2000).
3. 賴進此、劉懷勝, “生物觸媒固定化在食品工業之應用”, chapter 5 in *生物固定化技術及產業應用* (陳國誠編) 茂昌圖書 (2000).

### Honors and Others

1. Editorial board member: *J. Tw. Inst. Chem. Engrs.* (2005-2017)
2. Committee member for Asian Society for Environmental Biotechnology (ASEB) 2006.9-2016.8
3. 中華生化工程學會(BEST: Biochemical Engineering Society of Taiwan): 發起人 (2001.4), 常務監事(2001~2004), 監事(2004~2007) 理事 (2007-2009)
4. 台灣化學科技產業協進會(TCIA: Taiwan Chemical Industry Association) 監事 (2009.11—2015.11)
5. 台灣化學工程學會: 常務理事 (2011-2013) 理事 (2013-2015)
6. 台灣化學工程學會: 2019 傑出論文獎 “A Novel Strategy of Biodiesel Production from Wet Microalgae by Direct Saponification-Esterification Conversion (DSEC)” (與指導學生共得方盈茹、葉芸)