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Professor

B.S. in Chemical Engineering  
National Taiwan University, 1991  
M.S. in Chemical Engineering  
National Taiwan University, 1994  
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#### **Research and Professional Interests**

Functional Membrane Materials  
Membrane Filtration Mechanism  
Membrane Module Design  
Multi-scale Simulation  
Water Treatment and Desalination  
Salinity-gradient Blue Energy

#### **Projects ( started from 2013 )**

1. 大氣電漿噴塗製備功能性仿地質分離膜之研究 (1/3)  
國科會；計畫編號: NSC 102-2221-E-002-033-MY3  
計畫金額 NT\$1,450,000；執行期限: 08/01/2013/-07/31/2014
2. 有機溶劑奈米過濾複合膜之製備、鑑定與應用 (2/2)  
國科會/英國皇家學院；計畫編號: NSC 101-2911-I-002 -501-MY2  
計畫金額 NT\$300,000；執行期限: 01/01/2013-2/28/2014
3. 產學合作計畫－能源整合式製程液回用之薄膜蒸餾淨水技術開發(1/2)  
國科會；計畫編號: NSC 102-2622-E-002-005-CC1  
計畫金額 NT\$1,780,000；執行期限: 02/01/2013/-01/31/2014

#### **Journal Papers**

1. Lin, S.H., C.F. Hsieh, M.H. Li and **K.L. Tung** (2009) "Determination of Mass Transfer Resistance During Absorption of Carbon Dioxide by Mixed Absorbents in PVDF and PP Membrane Contactor," *Desalination*, 249, 647-653 (SCI).
2. **Tung, K.L.**, Y.C. Jean, D. Nanda, W.S. Hung, C.H. Lo, K.R. Lee and J.Y. Lai (2009) "Characterization of Multilayer Nanofiltration Membranes by Positron Annihilation Spectroscopy," *J. Membrane Sci.*, 343(1-2), 147-156 (SCI, 2011 Impact factor: 3.850).
3. Chang, K.S. and **K.L. Tung** (2009) "Oxygen Ion Transport in Dual Phase Scandia-Yttria-Stabilized Zirconia Solid Electrolyte: A Molecular Dynamics Simulation," *ChemPhysChem*, 10(11), 1887-1894 (SCI).
4. Chang, K.S., C.C. Hsiung, C.C. Lin and **K.L. Tung** (2009) "Residual Solvent Effect on Free Volume and Performance of Fluorinated Polyimide Membranes: A Molecular Simulation Study," *J. Phys. Chem. B*, 113(30), 10159-10169. Paper featured as "Cover Art" of this issue in JPCB (SCI).
5. Chang, K.S., C.C. Tung, K.S. Wang and **K.L. Tung** (2009) "Free Volume Analysis and Gas Transport Mechanisms of Aromatic Polyimide Membranes: A Molecular Simulation Study," *J. Phys. Chem. B*, 113(29), 9821-9830. (SCI).

6. Lin, S.H., **K.L. Tung**, H.W. Chang and K.R. Lee (2009) "Influence of Fluorocarbon Flat-Membrane Hydrophobicity on Carbon Dioxide Recovery," *Chemosphere*, 75(10), 1410-1416. (SCI).
7. **Tung, K.L.**, C.C. Hsiung, T.C. Ling, K.S. Chang, T.T. Wu, Y.L. Li, C.H. Kang, W.Y. Chen and D. Nanda (2009) "Preparation and Characterization of Aluminum Oxide Cermet Microfiltration Membrane Using Atmospheric Plasma Spraying," *Desalination*, 246, 35-48. (SCI).
8. **Tung, K.L.**, (2009) "Inorganic Membranes Fabricated by Atmospheric Plasma Spray Coating," *Filtration*, 9(2), 109-112. (CA, SCOPUS).
9. Lin, S.H., **K.L. Tung**, W.J. Chen and H.W. Chang (2009) "Absorption of Carbon Dioxide by Mixed Piperazine- Alkanolamine Absorbent in a Plasma-Modified Polypropylene Hollow Fiber Contactor," *J. Membrane Sci.*, 333(1-2), 30-37 (SCI).
10. Hwang, K.J., C.C. Chan and **K.L. Tung** (2009) "Effect of Backwash on the Performance of Submerged Membrane Filtration," *J. Membrane Sci.*, 330(1-2), 349-356 (SCI).
11. Li, Y.L., **K.L. Tung**, M.Y. Lu and S.H. Huang (2009) "Mitigating the Curvature Effect of the Spacer-Filled Channel in a Spiral-Wound Membrane Module," *J. Membrane Sci.*, 329(1-2), 106-118 (SCI).
12. Chiang, Y.C., Y.Z. Hsu, R.C. Ruaan, C.J. Chuang and **K.L. Tung** (2009) "Nanofiltration Membranes Synthesized from Hyperbranched Polyethyleneimine," *J. Membrane Sci.*, 326(1-2), 19-26 (SCI).
13. Lai, J.Y., **K.L. Tung**, Y.L. Liu, T.W. Chung, K.R. Lee and D.M. Wang (2009) "Membrane Researches and Applications in Taiwan," *Membrane*, 34(1), 26-33.
14. **Tung, K.L.** (2009) "Monitoring Technique for Water Treatment Membrane Processes," Chapter 15 in *Monitoring and Visualizing Membrane-based Processes*, edited by Carme Güell, Montse Ferrando and Francisco López, Wiley VCH, Weinheim (ISBN:978-3-527-32006-6).
15. Chang, K.S., T. Yoshioka, M. Kanezashi, T. Tsuru and **K.L. Tung** (2010) "A Molecular Dynamics Simulation of a Homogeneous Organic-Inorganic Hybrid Silica Membrane," *Chem. Comm.*, 46(48), 9140-9142 (SCI).
16. Chen, C.C., Y.J. Hsu, S.Y. Lu, Y.F. Lin, K.S. Chang, C.H. Kang and **K.L. Tung** (2010) "Growth of Zirconia and Ytria-stabilized Zirconia Nanorod Arrays Assisted by Phase Transition," *CrystEngComm*, 12(11), 3664-3669 (SCI).
17. **Tung, K.L.** (2010) "Towards a Sustainable Community with Membrane Technology," *J. Taiwan Inst. Chem. Eng.*, 41(5), 523-524, Guest Editor (SCI).
18. **Tung, K.L.**, C.C. Hu, C.J. Chuang, K.J. Hwang and T.Y. Wu (2010) "Effects of Soft Particle Deformability and Particle/Pore Size Ratio on the Blocking Mechanism in Dead-end Microfiltration," *Chem. Eng. & Technol.*, 33(8), 1341-1348 (SCI).
19. Chen, W.H., Y.H. Hsieh, **K.L. Tung**, Y.L. Li, S.C. Lai and N.J. Lin (2010) "An Integrated Fouling Monitoring Technique for a Water Treatment Microfiltration Process," *Chem. Eng. & Technol.*, 33(8), 1269-1275 (SCI).

20. Hwang, K.J., H.P. Lo, T.W. Cheng and **K.L. Tung** (2010) "Separation of Protein from Suspended Particles Using Submerged Membrane Filtration," *J. Membrane Sci.*, 362, 427-433 (SCI).
21. Chen, T.F., C.L. Cox, H.C. Lee and **K.L. Tung** (2010) "Least-Squares Finite Element Methods for Generalized Newtonian and Viscoelastic Flows," *Appl. Numer. Math.*, 60(10), 1024-1040 (SCI).
22. Chuang, C.J., **K.L. Tung**, Y.H. Fan, C.D. Ho and J. Huang (2010) "Performance Evaluation of ePTFE and PVDF Flat-sheet Module Direct Contact Membrane Distillation," *Water Sci. and Technol.*, 62(2), 347-352. (SCI).
23. **Tung, K.L.**, K.S. Chang, C.C. Hsiung, Y.C. Chiang and Y.L. Li (2010) "Molecular Dynamics Simulation of the Complex Dopant Effect on the Super-ionic Conduction and Microstructure of the Zirconia-Based Solid Electrolytes," *Separ. & Purif. Technol.*, 73(1), 13-19 (SCI).
24. **Tung, K.L.**, K.R. Lee, C.C. Hu, W.S. Hung, T.T. Wu, J.Y. Lai, Y.C. Jean, Y.F. Song, G.C. Yin and Y.M. Chen (2010) "Advances in Pore Characterization for Filtration Membranes," *Filtration*, 10(2), 135-140. (CA, SCOPUS).
25. Chang, K.S., Y.H. Huang, K.R. Lee and **K.L. Tung** (2010) "Free Volume and Polymeric Structure Analyses of Aromatic Polyamide Membranes: A Molecular Simulation and Experimental Study," *J. Membrane Sci.*, 354(1-2), 93-100. (SCI).
26. **Tung, K.L.**, Y.L. Li, S. Wang, D. Nanda, C.C. Hu, C.L. Li, J.Y. Lai and J. Huang (2010) "Performance and Effects of Polymeric Membranes on the Dead-End Microfiltration of Protein Solution During Filtration Cycles," *J. Membrane Sci.*, 352(1-2), 143-152 (SCI).
27. Nanda, D., **K.L. Tung**, Y.L. Li, N.J. Lin and C.J. Chuang (2010) "Effect of pH on Membrane Morphology, Fouling Potential and Filtration Performance of Nanofiltration Membranes," *J. Membrane Sci.*, 349(1-2), 411-420 (SCI).
28. Kao, S.T., 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 and J.Y. Lai (2010) "Applications of Positron Annihilation Spectroscopy and Molecular Dynamics Simulation to Aromatic Polyamide Pervaporation Membranes," *J. Membrane Sci.*, 348(1-2), 117-123 (SCI).
29. Chang, K.S. Y.F. Lin and **K.L. Tung** (2011) "Insight into the Grain Boundary Effect on the Ionic Transport of Yttria-Stabilized Zirconia at Elevated Temperatures from a Molecular Modeling Perspective," *J. Power Sources*, 196, 9322-9330 (SCI).
30. Nanda, D., **K.L. Tung**, W.S. Hung, C.H. Lo, Y.C. Jean, S.H. Huang, K.R. Lee, C.C. Hu and J.Y. Lai (2011) "Characterization of Fouled Nanofiltration Membranes by Positron Annihilation Spectroscopy," *J. Membrane Sci.*, 382, 124-134 (SCI).
31. Chang, K.S., Y.L. Wang, Y.S. Weng, H.C. Wei and **K.L. Tung** (2011) "Molecular Dynamics Simulations of Polymeric Structure and Alcohol-membrane Surface Affinity of Aromatic Polyamide Membranes," *J. Membrane Sci.*, 382, 30-40 (SCI).
32. Chang, K.S., T. Yoshioka, M. Kanazashi, T. Tsuru and **K.L. Tung** (2011) "Molecular Simulation of Micro-structures and Gas Transport Behavior of Organic-Inorganic Hybrid Amorphous Silica Membranes," *J. Membrane Sci.*, 381, 90-101 (SCI).

33. Li, Y.L., P.J. Lin and **K.L. Tung** (2011) "CFD Analysis of Fluid Flow through a Spacer-Filled Disk-Type Membrane Module," *Desalination*, 283(1-3), 140-147 (SCI).
34. Nanda, D., **K.L. Tung**, Y.L. Li, N.J. Lin, K.R. Lee, C.J. Chuang and S.H. Huang (2011) "Effects of pH and Ionic Strength on Colloidal Fouling of Charged Nanofiltration Membranes," *J. Chem. Eng. Japan*, 44(7), 476-485 (SCI).
35. De Guzman, M., P.Y. Liu, J.T. Chen, **K.L. Tung**, K.R. Lee and J.Y. Lai (2011) "Effect of Compatibilizer on Compatibility and Pervaporation Performance of PC/PHEMA Blend Membranes," *J. Membrane Sci.*, 378, 503-511 (SCI).
36. Kuo, S.C., Y.J. Chen, Y.M. Wang, M.D. Kuo, T.R. Jinn, W.S. Chen, Y.C. Chang, **K.L. Tung**, T.Y. Wu and S.C. Lo (2011) "Cell-based Analysis of Chikungunya Virus Membrane Fusion Using Baculovirus-expression Vectors," *J. Virological Methods*, 175(2), 206-215 (SCI).
37. Li, Y.L. and **K.L. Tung** (2011) "Scale-up Design of a Spacer-Filled Disk-Type Membrane Module Using CFD," *J. Water Sustainability*, 1(1), 59-74.
38. Lin, Y.J., T.R. Jinn, Y.J. Chen, M.C. Deng, C.S. Hwang, F.C. Hsieh, S.S. Kao, Y.J. Chen, **K.L. Tung**, T.Y. Wu and C.C. Huang (2011) "Vaccination with Hemagglutinin Produced in *Trichoplusia ni* larvae Protects Chickens against Lethal H5N1 Challenge," *J. Taiwan Inst. Chem. Eng.*, 42(2), 223-227, (SCI).
39. **Tung, K.L.**, T.H. Chang, Y.F. Lin and C.S. Chyang (2011) "DEM Simulation of a 3D Vertical Vibratory Screening Process: The Study of a Simulated Woven-Mesh Structure," *AIChE J.*, 57(4), 918-928, (SCI).
40. Huang, Y.H., W.C. Chao, W.S. Hung, Q.F. An, K.S. Chang, S.H. Huang, **K.L. Tung**, K.R. Lee and J.Y. Lai (2012) "Investigation of Fine-structure of Polyamide Thin-film Composite Membrane under Swelling Effect by Positron Annihilation Spectroscopy and Molecular Dynamics Simulation," *J. Membrane Sci.*, 417-418, 201-209 (SCI).
41. Chang, K.S., Y.C. Chung, T.H. Yang, J.S. Lue, Y.F. Lin and **K.L. Tung** (2012) "Free Volume and Alcohol Transport Properties of PDMS membranes: Insights of Nano-structure and Interfacial Affinity from Molecular Modeling," *J. Membrane Sci.*, 417-418, 119-130 (SCI).
42. Lue, J.S., T.H. Yang, K.S. Chang and **K.L. Tung** (2012) "Water Diffusivity Suppression and Ethanol-Over-Water Diffusion Selectivity Enhancement for Ethanol/Water Mixtures in Polydimethylsiloxane-Zeolite Membranes," *J. Membrane Sci.*, 415-416, 635-643 (SCI).
43. C. Liu, H. H. Ngo, W.S. Guo and **K.L. Tung** (2012) "Optimal Conditions for Preparation of Banana Peels, Sugarcane Bagasse and Watermelon Rind in Removing Copper from Water," *Bioresource Technol.*, 119, 349-3547 (SCI).
44. Liao, K.S., Y.J. Fu, C.C. Hu, J.T. Chen, D.W. Lin, K.R. Lee, **K.L. Tung**, Y.C. Jean and J.Y. Lai (2012) "Microstructure of Carbon Molecular Sieve Membranes and Their Application to Separation of Aqueous Bioethanol," *Carbon*, 50(11), 4220-4227 (SCI).
45. **Tung, K.L.**, H.R. Damodar, R.A. Damodar, T.T. Wu, Y.L. Li, N.J. Lin, C.J. Chuang, S.J. You and K.J. Hwang (2012) "Online Monitoring of Particle Fouling in a Submerged Membrane Filtration System Using a Photointerrupt Sensor Array," *J. Membrane Sci.*, 407-408, 58-70 (SCI).

46. Zhang, M., L. Zhang, L.H. Cheng, K. Xu, Q.P. Xu, H.L. Chen, J.Y. Lai and **K.L. Tung** (2012) "Extracorporeal Endotoxin Purification by Novel L-Serine Grafted PVDF Membrane Modules," *J. Membrane Sci.*, 405-406, 104-112 (SCI).
47. Li, Y.L., **K.L. Tung**, Y.S. Chen and K.J. Hwang (2012) "CFD Analysis of the Initial Stages of Particle Deposition in Spiral-Wound Membrane Modules," *Desalination*, 287, 200-208 (SCI).
48. Lin, Y.F., J.H. Chen, S.H. Hsu, H.C. Hsiao, T.W. Chung and **K.L. Tung** (2012) "The Synthesis of Lewis Acid ZrO<sub>2</sub> Nanoparticles and Their Novel Applications in Phospholipid Adsorption of Jatropha Oil Used for Biofuel," *J. Colloid Interf. Sci.*, 368, 660-662 (SCI).
49. Lin, Y.F., **K.L. Tung**, Y.S. Tseng, J.H. Chen and K.S. Chang (2012) "Rapid Atmospheric Plasma Spray Coating Preparation and Photocatalytic Activity of Macroporous Titania Nanocrystalline Membranes," *J. Membrane Sci.*, 389, 83-90 (SCI).
50. **Tung, K.L.**, Y.L. Li, C.C. Hu and Y.S. Chen (2012) "Power-Law Polymer Solution Flow in a Converging Annular Spinneret: Analytical Approximation and Numerical Computation," *AIChE J.*, 58(1), 122-131 (SCI).
51. Nguyen, T.A.H., H.H. Ngo, W.S. Guo, J. Zhang, S. Liang and **K.L. Tung** (2013) "Feasibility of Iron Loaded 'Okara' for Biosorption of Phosphorous in Aqueous Solutions," *Bioresource Technol.*, 150, 42-49 (SCI).
52. Liu, K.T., F.L. Liang, Y.F. Lin, **K.L. Tung**, T.W. Chung and S.H. Hsu (2013) "A Novel Green Process on the Purification of Crude Jatropha Oil with Large Permeate Flux Enhancement," *Fuel*, 111, 180-185 (SCI).
53. Lin, N.J., H.S. Yang, Y. Chang, **K.L. Tung**, W.H. Chen, H.W. Cheng, S.W. Hsiao, P. Aimar, K. Yamamoto and J.Y. Lai (2013) "Surface Self-assembled PEGylation of Fluoro-based PVDF Membranes via Hydrophobic-Driven Copolymer Anchoring for Ultra-Stable Biofouling Resistance," *Langmuir*, 29(32), 10183-10193 (SCI).
54. Chen, J.T., Y.J. Fu, **K.L. Tung**, S.H. Huang, W.S. Hung, S.J. Lue, C.C. Hu, K.R. Lee and J.Y. Lai (2013) "Surface Modification of Poly(dimethylsiloxane) by Atmospheric Pressure High Temperature Plasma Torch to Prepare High-Performance Gas Separation Membranes," *J. Membrane Sci.*, 440, 1-8 (SCI).
55. Venault, A., Y. Chang, H.H. Hsu, J.F. Jhong, H.S. Yang, T.C. Wei, **K.L. Tung**, A. Higuchi and J. Huang (2013) "Biofouling-resistance control of expanded poly(tetrafluoroethylene) membrane via atmospheric plasma-induced surface PEGylation," *J. Membrane Sci.*, 439, 48-57 (SCI).
56. Kang, C.S., Y.F. Lin, Y.S. Huang, **K.L. Tung**, K.S. Chang, J.T. Chen, W.S. Hung, K.R. Lee and J.Y. Lai (2013) "Synthesis of ZIF-7/Chitosan Mixed-Matrix Membranes with Improved Performance of Water/Ethanol Mixtures," *J. Membrane Sci.*, 438, 105-111 (SCI).
57. Chang, K.S., **K.L. Tung**, Y.F. Lin and H.Y. Lin (2013) "Molecular Modelling of Polyimides with Intrinsic Microporosity: From Structural Characteristics to Transport Behaviour," *RSC Advances*, 3(26), 10403-10413 (SCI).
58. Hsu, S.H., Y.F. Lin, T.W. Chung, T.Y. Wei, S.Y. Lu and **K.L. Tung** (2013) "Mesoporous Carbon Aerogel Membrane for Phospholipid Removal from Jatropha curcas Oil," *Sep. Purif. Technol.*, 109, 129-134 (SCI).

59. Lin, Y.H., **K.L. Tung**, S.H. Wang, Q. Zhou and K.K. Shung (2013) "Distribution and Deposition of Organic Fouling on the Microfiltration Membrane Evaluated by High-Frequency Ultrasound," *J. Membrane Sci.*, 433, 100-111 (SCI).
60. Villaflores, O.B., C.M. Hsei, C.Y. Teng, Y.J. Chen, J.J. Wey, P.Y. Tsui, R.H. Shyu, **K.L. Tung**, J.M. Yeh, D.J. Chiao and T.Y. Wu (2013) "Easy expression of the C-terminal Heavy Chain Domain of Botulinum Neurotoxin Serotype A as a Vaccine Candidate Using a Bi-cistronic Baculovirus System," *J. Virological Methods*, 189(1), 58-64 (SCI).
61. Lin, Y.F., C.H. Chen, **K.L. Tung**, T.Y. Wei, S.Y. Lu and K.S. Chang (2013) "Mesoporous Fluorocarbon- modified Silica Aerogel Membranes Enabling Long-term Continuous CO<sub>2</sub> Capture with Large Absorption Flux Enhancements," *ChemSusChem*, 6(3), 437-442 (SCI).
62. Nguyen, L.N., F.I. Hai, J. Kang, L.D. Nghiem, W.E. Price, W.S. Guo, H.H. Ngo, and **K.L. Tung** (2013) "Comparison between Sequential and Simultaneous Application of Activated Carbon with Membrane Bioreactor for Trace Organic Contaminant Removal," *Bioresource Technol.*, 130, 412-417 (SCI).
63. Lin, Y.F., J.L. Chen, K.S. Chang and **K.L. Tung** (2013) "Insight into the Roles of Ethylenediamine and Hydrazine for the Synthesis of ZnO Micro/Nanostructures using Solvothermal Process," *J. Nanopart. Res.*, 15(1), 1398 (SCI).
64. **Tung, K.L.**, K.S. Chang and J.Y. Lai (2013) "Recent Advances in Membrane Morphology Characterization," *Curr. Opin. Chem. Eng.*, accepted (Invited Review).
65. Abdolali, A., H.H. Ngo, W.S. Guo, D.J. Lee, **K.L. Tung**, X.C. Wang, (2013) "Development and Evaluation of a New Multi-metal Binding Biosorbent," *Bioresource Technol.*, in press (SCI).
66. Abdolali, A., W.S. Guo, H.H. Ngo, S.S. Chen, N.C. Nguyen, **K.L. Tung**, (2013) "Typical Lignocellulosic Wastes and By-products for Biosorption Processes in Water and Wastewater Treatment: A Critical Review," *Bioresource Technol.*, in press (SCI).
67. Lin, Y.F., C.S. Wang, C.C. Ko, C.H. Chen, K.S. Chang, **K.L. Tung** and K.R. Lee (2013) "Preparation of Electrospun PVDF/Siloxane Nanofibrous Membranes Enabling Long-term Continuous CO<sub>2</sub> Capture with Large Absorption Flux Enhancements," *ChemSusChem*, 6(12), in press (SCI).
68. Chang, K.S., Z.C. Wu, S.J. Kim, **K.L. Tung**, Y.M. Lee, Y.F. Lin and J.Y. Lai (2013) "Molecular Modeling of Poly(benzoxazole-co-imide) Membranes: A Structure Characterization and Performance Investigation," *J. Membrane Sci.*, in press (SCI).
69. Cheng, L.H., M.S. Abd Rahaman, R. Yao, L. Zhang, X.H. Xu, H.L. Chen, J.Y. Lai and **K.L. Tung**, (2013) "Study on Microporous supported ionic liquid membranes for carbon dioxide capture," *Int. J. Greenhouse Gas Control*, in press (SCI)
70. Lin, Y.F., C.C. Ko, C.H. Chen, **K.L. Tung** and K.S. Chang (2013) "Reusable Methyltrimethoxysilane -based Mesoporous Water-repellent Silica Aerogel Membranes for CO<sub>2</sub> Capture," *RSC Advances*, in press (SCI).

### Conference Papers

1. **Tung, K.L.**, T.T. Wu, J.Y. Lai, K.R. Lee, C.C. Hu, Y.C. Jean, Y.M. Sun, Y.F. Song and Y.M. Chen, (2009) "Membrane Pore Characterization Techniques -Status Quo and Future Development," Proc. of 5th Conference of Aseanian Membrane Society (AMS 5), Kobe, Japan, 12~14 July.(Plenary Speaker).

2. Li, Y.L., C.Y. Chang and **K.L. Tung** (2009) "Cake Filtration of Saccharomyces Cerevisiae and Escherichia Coli Microorganism Suspensions: Effect of the Particle Shape," Proc. of 5th Conference of Aseanian Membrane Society (AMS 5), Kobe, Japan, 12-14, July.
3. **Tung, K.L.**, N.J. Lin and T.C. Chen (2009) "Study of Organic Fouling on Fluoropolymeric Microfiltration Membrane," Accepted by AMS5, Kobe, Japan, 12-14, July.
4. **Tung, K.L.**, C.H. Kang, and K.S. Chang (2009) "Preparation and Characterization of the Sc<sub>2</sub>O<sub>3</sub>-Y<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> Solid Electrolyte for IT-SOFC Applications using Atmospheric Plasma Spray Technique," Proc. of AMS5 Conference, Kobe, Japan, 12-14, July.
5. **Tung, K.L.** and K.S. Chang (2009) "Molecular Dynamics Simulation of Oxygen Ions Transport Mechanisms in the Cubic/Monoclinic Dual Phase Scandia-Yttria-Stablized Zirconia Solid Electrolyte," Proc. of AMS5 Conference, Kobe, Japan, 12-14, July. (The Best Student Poster Award)
6. **Tung, K.L.**, M.M. Shao, C.H. Kang, and K.S. Chang (2009) "Preparation and Characterization of Tubular Ceramic Membrane for Microfiltration using Atmospheric Plasma Spray," Proc. of AMS5 Conference, Kobe, Japan, 12-14, July.
7. **Tung, K.L.** (2009) "Fabrication and Modification of Macroporous Membranes Using Atmospheric Plasma Spraying," Proc. of 2nd Int'l Symp. Inorganic Membrane at Hiroshima Univ, Hiroshima, Japan, 15 July.(Invited Speaker).
8. Li, Y.L. and **K.L. Tung**, (2009) "CFD Assisted Design of Spiral-Wound Membrane Modules," Proc. of IWA-MTC2009, Beijing, China, 01-03, September, 2009.(Invited Speaker).
9. **Tung, K.L.**, S.J. Lai, N.J. Lin and Y.L. Li (2009) "Fouling Monitoring Techniques for Water Treatment Membrane Processes," Proc. of IWA-MTC2009, Beijing, China, 01-03, September, 2009.
10. **Tung, K.L.**, Y.L. Li, J.Y. Lai and C.F. Lim, (2009) "Membrane Separation Process for Wash-up Effluent Treatment from Water-Based Flexo Inks Production Industry," Proc. of IWA-MTC2009, Beijing, China, 01-03, September.
11. Li, Y.L., C.Y. Chang and **K.L. Tung** (2009) "Cake Filtration of Saccharomyces Cerevisiae and Escherichia Coli Microorganism Suspensions: Effect of the Particle Shape," Proc. of the 9th Conference on Membrane Science & Technology, Chungli, Taiwan, 8 October.
12. **Tung, K.L.**, C.H. Kang, C.C. Hsiung, K.S. Chang, Y.F. Lin, M.M. Shao and Y.C. Chiang (2009) "Preparation and Characterization of the Sc<sub>2</sub>O<sub>3</sub>-Y<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> Solid Electrolyte for IT-SOFC Applications using Atmospheric Plasma Spray Technique," Proc. of the 9th Conference on Membrane Science & Technology, Chungli, Taiwan, 8 October.
13. **Tung, K.L.**, Y.L. Li, N.J. Lin, Y.H. Yu and T.C. Chen (2009) "Study of the Organic Fouling Mechanism of Polyvinylidene Fluoride Microfiltration Membrane for Wastewater Treatment Applications," Accepted by IWA-ASPIRE2009, Taipei, Taiwan, 18, October, 2009.
14. Fujisaki, K., Y.L. Li and **K.L. Tung** (2009) "A CFD Study of the Rectangular Settling Tank with a Return Sludge Hopper," Proc. of the 3rd IWA-ASPIRE, Taipei, Taiwan, 18-22, October, 2009.



15. **Tung, K.L.** (2009) "Advances in Pore Characterization Techniques development for Filtration Membranes," Proc. of FILTECH 2009, Wiesbaden, Germany, 13~15 October, 2009.
16. Fujisaki, K., Y.L. Li, Y.L. Kou, N.J. Lin and **K.L. Tung** (2009) "Enhancement of settling tank capacity using a new lamellar-type settler," Proc. of Taiwan Water Industry Conference, Tainan, Taiwan, 5-6 November.
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#### **Honors and others**

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- 獲 2010 年台北國際發明技術交易競賽「金牌獎」(2010)
- 獲 2010 年李謀偉福聚教育基金會「學術研究傑出教授獎」(2010)
- 獲 2011 年台北國際發明技術交易競賽「銅牌獎」(2011)
- 獲 2011 年台灣化學科技「產業菁英獎暨產品創新獎」團體獎 (2011)
- 獲第一屆經濟部「國家產業創新獎---績優學術機構獎」團體獎 (2011)
- 獲台灣化工學會 賴再得教授獎 (2012)
- 獲國科會優秀年輕學者計畫 (2013)

#### **Editorial Board of International Journals**

##### **Editor:**

- Journal of Water Sustainability, UTS, Australia (2012/01~)

##### **Guest Editor:**

- Bioresource Technology – Elsevier, Guest Editor (SCI indexed, IF 4.980) (2012)

##### **Manuscript Editor:**

- Desalination and Water Treatment, Taylor & Francis (SCI indexed) (2013/01~)

##### **Editorial Board Member:**

- Journal of the Taiwan Inst of Chem. Eng. (SCI indexed), The TwICHE, Taiwan (2009/01~)

2. Journal of Membrane and Sep. Technol., Life Science Global (2013/01~)
3. Chronicles of Young Scientists, OPUBS (2010/01~)
4. Current Chemical Research, Mehta Sci. Pub. (2010/06~)

#### **International Organization Services**

1. Assessor of Qatar National Research Fund, Qatar (2012/01~now)
2. Assessor of Australian Research Council, Australia (2010/06~now)
3. Management Committee Member of SG on Water Reuse, IWA (2010/05~now)
4. Executive Committee Member of International Recycling Society (2010/01~now)

#### **International Conference Services**

##### **Plenary Speaker:**

1. FILTECH 2013, October 22-24, 2013, Wiesbaden, Germany (2013).
2. AFS Fall Conference, October 17-20, 2011, Houston, Texas, USA (2011).
3. AIChE Spring Meeting+AFS Annual Conf., March 22-25, 2010, San Antonio, Texas, USA(2010).
4. The 2nd GCOE Int'l Symp. of ECCMF2, Feb. 23-24, 2010, Tohoku Univ., Sendai, Japan (2010).
5. The 5th Conf. of Aseanian Membrane Society (AMS5), July 12-14, 2009, Kobe, Japan (2009).

##### **Keynote Speaker:**

1. InterAqua 2013, JDA Forum: "Solution of the Global Water Issues in 21st Century" January 30-February 2, 2013, Tokyo, Japan (2013).
2. The 5th Int'l Desalination Workshop, October 28-31, 2012, Jeju, Korea (2012).
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8. IWA-Membrane Technology Conference 2009, Sept. 1-3, 2009, Beijing, China (2009).
9. APDA Conference, July 8-10, 2009, Qingdao, China (2009).

**Invited Speaker:**

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