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Professional Experience

2013.9-present Professor, Department of Civil, Environmental, and Construction Engineering, Texas Tech University
2007-13.8 Associate Professor, Department of Civil and Environmental Engineering, Texas Tech University
2002-07 Associate Professor, Deputy Director, Center for Water Research, Division of Environmental Science & Engineering and Department of Civil Engineering, National University of Singapore
2000-01 Assistant Professor, Department of Civil Engineering, National University of Singapore
1996-99 Assistant Professor, Dept. of Civil & Structural Engineering, Hong Kong University of Science and Technology (HKUST)
1994-95 Research Associate, Oak Ridge National Laboratory, Oak Ridge, TN
1993-94 Postdoctoral researcher, Department of Civil and Environmental Engineering, University of California, Los Angeles, CA.
1990-93 Graduate Student Research Assistant, Department of Civil and Environmental Engineering, University of California, Los Angeles, CA.
1984-89 Lecturer, Institute of Environmental Sciences, Beijing Normal University, Beijing, China.

Education

1990-93 Ph.D. University of California, Los Angeles, CA
1982-84 M.Sc. Peking University, Beijing, China
1978-82 B.Sc. Peking University, Beijing, China

Honors and Awards

2011 Invited speaker, Department of Civil and Environmental Engineering, University of University of Texas, San Antonio, Texas.
2010 Invited speaker, Department of Civil and Environmental Engineering, University of Houston, Houston, Texas.
2010 Invited speaker at *the ECI Conference on Advances in Science and Engineering for Brackish Water and Seawater Desalination*, Cetraro, Italy.
2009 Invited speaker at *the 5th Sino-US Chemical Engineering Conference*, Beijing, China.
2008 Invited speaker at *the 2008 IWA North American Membrane Research Conference*, Amherst, Massachusetts.

- 2006 Keynote speaker at the *Croucher Foundation Advanced Study Institute (ASI): Leading-edge Strategies and Technologies for Sustainable Urban Water Management* at HKUST, Hong Kong.
- 2005 Invited speaker at *International Congress on Membranes and Membrane Processes (ICOM)*, Seoul, Korea.
- 2003 Award for student paper competition (graduate student S. Ma) at the *14th North American Membrane Society Annual Meeting*, Jackson Hole, WY.
- 2002 Award for student paper competition (graduate student K. L. Chen) at the *13th North American Membrane Society Annual Meeting*, Long Beach, CA.
- 1990 Arco Scholarship that covered full tuition fee at UCLA for three years (1990-1992).

Professional Society Memberships

- American Society of Civil Engineer
- International Water Association
- North American Membrane Society
- Environmental Engineering Society in Singapore

Research Interests and Activities

- Membrane processes (RO, UF, MF) for water desalination and purification
- Physicochemical processes in water and wastewater treatment
- Membrane bioreactor (MBR) for domestic and industrial wastewater treatment
- Colloidal phenomena in aquatic systems
- Transport and fate of contaminants in subsurface environments

Research Grants and Contracts

In US

- Emerging Ion Concentration Polarization for Brackish Desalination (PI, \$144,696, 2017-2018, funded by US Department of the Interior, Bureau of Reclamation)
- Harnessing salinity gradient energy (PI, \$11,939, 2016, funded by Whitacre College of Engineering, Texas Tech University)
- Brackish Water Desalination with Renewable Energy (PI, \$21,913, 2013-2014, funded by Whitacre College of Engineering, Texas Tech University)
- Demonstration of a High Recovery and Energy Efficient RO System for Small-Scale Brackish Water Desalination (PI, \$101,597, 2010-2012, funded by Texas Water Development Board)
- A sustainable Water Treatment System for Long Term Space Habitation (Co-PI, \$69,707, 01/2010-09/2010, funded by NASA)
- Seminal Wind-RO Desalination Demonstration Project (Co-PI, \$550,000, 2009-2011, funded by Texas Water Development Board and the Office of Rural Community Affairs)
- Great Plains Wind Power Test Facility: Wind-RO Desalination (Co-PI, 2008-2010, \$1,968,000, funded by U.S. Department of Energy)
- Assessment of Wind Turbine Performance at Schools (Co-PI, \$50,000, 2007-2008, funded by State Energy Conservation Office)

In Singapore

- Quantifying and Interpolating the Electric Interactions on Ion Transport through Reverse Osmosis Membranes (PI, S\$268,065, 2007-2010, transferred to colleagues due to departure from NUS)

- Hybrid Photocatalysis / Membrane Pretreatment System for Organic Fouling Control in Reverse Osmosis Membrane Processes (PI, S\$98,580, 2007 –2010, transferred to colleagues due to departure from NUS)
- Analysis and Development of Advanced Membranes for Water and Wastewater Treatment
- (PI, S\$115,000, 2006 –2009, transferred to colleagues due to departure from NUS)
- Health & Environment Impacts of Nanomaterials (Co-PI, S\$485,000, 2006 –2007)
- Development of a Membrane Water Treatment System for Boiler Feed water Production
- (PI, S\$110,950, 2005 –2006, funded by NEA)
- Development of Highly Selective and Efficient Membrane Separation/Purification Processes for Biopharmaceutical Products, (PI, S\$100,000, 2004 –2007)
- Experimental Investigation of Organic Fouling on Reverse Osmosis (RO) Membranes
- (PI, S\$71,297, 2003 – 2006)
- Optimization of Membrane Bioreactor System for Primary Sewage Reclamation
- (PI, S\$300,000, 2003 –2004, funded by PUB)
- Advanced Treatment of Industrial Wastewater with Intermediate Organic Strength
- (PI, S\$35,000, 2003 – 2004, funded by ECO Industrial Environmental Engineering Pte Ltd)
- Development of an Integrated Membrane Process for Water Reclamation and Microbial Control
- (Co-PI, S\$200,000, 2002 –2004, funded by A*STAR, equivalent to NSF in US)
- Fouling Development in Full Scale Reverse Osmosis Process (PI, S\$99,900, 2001 –2003)
- Virus Removal by Membrane Filtration (PI, S\$79,827, 2001 – 2003)
- Water Reclamation from Secondary Effluent with Membrane Processes
- (PI, S\$120,000, 2001 – 2003)
- Development of a Quick and Reliable Method for Fouling Characterization in Reverse Osmosis Process (PI, S\$129,000, 2001 – 2003)

In Hong Kong

- Prediction of limiting permeate flux in ultrafiltration (HK\$98,000, 1997 – 1998)
- Cake formation in crossflow membrane filtration systems (HK\$540,000, 1997 – 2001)
- Minimisation of sludge production through energy uncoupling in an activated sludge process (HK\$380,000, 1998 – 2000)

Graduate Students (Graduated)

1. Bryan D. Schuetze (2013), PhD
Dissertation: Energy Efficient Small-scale Brackish Reverse Osmosis Desalination Process
Title and Affiliation: TDB
2. Liu Cui (2012), PhD
Dissertation: Energy Analysis and System Modeling of Reverse Osmosis Desalination Process
Title and Affiliation: Research Assistant, Math department, Texas Tech University.
3. Zhao Yan (2010), PhD

- Dissertation:** Experimental Study of RO Membrane Organic Fouling for Wastewater Reclamation
Title and Affiliation: Research associate, Siemens Water Technologies Global R&D Center, Singapore
4. Gurdev Singh, (2007), PhD
Dissertation: Quantitative Analysis of Physicochemical Effects on Colloidal Fouling in Membrane Processes
Title and Affiliation: Postdoc. Fellow, Dept of Chemical Engrg, University of Ottawa, Canada
 5. Liang Shuang (2007), PhD
Dissertation: Fouling and Accumulation of Dissolved Organic Matter in Membrane Bioreactors
Title and Affiliation: Associate Professor, Shandong University, China
 6. Tay Kwee Guan (2006), PhD
Dissertation: Dynamics and Characterization of Membrane Fouling in a Long Reverse Osmosis Membrane Channel
Title and Affiliation: Research Associate, ESE, NUS, Singapore
 7. Ma Shengwei (2005), PhD
Dissertation: Concentration Polarization in Spacer-Filled RO Membrane Systems
Title and Affiliation: Research Associate, University of Cyprus, Cyprus
 8. Zhou Wenwen (2004), PhD
Dissertation: Study on Solute Transport Through RO/NF Membranes
Title and Affiliation: Scientist, CK-Life Sciences Int'l., (Holdings) Inc, Hong Kong
 9. Yuan Liangyong (2003), MEng
Dissertation Title: Effects of SMP on MBR
Title and Affiliation: Program manager, Dayuan Environmental Inc., Singapore
 10. Zou Yang (2003), MEng
Dissertation Title: Organic Fouling during Reverse Osmosis (RO) Process
Title and Affiliation: Developing Engineer, E-Lab Inc. Singapore
 11. Chen Kai Loon (2003), MEng
Dissertation Title: Fouling Development in Full-Scale RO Process, Characterization and Modeling
Title and Affiliation: PhD graduate student, Yale University, USA
 12. Vincent Ng (2000)
Master student, Study on salt rejection by RO membranes
Title and Affiliation:
 13. Zhang Miaomiao (1999)
Master student, Study on colloidal fouling in ultrafiltration membrane.
Title and Affiliation: Environmental Engineer, CH2M, Seattle, USA

Past Post-doctoral Fellows

1. Dr. Sheng Pingxin
Research Area: Seawater desalination
2. Dr. Zhang Jinchang
Title and Affiliation: Professor, Beijing University of Chemical Technology
3. Dr. Zhang Guojun
Title and Affiliation: Associate Professor, Beijing University of Technology

4. Dr. Hu Xiang

Title and Affiliation: Assistant Professor, Beijing University of Chemical Technology

Courses Developed and Taught

- Membrane Technology in Water and Wastewater Treatment
- Membrane Process Modeling
- Industrial Wastewater Control
- Introduction to Environmental Engineering and Science
- Water Chemistry
- Physical and Chemical Wastewater Treatment
- Water Treatment Engineering
- Municipal Wastewater Engineering
- Hazardous Waste treatment and Site Remediation
- Subsurface Pollutant Transport

Short Courses Taught

- *Physical and Chemical Wastewater Treatment*, Hong Kong University of Science and Technology, October 31 - November 1, 1997.
- *Fundamentals of Industrial Water and Wastewater Treatment*, German Institute of Science and Technology, Singapore, March 17-21, 2003

Services within University

- Colledge Tenure and Promotion Committee (TTU)
- Department computing committee (TTU)
- Faculty Industrial Attachment Committee (NUS)
- Faculty Task Force of Environmental Engineering (NUS)
- Campus Green Committee (NUS)
- Tertiary Institutions Council for the Environment (NUS)
- Safety Officer of Environmental Engineering Laboratory (HKUST)
- Member of Departmental Outreach Committee (HKUST)
- Departmental Computing Committee (HKUST)

Advisory Committees

- International Program Committee for Advanced Technology in the Environmental Field (ATEF 2006), 6-8 February, 2006, Lanzarote, Canary Islands, Spain
- Scientific Committee for the International Congress on Membranes and Membrane Processes (ICOM2005), 21-26 August 2005, Seoul, Korea.
- Expert Committee for International Conference on Integrated Concepts in Water Recycling, 14-17 February 2005, Wollongong, NSW Australia
- International Scientific Advisor Committee for the 2nd International Conference on Application of Membrane Technology, 27-29 September 2002, Beijing, China.

Professional Consulting

- “Pilot Test and Evaluation of NOVO-MOTIAN PVDF Hollow Fiber Membrane as Pre-treatment of RO process”, NOVO Environmental Technology Service Pte Ltd, June - December, 2003.
- “CFD study of spacer arrangement to reduce membrane fouling in spiral wound UF module”, GramTech, Singapore Pte Ltd, January-May, 2004.

Refereed Journal Publications (4387 total citations by Google Scholar as on May 30, 2019)

1. Sun Y, Song L, On rigorous definition of ion transport process and accurate determination of membrane potential at steady state, *AIChE Journal*, 2019, under review.
2. Gao N, Wang J, Song L, Independence of hydraulic pressures on the feed and draw solutions in the osmotically driven membrane processes, *Journal of Membrane Science* 586 (2019) 1–6.
3. Zhang H, Wang J, Rainwater K, and Song L, Metastable state of water and performance of osmotically driven membrane processes, *Membranes* 9 (2019) 43.
4. Wang S, Jia Y, Song L, and Zhang H, Decolorization and Mineralization of Rhodamine B in Aqueous Solution with a Triple System of Cerium(IV)/H₂O₂/Hydroxylamine, *ACS Omega* 3 (2018) 18456–18465.
5. Sun F, Zhang N, Li F, Wang X, Zhang J, Song L, Liang S, Dynamic analysis of self-forming dynamic membrane (SFDM) filtration in submerged anaerobic bioreactor: Performance, characteristic, and mechanism, *Bioresource Technology* 270 (2018) 383-390.
6. Sun C, Zhang N, Li F, Ke G, Song L, Liu X, Liang S, Quantitative Analysis of Membrane Fouling Mechanisms Involved in Microfiltration of Humic Acid–Protein Mixtures at Different Solution Conditions, *Water* 10 (2018) 1306.
7. Wang J, Xin C, Li J Song, L, Jia H, Micro-bubbles enhanced breakage warning for hollow fiber membrane integrity with a low-cost real-time monitoring device, *Environmental Science and Pollution Research* 25 (2018) 24639-24652.
8. Yang W., L. Song, J. Zhao, Y. Chen, B. Hu, Numerical analysis of performance of ideal counter-current flow pressure retarded osmosis, *Desalination* 433 (2018) 41–47.
9. Zhang, H., Lu, X., Yu, H., Song, L.. Insight into influence of iron addition in membrane bioreactor on gel layer fouling. *Membrane Water Treatment*, 8 (2017)), 543~551.
10. Cui, Z., Wang, J., Zhang, H., Song, L., Jia, H., Yang, G., Gao, F.. Influence of selective permeation of backwashing solution on the cleaning effectiveness in hollow fiber system. *Journal of Membrane Science*, 546 (2017), 139-150.
11. Zhang H., W. Yang, K. Rainwater, L. Song, Limiting extractable energy from pressure retarded osmosis with different pretreatment costs for feed and draw solutions, *Journal of Membrane Science* 544 (2017) 208–212.
12. Liang S, Zhao Y, Zhang J, Song L, Bisection method for accurate modeling and simulation of fouling in hollow fiber membrane system, *Environmental Science and Pollution Research* 24 (2017) 14346-14354.
13. Zhang H, Fan X (, Wang B, Song L, Calcium ion on membrane fouling reduction and biofloculation promotion in membrane bioreactor at high salt shock, *Bioresource Technology* 200 (2016) 535-540.
14. Zhang H, Yu H, Zhang L, Song L, Stratification structure of polysaccharides and proteins in activated sludge with different aeration in membrane bioreactor, *Bioresource Technology* 192 (2015) 361-366.
15. Zhang H, Wang Z, Zhang L, Song L, Impact of sludge cation distribution pattern on its filterability in membrane bioreactor, *Bioresource Technology* 171 (2014) 16-21.
16. Zhang H, Gao Z, Zhang L, Song L, Performance enhancement and fouling mitigation by organic flocculant addition in membrane bioreactor at high salt shock, *Bioresource Technology* 164 (2014) 34-40.
17. Schuetze B., K. Rainwater, L. Song, Closed concentrate circulation for high recovery and energy efficiency in small-scale brackish reverse osmosis, *Journal of Environmental Engineering*, 140 (2014) 04014012.

18. Liu, C., Morse, A., Rainwater, K., Song, L. Modeling of concentration polarization in a reverse osmosis channel with parabolic crossflow. *Water Environment Research*, 86 (2014) , 56-62.
19. Vercellino T, A Morse, P Tran, A Hamood, T Reid, L Song, T Moseley, The use of covalently attached organo-selenium to inhibit *S. aureus* and *E. coli* biofilms on RO membranes and feed spacers, *Desalination*, 317 (2013) 142-151.
20. Vercellino T, A Morse, P Tran, L Song, A Hamood, T Reid, T Moseley, Attachment of organo-selenium to polyamide composite reverse osmosis membranes to inhibit biofilm formation of *S. aureus* and *E. coli*, *Desalination* 309 (2013) 291–295.
21. Crawley, J., Jackson, A., Anderson, T., Song, L., Morse, A.. Evaluating RO performance with biological pretreatment of graywater. *Journal of Water, Reuse, and Desalination*, 2 (2012) 109-120.
22. Song L, Liu C., A total salt balance model for concentration polarization in crossflow reverse osmosis channels with shear flow, *Journal of Membrane Science* 401– 402 (2012) 313– 322.
23. Liu, C., Rainwater, K., Song, L. Calculation of energy consumption for crossflow RO desalination processes. *Desalination and Water Treatment* 42 (2012) 295–303.
24. Liang, S., Zhao, T., Zhang, J., Sun, F., C., Song, L. Determination of fouling-related critical flux in self-forming dynamic membrane bioreactors: Interference of membrane compressibility. *Journal of Membrane Science*, 390-391 (2011) 113-120.
25. Liu, C., Song, L., Rainwater, K. Energy analysis and efficiency assessment of reverse osmosis desalination process. *Desalination*, 276 (2011) 352-258.
26. Low, D., Hamood, A., Reid, T., Mosely, T., Tram, P., Song, L., Morse, A. Attachment of Selenium to a Reverse Osmosis Membrane to Inhibit Biofilm Formation of *S. aureus*. *Journal of Membrane Science*, 378 (2011) 171-178.
27. F Meng, B Liao, S Liang, F Yang, H Zhang, L Song, Morphological visualization, componential characterization and microbiological identification of membrane fouling in membrane bioreactors (MBRs), *Journal of Membrane Science* 361 (2010) 1–14
28. Zhao Y, L Song, SL Ong, Fouling of RO membranes by effluent organic matter (EfOM): Relating major components of EfOM to their characteristic fouling behaviors, *Journal of Membrane Science* 349 (2010) 75–82.
29. Zhao Y, L Song, SL Ong, Fouling behavior and foulant characteristics of reverse osmosis membranes for treated secondary effluent reclamation, *Journal of Membrane Science* 349 (2010) 65–74.
30. Song L, Concentration polarization in a narrow reverse osmosis membrane channel, *AIChE Journal*, 56 (2010) 143-149.
31. Liang S., C. Liu, and L. Song, “Two-step optimization of pressure and recovery of cross flow reverse osmosis desalination process”, *Environmental Science & Technology* 43 (9) (2009) 3272-3277.
32. Maung HO and L Song, "Effect of pH and ionic strength on boron removal by RO membranes", *Desalination* 246 (2009) 605-612.
33. Liang and Song, "Effect of solution chemistry on the fouling potential of dissolved organic matter in membrane bioreactor systems", *Journal of Membrane Science* 310 (2008) 503–511.

34. Singh G. and L Song, "Impact of Feed Water Acidification with Weak and Strong Acids on Colloidal Silica Fouling in Ultrafiltration Membrane Processes", *Water Research* 42(3) (2008) 707-713.
35. Liu H. and L Song, "Titanium-based photocatalysis as the pretreatment for ultrafiltration of secondary municipal effluent with low concentration of organic matters", *Water Resources Management* 103(2007) 411 -420.
36. Singh G. and L Song, "Experimental correlations of pH and ionic strength effects on the colloidal fouling potential of silica nanoparticles in crossflow ultrafiltration", *Journal of Membrane Science* 303 (2007) 112-118.
37. Liang, S and L Song, "Characteristics and fouling behaviors of dissolved organic matter in submerged membrane bioreactor systems". *Environmental Engineering Science* 24(5) (2007) 652-662.
38. Tay, KG and L Song, "Differential pressure in membrane channel caused by foulant capture onto spacers". *Water Environment Research* 7 (2007) 788-794.
39. Liang, S, C Liu and L Song, "Soluble microbial products in membrane bioreactor operation: behaviors, characteristics, and fouling potential". *Water Research* 41 (2007) 95-101.
40. Song, L, S Liang and L Y Yuan, "Retarded transport and accumulation of soluble microbial products in a membrane bioreactor". *Journal of Environmental Engineering* 133 (2007) 36-43.
41. Song, L., Tay, K.G. and Singh, G. "Critical design considerations for harnessing reverse osmosis processes in water/wastewater treatment", *Water Science & Technology: Water Supply* 6(6) (2006) 61-70.
42. Song, L and G Singh, "Cake compressibility of silica colloids in membrane filtration processes". *Industrial & Engineering Chemistry Research* 45 (2006) 7633-7638.
43. Song, L and KG Tay, "Performance prediction of a long crossflow reverse osmosis membrane channel", *Journal of Membrane Science* 281(1-2) (2006) 163-169.
44. Song, L and SW Ma, "Numerical study on permeate flux enhancement by spacers in a crossflow reverse osmosis channel", *Journal of Membrane Science* 284 (2006) 102-109.
45. Singh, G and L Song, "Influence of sodium dodecyl sulfate on colloidal fouling potential during ultrafiltration", *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 281(1-3) (2006) 138-146.
46. Liang, S, L Song, GH Tao, KA Kekre and H Seah, "A modeling study of fouling development in membrane bioreactors for wastewater treatment", *Water Environment Research* 78(8) (2006) 857-863.
47. Zhou, WW, L Song and KG Tay, "Estimation of concentration polarization on performance of spiral wound membrane modules", *Journal of Membrane Science* 27 (2006) 38-46.
48. Wang YH, Zhu JL, Zhang JC, Song LF, Hu JY, Ong SL, Ng WJ, "Selective oxidation of CO in hydrogen-rich mixtures and kinetics investigation on platinum-gold supported on zinc oxide catalyst," *Journal of Power Sources* 155 (2) (2006) 440-446.
49. Tay, KG, L Song, SL Ong and WJ Ng, "Nonlinear relationship between permeate flux and transmembrane pressure in full-scale RO process", *Journal of Environmental Engineering-ASCE* 131(11) (2005) 1481-1487.

50. Song, L and SW Ma, "Numerical studies of the impact of spacer geometry on concentration polarization in spiral wound membrane modules", *Industrial & Engineering Chemistry Research* 44(20) (2005) 7638-7645.
51. Song, L and G Singh, "Influence of various monovalent cations and calcium ion on the colloidal fouling potential", *Journal of Colloid and Interface Science* 289(2) (2005) 479-487.
52. Lew CH, Hu JY, Song L, Lee LY, Ong SL, Ng WJ, Seah H, "Development of an integrated membrane process for water reclamation", *Water Science And Technology* 51(6-7) (2005) 455-463.
53. Zhou, WW and L Song, "Experimental study of water and salt fluxes through reverse osmosis membranes", *Environmental Science & Technology* 39(9) (2005) 3382-3387
54. Wang YH, Zhang JC, Song L, Hu JY, Ong SL, Ng WJ, "Adsorption removal of phenol in water and simultaneous regeneration by catalytic oxidation", *Environmental Engineering Science* 22(5) (2005) 608-614.
55. Singh, G, and L Song, "Quantifying the effect of ionic strength on colloidal fouling potential in membrane filtration", *Journal of Colloids and Interface Science* 284(2) (2005) 630-638.
56. Zhang, JC, YH Wang, L Song, J Y Hu, S L Ong, W J Ng and L Y Lee, Feasibility investigation of refinery wastewater treatment by combination of PACs and coagulant with ultrafiltration. *Desalination* 174(3) (2005) 247-256.
57. Tay, KG and L Song, "Characterization of membrane fouling in full-scale reverse osmosis process", *Desalination* 177 (2005) 95-107.
58. Zhang, JC; L Song, JY Hu, SL Ong, WJ Ng, LY Lee, YH Wang, JG Zhao, RY Ma, "Investigation on gasoline deep desulphurization for fuel cell applications", *Energy Conversion And Management* 46(1) (2005) 1-9.
59. Hu JY, Song LF, Ong SL, Phua ET, Ng WJ, "Biofiltration pretreatment for reverse osmosis (RO) membrane in a water reclamation system," *Hemosphere* 59(1) (2005) 127-133.
60. Ma, SW, L Song, SL Ong, WJ Ng, "A 2-D Streamline Upwind Petrov/Galerkin Finite Element Model for Concentration Polarization in Spiral Wound Reverse Osmosis Modules", *Journal of Membrane Science* 244(1-2) (2004) 129-139.
61. GJ Zhang, ZZ Liu, L Song, JY Hu, SL Ong, WJ Ng, "Post-treatment of banknote printing works wastewater ultrafiltration concentrate", *Water Research* 38(16) (2004) 3587-3595.
62. Song, L, KL Chen, SL Ong, and WJ Ng, "A new normalization method for determination of colloidal fouling", *Journal of Colloid and Interface Science* 271 (2004) 426-433.
63. Chen, KL, L Song, SL Ong and WJ Ng, "Prediction of membrane fouling in full-scale RO process", *Journal of Membrane Science* 232 (2004) 63-72.
64. Zhang, GJ; ZZ Liu, L Song, JY Hu, SL Ong, WJ Ng, "One-step cleaning method for flux recovery of an ultrafiltration membrane fouled by banknote printing works wastewater", *Desalination* 170(3) (2004) 271-280
65. Hu JY, Ong SL, L Song, YY Feng, WT Liu, TW Tan, LY Lee, WJ Ng, "Removal of MS2 bacteriophage using membrane technologies", *Water Sci Technol* 47(12) (2003) 163-168.
66. Song, L and Ong SL, "Emerging Research Needs for Membrane Processes", *Water Environment Research* 75(4) (2003) 99-100.

67. Feng, YY, ZM He, L Song, SL Ong, JY Hu, ZG Zhang, WJ Ng, "Kinetics of beta-mannanase fermentation by bacillus licheniformis", *Biotechnol Lett* 25(14) (2003) 1143-1146.
68. Song, L, JY Hu, SL Ong, WJ Ng, M Elimelech, M Wilf, "Emergence of thermodynamic restriction and its implications for full-scale reverse osmosis processes", *Desalination* 155(3) (2003) 213-228.
69. Hu, JY, T Yuan, SL Ong, L Song, WJ Ng, "Identification and quantification of bisphenol A by gas chromatography and mass spectrometry in a lab-scale dual membrane system", *Journal of Environmental Monitoring* 5(1) (2003) 141-144.
70. Feng, YY, SL Ong, JY Hu, L Song, XL Tan, WJ Ng, "Effect of particles on the recovery of Cryptosporidium oocysts from source water samples of various turbidities", *Applied and Environmental Microbiology* 69(4) (2003) 1898-1903.
71. Song, L, JY Hu, SL Ong, WJ Ng, M Elimelech, M Wilf, "Performance limitation of the full-scale reverse osmosis process", *Journal of Membrane Science* 214(2) (2003) 239-244.
72. Ong, SL, WW Zhou, L Song, WJ Ng, " Evaluation of feed concentration effects on salt/ion transport through RO/NF membranes with the Nernst-Planck-Donnan model ", *Environmental Engineering Science* 19(6) (2002) 429-439.
73. Ong, SL, JY Hu, LY Lee, WJ Ng, L Song, "Packed bed columns for high rate nitrogen and carbon removals", *Water Science and Technology* 46(11-12) (2002) 57-62.
74. Ng, WJ, SL Ong, KY Tan, JY Hu, LY Lee, L Song, " Toxicity assays to determine the start-up strategy for an anaerobic sequencing batch reactor (anSBR)", *Water Science and Technology* 46(11-12) (2002) 343-348.
75. Song, L, S Hong, JY Hu, SL Ong, WJ Ng, "Simulations of full-scale reverse osmosis membrane process", *Journal of Environmental Engineering-ASCE* 128(10) (2002) 960-966.
76. Liu, WT, CL Huang, JY Hu, L Song, SL Ong, WJ Ng, "Denaturing gradient gel electrophoresis polymorphism for rapid 16S rDNA clone screening and microbial diversity study" *Journal of Bioscience and Bioengineering* 93(1) (2002) 101-103.
77. Zhang, M, and L Song, "Mechanisms and parameters affecting flux decline in cross-flow microfiltration and ultrafiltration of colloids", *Environmental Science & Technology* 34 (2000) 3767-3773.
78. Zhang, M, and L Song, "Pressure-dependent permeate flux in ultra- and microfiltration", *Journal of Environmental Engineering-ASCE* 126(7) (2000) 667-674.
79. Song, L. "Thermodynamic modeling of solute transport through reverse osmosis membrane", *Chemical Engineering Communications* 180 (2000) 145-167.
80. Song, L. "Permeate flux in crossflow ultrafiltration under intermediate pressures", *J. Colloid and Interface Sci*, 214(2) (1999) 251-263.
81. Wang, L, and Song L. "Flux decline in crossflow microfiltration and ultrafiltration: experimental verification of fouling dynamics", *Journal of Membrane Science* 160(1) (1999) 45-54.
82. Song, L and Yu S. "Concentration polarization in crossflow reverse osmosis", *AIChE Journal* 45(5) (1999) 921-928.
83. Song, L, "A new model for the calculation of the limiting flux in ultrafiltration", *Journal of Membrane Science* 144 (1998) 173-185.

84. Song, L, "Flux decline in crossflow microfiltration and ultrafiltration: mechanisms and modeling of membrane fouling", *Journal of Membrane Science* 139(2) (1998) 183-200.
85. Song, L, and M Elimelech, "Theory of concentration polarization in crossflow filtration", *Journal of the Chemical Society, Faraday Transactions* 91 (1995) 3389-3398.
86. Song, L and M Elimelech, "Particle deposition onto a permeable surface in laminar flow" *Journal of Colloid and Interface Science* 173 (1995) 165-180.
87. Song, L and M Elimelech, "Transient deposition of colloidal particles in heterogeneous porous media", *Journal of Colloid and Interface Science* 167 (1994) 222-234.
88. Song, L, PR Johnson, and M Elimelech, "Kinetics of colloid deposition onto heterogeneously charged surfaces in porous media", *Environmental Science & Technology* 28(6) (1994) 1164-1171.
89. Song, L and M Elimelech, "Calculation of particle deposition rate under unfavorable particle-surface interactions", *Journal of the Chemical Society, Faraday Transactions* 89 (1993) 3443-3452.
90. Song, L and M Elimelech, "Dynamics of colloid deposition in porous media: modeling the role of retained particles", *Colloids and Surfaces A* 73 (1993) 49-63.
91. Song, L and M Elimelech, "Deposition of Brownian particles in porous media: modified boundary conditions for the sphere-in-cell model", *Journal of Colloid and Interface Science* 153 (1992) 294-297.
92. Elimelech, M and L Song, "Theoretical investigation of colloid separation from dilute aqueous suspensions by oppositely charged granular media", *Separations Technology* 2 (1992) 2-12.

Other Journal Publications

1. Rainwater, K, P Nash, L Song, and J Schroeder, The Seminole project: renewable energy for municipal water desalination, *Journal of Contemporary Water Research & Education*, 151 (2013) 50-60.
2. Zhou, WW, L Song, SL Ong and WJ Ng, "A method for predicting salt rejection through RO membranes", *Advances in Asian Environmental Engineering* 3(1) (2003) 12-21.
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4. Schuetze B, K Rainwater, L Song, "Accurate quantification of energy consumption in crossflow ro desalination processes" North America Membrane Society (NAMS) Annual Meeting, June 4-8, 2011, Las Vegas, NV, USA.
5. Song L, "Energy analysis and cost minimization of RO desalination processes", SCMA 2010 Annual Conference and Membership Meeting, September 27-29, 2010, South Padre, Texas
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8. Song L, "Performance and energy efficiency of full-scale reverse osmosis desalination", IWA North American Membrane Research Conference, August 10-13, 2008, Amherst, MA
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1. Lianfa Song, Reverse osmosis desalination processes and sustainable water supply, June 9, 2014, Northeast Dianli Univeristy, Jilin, China.
2. Lianfa Song, Dynamics of colloidal fouling in crossflow membrane filtration, June 10, 2014, Northeast Dianli Univeristy, Jilin, China.
3. Liu C, Rainwater K, and Song L, Energy Consumption Analysis in Crossflow RO Desalination Processes, July 23, 2013, Shandong University, Jinan, China.
4. Rainwater K, Nash, P, and Song L, Wind-powered Desalination of Brackish Groundwater for Municipal Supply, September 26, 2012, Wind Science and Engineering Seminar, Lubbock, TX.

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6. Rainwater K, Nash, P, Song L, and Schroeder J, Wind-powered Desalination of Brackish Groundwater for Municipal Supply, April 25, 2012, Storage and Power Electronics Team, Department of Energy Sandia National Laboratory, Lubbock, TX.
7. Song L, "Dynamics of Colloidal Fouling in Crossflow Membrane Filtration", October 7, 2011, Department of Civil and Environmental Engineering, University of Texas, San Antonio, Texas.
8. Song L, "Dynamics of Colloidal Fouling in Crossflow Membrane Filtration", September 17, 2010, Department of Civil and Environmental Engineering, University of Houston, Houston, Texas.
9. Song L, "Analysis of energy consumption and cost minimization of RO desalination processes", June 17, 2010, Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore.
10. Song L, "Mass Transfer and Concentration Polarization in RO Membrane Channel", June 16, 2010, Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore.
11. Song L, "Reverse Osmosis Processes and Sustainable Water Supply", June 15, 2010, Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore.
12. Song L, "Experimental Investigation of Organic Fouling on Reverse Osmosis Membranes", *Engineering Faculty Public Lecture*, 18 April 2007, EA auditorium, Faculty of Engineering, National University of Singapore
13. Song L, "Performance Prediction a Long Narrow Reverse Osmosis Filtration Channel", *Workshop on Moving Interface Problems and Application in Biological Flows*, 5-8 February, 2007, Institute for Mathematical Sciences, National University of Singapore, Singapore
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21. Song, L, WW Zhou, SL Ong and WJ Ng, "Study on Membrane Potential and Ion Transport through Reverse Osmosis Membranes", presented at NAMS 14th Annual Meeting, 17-21 May 2003, Snow King Resort, Jackson Hole, WY.
22. Song, L, LY Yuan, SL Ong and WJ Ng, "Retarded Transport of Soluble Microbial Products through the membrane in an MBR", presented at NAMS 14th Annual Meeting, 17-21 May 2003, Snow King Resort, Jackson Hole, WY.
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24. Song, L, "Membrane Technology in Water Reclamation and Pollution Control", presented at NUS Workshop on Sustainable Urban Infrastructure, 26-26 February 2002, NUS, Singapore.
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31. Song, L, "Fouling Characterization & Modeling in RO Process for Water Reclamation", presented at Innovative Technology: New Life to Water, 6-6 November 2002, NUS, Singapore
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33. Song, L, "A new model for membrane transport with coefficients completely independent of pressure and concentration", presented at ICOM '99, 12-18 June 1999, Toronto, Canada.
34. Song, L, "Fouling dynamics of colloids in crossflow ultra- and microfiltration", presented at North American Membrane Society -10th Annual Meeting, 16-20 May 1998, Cleveland, OH.

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37. Hong, S., Song, L., and Elimelech, M. "Crossflow Membrane Filtration of Particle Suspensions: Theory and Experiments", *Annual Meeting of the North American Membrane Society*, May 19-23, 1996.
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