

Wang, Da-Ming (王大銘)

Professor

B.S. in Chemical Engineering
National Taiwan University, 1983
Ph.D. in Chemical Engineering
Pennsylvania State University, 1992

Research and Professional Interests

Membrane separation technology
Preparation of polymeric membranes
Biomaterials and Tissue engineering

Projects (started from 2013)

1. 製備可用於支撐式液膜程序的高孔隙PVDF膜並評估其在鈾離子回收上之效能
Da-Ming Wang, sponsored by National Science Council.
NT\$852,000. 8/1/2013-7/31/2014

Journal Papers

1. Y.S. Su, C.Y. Kuo, **D.M. Wang**, J.Y. Lai, A. Deratani, C. Pochat, D. Bouyer, "Interplay of mass transfer, phase separation, and membrane morphology in vapor-induced phase separation", *J. Membrane Sci.*, 338, 17-28 (2009). (SCI, EI)
2. H.A. Tsai, C.Y. Kuo, S.L. Su, **D.M. Wang**, J.Y. Lai, "The morphological evolution of solvent-containing PMMA membranes in various solvent removal processes", *J. Membrane Sci.*, 345, 288-297 (2009). (SCI, EI)
3. Y. Chang, C.Y. Ko, Y.J. Shih, D. Quémener, A. Deratani, T.C. Wei, **D.M. Wang**, J.Y. Lai, "Surface grafting control of PEGylated poly(vinylidene fluoride) antifouling membrane via surface-initiated radical graft copolymerization", *J. Membrane Sci.*, 345, 160-169 (2009). (SCI, EI)
4. Y.H. Su, Y.L. Liu, **D.M. Wang**, J.Y. Lai, M.D. Guiver, B. Liu, "Increase in the proton conductivity and selectivity of proton exchange membranes for direct methanol fuel cells by formation of nanocomposites having proton conducting channels", *J. Power Sources*, 194, 206-213 (2009). (SCI, EI)
5. N.Y. Yuan, Y.A. Lin, M.H. Ho, **D.M. Wang**, J.Y. Lai, H.J. Hsieh, "Effects of the cooling mode on the structure and strength of porous scaffolds made of chitosan, alginate, and carboxymethyl cellulose by the freeze-gelation method", *Carbohydrate Polymers*, 78, 349-356 (2009). (SCI) (合著)
6. P.H. Chen, T.Y. Kuo, J.Y. Kuo, Y.P. Tseng, **D.M. Wang**, J.Y. Lai, H.J. Hsieh, "Novel chitosan-pectin composite membranes with enhanced strength, hydrophilicity and controllable disintegration", *Carbohydrate Polymers*, 82, 1236-1242 (2010). (SCI) (合著)
7. S.T. Kao, Y.H. Huang, K.S. Liao, W.S. Hung, K.S. Chang, M.D. Guzman, S.H. Huang, **D.M. Wang**, K.L. Tung, K.R. Lee, J.Y. Lai, "Applications of positron annihilation spectroscopy and molecular dynamics simulation to aromatic polyamide pervaporation membranes", *J. Membrane Sci.*, 348, 117-123 (2010). (SCI, EI)

8. J.T. Tsai, Y.S. Su, **D.M. Wang**, J.L. Kuo, J.Y. Lai, A. Deratani, "Retention of pore connectivity in membranes prepared with vapor-induced phase separation", *J. Membrane Sci.*, 362, 360-373 (2010). (SCI, EI)
9. C.L. Li, **D.M. Wang**, A. Deratani, D. Quemener, D. Bouye, J.Y. Lai, "Insight into the preparation of PVDF membranes by vapor-induced phase separation", *J. Membrane Sci.*, 361, 154-166 (2010). (SCI, EI)
10. T.Y. Hsien, Y.L. Liu, C.H. Huang, P.H. Lin, **D.M. Wang**, "Synthesis of novel PVA crosslink mixed matrix scaffolds and adsorption of copper ions from waste water", *Desalination and Water Treatment*, 34, 354-360 (2011). (SCI)
11. P.K. Annamalai, C. Pochat-Bohatier, D. Bouyer, C.L. Li, A. Deratani, **D.M. Wang**, "Kinetics of mass transfer during vapour-induced phase separation (VIPS) process and its influence on poly(vinylidene fluoride) (PVDF) membrane structure and surface morphology", *Desalination and Water Treatment*, 34, 204-210 (2011). (SCI)
12. A. Venault, Y. Chang, **D.M. Wang**, D. Bouyer, A. Higuchi, J.Y. Lai, "PEGylation of anti-biofouling polysulfone membranes via liquid- and vapor-induced phase separation processing", *J. Membrane Sci.*, 403-404, 47-57 (2012). (SCI)
13. A. Venault, Y. Chang, **D.M. Wang**, J.Y. Lai, "Surface anti-biofouling control of PEGylated poly(vinylidene fluoride) membranes via vapor-induced phase separation processing", *J. Membrane Sci.*, 423-424, 53-64 (2012). (SCI)
14. Y.S. Luo, K.C. Cheng, C.L. Wu, C.Y. Wang, T.H. Tsai, **D.M. Wang**, "Preparation of epoxy monoliths via chemically induced phase separation", *Colloid Polym. Sci.*, 291, 1903-1912 (2013). (SCI)
15. A. Venault, Y. Chang, **D.M. Wang**, D. Bouyer, "A Review on Polymeric Membranes and Hydrogels Prepared by Vapor-Induced Phase Separation Process", *Polym. Rev.*, 53, 568-626 (2013). (SCI)
16. **D.M. Wang**, J.Y. Lai, "Recent advances in preparation and morphology control of polymeric membranes formed by nonsolvent induced phase separation", *Current Opinion in Chemical Engineering*, 2, 229-237 (2013).

Conference Papers

1. **D.M. Wang**, "Insight into the preparation of polymer membranes by phase separation," AMS 2010, Sydney, Australia (November 22-26, 2010) (Plenary lecturer, 大會演講人)
2. **D.M. Wang**, J.Y. Lai, "Insight into the growth of phase-separated domains during membrane formation," 241st ACS (Spring) National Meeting, Anaheim, California, USA (March 27-31, 2011) (Invited speaker, 邀請講員)
3. A. Venault, Y. Chang, **D.M. Wang**, J.Y. Lai, "Vapour-induced phase separation process vs. liquid-induced phase separation process to prepare low-fouling PEGylated polysulfone membranes in one step", 243rd ACS (Spring) National Meeting, San Diego, USA (March 25-29, 2012)
4. A. Venault, Y. Chang, **D.M. Wang**, J.Y. Lai, "Hydrophilic polymeric membranes prepared by vapour-induced phase separation of

polysulfone/3-(N,N-dimethylmyristylammonio)propane-sulfonate blends”, 243rd ACS (Spring) National Meeting, San Diego, USA (March 25-29, 2012)

Patents

1. 賴君義、何明樺、郭佩芸、謝學真、謝子陽、王大銘, “生物基材之形成方法”, 中華民國發明專利第 233943 號, (2005/6-2023/12)
2. 謝國煌、黃榮山、楊申語、王大銘、張培仁、張致遠、陳偉源, “用於光電製程之微轉印方法”, 中華民國發明專利第 252181 號, (2006/4-2023/8)
3. 賴君義、王大銘、李魁然、高瑟聰、郭佩芸、蘇郁蕙, “用於分離有機溶液之複合膜材及其形成方法”, 中華民國發明專利第 262819 號, 95.8.21, 2006/10/1-2023/7/24.
4. 賴君義、王大銘、李魁然、郭佩芸、蘇郁蕙, “具奈米級無機微粒之幾丁聚醣薄膜及其形成方法”, 中華民國發明專利第 262934 號, 美國發明專利第 7094372 號, 95/5/4, 2006/8/22-2026/8/22

Honors and Others

1. Editor, *Journal of Chemical Engineering of Japan*, 2009-now
2. Editorial Board, *Journal of Taiwanese Institute of Chemical Engineers*, 2006-now
3. Editorial Board, *Applied Membrane Science and Technology*, 2005-now
4. Guest Editor, *Advances in chitin/chitosan science and their applications*, in *Carbohydrate Polymers*, 2010
5. Plenary lecturer, AMS6 (Aseanian Membrane Society), Sydney, Nov. 22-26, 2010.
6. 台大慶齡工業研究中心主任 (2011/8-now)
7. 台大慶齡工業研究中心副主任 (2007/8-2011/7)
8. 輸送現象暨應用研討會籌備委員 (2001-2009)
9. Scientific Committee Member, AMS5 (Aseanian Membrane Society) 2009, Kobe, July 12-14, 2009
10. Scientific Committee Member, AMS7 (Aseanian Membrane Society) 2012, Busan, July 4-6, 2012
11. 台灣大學「教學優良獎」2013