

## Shihong Lin

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### RESEARCH MISSION STATEMENT

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To advance water separation processes via fundamental research and technology development for addressing critical challenges of water and resource sustainability.

### EDUCATION

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- 2012 Ph.D. Environmental Engineering, Duke University (Advisor: Prof. Mark Wiesner)  
2011 M.Sc. Environmental Engineering, Duke University  
2006 B.Sc. Environmental Engineering, Harbin Institute of Technology

### PROFESSIONAL APPOINTMENTS

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#### Vanderbilt University

- Associate Professor (2021-present), Assistant Professor (2015-2021)  
Dept. of Civil and Environmental Engineering (primary)  
Dept. of Chemical and Biomolecular Engineering (by courtesy)

#### Yale University

- Postdoctoral Associate (2013-2014)  
Dept. of Chemical and Environmental Engineering (Advisor: Prof. Menachem Elimelech)  
Co-founder of Aquatrino LLC. (since 2023)  
Scientific Advisor for Waterbox LLC. (since 2023)

### EDITORSHIP AND EDITORIAL ADVISORY BOARD

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- 2023 Section Editor, *Journal of Water Process Engineering* (Elsevier)  
2021 Associate Editor, *Resources, Conservation, and Recycling* (Elsevier)  
2020 Associate Editor, *Chemical Engineering Journal Advances* (Elsevier)  
2019-2022 Associate Editor, *Journal of Water Process Engineering* (Elsevier)  
2021 Editorial Advisory Board, *Journal of Membrane Science Letters* (Elsevier)  
2020 Early Career Editorial Advisory Board, *ACS ES&T Engineering* (ACS)  
2020 Early Career Editorial Advisory Board, *Environmental Science & Technology* (ACS)  
2021 Lead Editor of Special Issue on “Mining Resources from Water” in *Resources, Conservation, and Recycling* (Elsevier)  
2020 Guest Editor of Special Issue on “Sustainable Membrane Materials, Systems, and Processes”, *Chemical Engineering Journal Advances* (Elsevier)

- 2020 Guest Editor of Special Issue on “Energy Efficient Desalination”, *Desalination* (Elsevier)
- 2019 Guest Editor of Special Issue on “Advanced Functional Materials for Environmental Applications” in *Environmental International* (Elsevier)

## AWARDS AND RECOGNITIONS

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- 2023 Chancellor Faculty Fellow, Vanderbilt University
- 2023 Invited Speaker, Blavatnik U.S.-Israel Scientific Forum, National Academy of Sciences
- 2023 Excellence in Graduate Student Mentoring Award, Vanderbilt University
- 2023 Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineers
- 2023 WIMEK Research Fellowship, Wageningen University
- 2022 Highly Cited Researcher, Clarivate
- 2022 Best Paper Award, *ACS ES&T Engineering*
- 2022 Rising Star, *ACS Environmental Au*
- 2022 Excellence in Review Award, *ACS ES&T Engineering*
- 2021 High Impact Paper Award, Vanderbilt Institute of Nano Science and Engineering
- 2021 Emerging Investigator, *Environmental Science: Water Research & Technology*
- 2020 James J. Morgan Early Career Award (Honorable Mention), *ES&T and ES&T Letters*
- 2020 Excellence in Review Award, *Environmental Science & Technology (ES&T)*
- 2020 Paul L. Busch Award, Water Research Foundation
- 2020 Young Investigator Award, Chinese American Professors in Environmental Engineering and Science (CAPEES)
- 2020 High Impact Paper Award, Vanderbilt Institute of Nano Science and Engineering
- 2019 High Impact Paper Award, Vanderbilt Institute of Nano Science and Engineering
- 2017 ExCEED Fellowship, American Society of Civil Engineering
- 2016 Frontier of Engineering Symposium Participant, National Academy of Engineering
- 2016 Doctoral New Investigator Award, ACS Petroleum Research Foundation
- 2016 Ralph E. Powe Junior Faculty Award, Oak Ridge Associated Universities
- 2013 Graduate Student Award, ACS Environmental Chemistry

## RESEARCH

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### Journal Publications

**Snapshot:** >110 peer-reviewed publications, Google Scholar citations > 10,000 and H-index=51  
(Please refer to [Google Scholar](#) for a complete list of publications)

### Full Publication List (\*indicates corresponding authorship)

1. Wang, R., Alghanayem, R., and **Lin, S.\***, Multi-pass Nanofiltration for Lithium Separation with High Selectivity and Recovery, *Environmental Science & Technology*, **57**, **2023**, 14464–14471

2. Zhang, X., Yao, Y., Horseman, T., Wang R., Yin, Y., Zhang, S., Tong, T.\*, and **Lin, S.\***, Electrolytic crystallization to enable zero liquid discharge, *Nature Water*, 1, **2023**, 547-554
3. Wang, R., He, R., He, T., Elimelech, M., and **Lin, S.\***, Performance metrics for nanofiltration-based selective separation for resource extraction and recovery, *Nature Water*, 1, **2023**, 291-300
4. Dai, R., Zhou, H., Wang, T., Qiu, Z., Long, L., **Lin, S.\***, Tang, C-Y.\*, and Wang, Z.\*, Nanovehicle-assisted monomer shuttling enables highly permeable and selective nanofiltration membranes for water purification. *Nature Water* 1, **2023**, 281–290
5. Yang, X., Zhang, N., Zhang, J., Liu, W., Zhao, M., **Lin, S.** and Wang, Z.\*. Nanocomposite Hydrogel Engineered Janus Membrane for Membrane Distillation with Robust Fouling, Wetting, and Scaling Resistance. *Environmental Science & Technology*, 57, **2023**, 15725-15735.
6. Xu, S., He, R., Chen, J., Luo, J., Chen, H., **Lin, S.**, Zhang, Y.B. and He, T.\*, Extrinsic compensation on separation performance of layer-by-layer nanofiltration membranes. *Desalination*, 564, **2023**, 116786.
7. Li, N., Li, M., Lin, S., Cui, S. and Zhang, X.\*, Stoichiometric effect on the structural transformation and spatial variation of polyamide reverse osmosis membranes: A molecular dynamics study. *Journal of Membrane Science*, 686, **2023**, 121980.
8. Zhang, N., Zhang, J., Yang, X., Zhou, C., Zhu, X., Liu, B., Chen, Y., **Lin, S.** and Wang, Z.\*, Janus Membrane with Hydrogel-like Coating for Robust Fouling and Wetting Resistance in Membrane Distillation. *ACS Applied Materials & Interfaces*, 15, **2023**, 19504-19513
9. Chen, Y., Feng, D., **Lin, S.**, and Wang, Z.\*, Quantifying the benefits of membranes with ultrahigh vapor permeability for membrane distillation, *ACS ES&T Engineering*, 3, **2023**, 981–988
10. Jeong, N., Epsztein, R., Wang, R., Park, S., **Lin, S.**, and Tong, T.\*, Exploring the knowledge attained by machine learning on transport across polyamide membranes using explainable artificial intelligence, *Environmental Science & Technology*, accepted
11. Hou, C., Liu, W., Du, L., Li, Y., Zhou, J., **Lin, S.**, Qiao, S.\* and Zhu, Y.\* Superhydrophobic membrane from double co-crystallization for high-performance separation of water-in-oil emulsion. *Journal of Membrane Science*, 679, **2023**, #121702.
12. Wang, R., Duddu, R. and **Lin, S.\***, Extended Donnan-Manning theory for selective ion partition and transport in ion exchange membrane. *Journal of Membrane Science*, 681, **2023**, #121782.
13. Mi, J., Wu, X., Capper, J., Li, X., Shalaby, A., Wang, R., **Lin, S.**, Hajj, M. and Zuo, L.\*, Experimental investigation of a reverse osmosis desalination system directly powered by wave energy. *Applied Energy*, 343, 2023, #121194.
14. Zhu, Y., Gui, L., Wang, R., Wang, Y., Fang, W., Elimelech, M., **Lin, S.\*** and Jin, J.\*, Regulation of molecular transport in polymer membranes with voltage-controlled pore size at the angstrom scale. *Nature Communications*, 14(1), **2023**, #2373.
15. Zhang, N., Zhang, J., Yang, X., Zhou, C., Zhu, X., Liu, B., Chen, Y., **Lin, S.** and Wang, Z.\*, Janus Membrane with Hydrogel-like Coating for Robust Fouling and Wetting Resistance in Membrane Distillation. *ACS Applied Materials & Interfaces*, 15, **2023**, 19504-19513.

16. Liu, W., Wang, R., Straub, A.P., and **Lin, S.\***, Membrane design criteria and practical viability of pressure-driven distillation, *Environmental Science & Technology*, 57, **2023**, 2129-2137
17. Wang, Y., Chen, Y., **Lin, S.**, Wang, Z. and He, T.\*, Negative Pressure Membrane Distillation: A Novel Strategy for Wetting Mitigation, *Environmental Science & Technology Letters*, 10, **2023**, 52
18. Lopez, K., Wang, R., Hjelvik, E., **Lin, S.**, and Straub, A.P.\*, Toward a universal framework for evaluating transport resistances and driving forces in membrane-based desalination processes, *Science Advances*, 9, **2023**, eade0413
19. Wang, Z., Liu, S., Zhang, H., Zhang, Z., Jiang, J., He, D.\*, and **Lin, S.\***, Thallium Mining from Industrial Wastewaters Enabled by a Dynamic Composite Membrane Process, *Resources, Conservation and Recycling*, 186, **2022**, 106577
20. Wang, R. and **Lin, S.\***, Thermodynamics and Energy Efficiency of Zero Liquid Discharge, *ACS ES&T Engineering*, 2, **2022**, 1491
21. He, R., Xu, S., Wang, R., Bai, B., **Lin, S.** and He, T.\*, 2022. Polyelectrolyte-based nanofiltration membranes with exceptional performance in Mg<sup>2+</sup>/Li<sup>+</sup> separation in a wide range of solution conditions. *Journal of Membrane Science*, 663, **2022**, 121027
22. Yin, Y., Li, T., Zuo, K., Liu, X., **Lin, S.**, Yao, Y. and Tong, T., 2022. Which Surface Is More Scaling Resistant? A Closer Look at Nucleation Theories for Heterogeneous Gypsum Nucleation in Aqueous Solutions. *Environmental Science & Technology*, 56, **2022**, 16315
23. Wang, M., He, W., Hua, Y., Xie, X., Chen, S., Zhou, L., Zhang, Y., Hou, Y., **Lin, S.**, Xia, H. and Zheng, J., Alternative photothermal/electrothermal hierarchical membrane for hypersaline water treatment. *SusMat*, 2, **2022**, 679.
24. Horseman, T. and **Lin, S.\***, Exceptional Mineral Scaling Resistance from the Surface Gas Layer: Impacts of Surface Wetting Properties and the Gas Layer Charging Mechanism. *ACS Environmental Au*, 2, **2022**, 418
25. Wen, Y., Dai, R., Li, X., Zhang, X., Cao, X., Wu, Z., **Lin, S.\***, Tang, C.\* and Wang, Z.\*, Ultra-Selective Polyamide Membrane from Metal Organic Framework Assembly Regulated Interfacial Polymerization for Desalination and Water Reuse, *Science Advances*, 8, **2022**, eabm4149
26. Wang, R., Zhang, J., Tang, C., and **Lin, S.\***, Understanding selectivity in solute-solute separation: definitions, measurements, and comparability, *Environmental Science & Technology*, 56, **2022**, 2605
27. Huang, Y., Wang, Z., Horseman, D., Livingston, J., **Lin, S.\***, Interpreting Contact Angles of Surfactant Solutions on Microporous Hydrophobic Membranes, *Journal of Membrane Science Letters*, 1, **2022**, 100015
28. Yin, Y., Kalam, S., Livingston, J., Minjarez, R., Lee, J., **Lin, S.** and Tong, T.\*, The use of anti-scalants in gypsum scaling mitigation: Comparison with membrane surface modification and efficiency in combined reverse osmosis and membrane distillation. *Journal of Membrane Science* 643, **2022**, 120077.
29. Zhao, Y., Sun, M., Winter, L.R., **Lin, S.**, Wang, Z., Crittenden, J.C. and Ma, J., 2022. Emerging Challenges and Opportunities for Electrified Membranes to Enhance Water Treatment. *Environmental Science & Technology*, 56, **2022**, .3832-3835.

30. Liu, Y., Horseman, T., Wang, Z., Hassan, A., Yin, H., **Lin, S.\*** and He, T.\*, Negative Pressure Membrane Distillation for Excellent Scaling Resistance and Enhanced Vapor Flux, *Environmental Science & Technology*, 56, 2022, 1405
31. Xie, W., Tang, P., Wu, Q., Chen, C., Song, Z., Li, T., Bai, Y., **Lin, S.**, Tiraferri, A. and Liu, B., Solar-driven desalination and resource recovery of shale gas wastewater by on-site interfacial evaporation. *Chemical Engineering Journal*, 428, 2022, 132624.
32. Christie, K.S.S., Horseman, T., Wang, R., Su, C., Tong, T., and **Lin, S.\***, Gypsum scaling in membrane distillation: impacts of temperature and vapor flux, *Desalination*, 525, 2022, 115499
33. Wang, X., Sun, K., Zhang, G., Yang, F., **Lin, S.** and Dong, Y.\*, Robust zirconia ceramic membrane with exceptional performance for purifying nano-emulsion oily wastewater. *Water Research*, 208, 2022, 117859
34. Li, Y. #, Wang, R. #, Shi, S., Cao, H., Yip, N.Y. and **Lin, S.\***, Bipolar Membrane Electrodialysis for Ammonia Recovery from Synthetic Urine: Experiments, Modeling, and Performance Analysis. *Environmental Science & Technology*, 55, 2021, 14886. (# Equal Contributions)
35. Feng, D., Chen, Y., Wang, Z.\* and **Lin, S.\***, Janus Membrane with a Dense Hydrophilic Surface Layer for Robust Fouling and Wetting Resistance in Membrane Distillation: New Insights into Wetting Resistance. *Environmental Science & Technology*, 55, 2021, 14156
36. Yang, L., Wang, R., Zhu, Y.\*, Wang, Z., Fang, W., **Lin, S.\***, and Jin, J.\*, “2D Fractal Nanocrystals Templating for Substantial Performance Enhancement of Polyamide Nanofiltration Membrane” *Proc. Natl. Acad. Sci.*, 118, 2021, e2019891118
37. **Lin, S.\***, Hatzell, M., Liu, R., Wells, G., and Xie, X., “Ming resources from water”, *Resources, Conservation and Recycling*, 175, 2021, 105853
38. Horseman, T., Wang, Z. and **Lin, S.\***, Colloidal Interactions between Model Foulants and Engineered Surfaces: Interplay between Roughness and Surface Energy. *Chemical Engineering Journal Advances*, 2021, 00138.
39. **Lin, S.\*** and Veerapaneni S., “Emerging investigator series: toward the ultimate limit of seawater desalination with mesopelagic open reverse osmosis”, *Environmental Science: Water Research & Technology*, 7, 2021, 1212
40. Liang, Y., Teng, X., Chen, R., Zhu, Y.\*, Jin, J.\*, and **Lin, S.\***, “Polyamide Nanofiltration Membranes from Emulsion-Mediated Interfacial Polymerization”, *ACS ES&T Engineering*, 1, 2021, 533.
41. Fitzgerald, M.L., Zhao, Y., Pan, Z., Yang, L., **Lin, S.**, Sauti, G. and Li, D.\*, “Contact Thermal Resistance between Silver Nanowires with Poly (vinylpyrrolidone) Interlayers”, *Nano Letters*, 21, 2021, 4388
42. Wang, L., Wang, Z., Patel, S.K., **Lin, S.** and Elimelech, M., 2021. Nanopore-Based Power Generation from Salinity Gradient: Why It Is Not Viable. *ACS nano*, 15, 2021, 4093.
43. Zhu, Z., Zhong, L., Horseman, T., Liu, Z., Zeng, G., Li, Z., **Lin, S.** and Wang, W., Superhydrophobic-omniphobic membrane with anti-deformable pores for membrane distillation with excellent wetting resistance. *Journal of Membrane Science*, 620, 2021 118768

44. Zhao, Y., Tong, T., Wang, X., **Lin, S.**, Reid, E.M. and Chen, Y., Differentiating Solutes with Precise Nanofiltration for Next Generation Environmental Separations: A Review. *Environmental Science & Technology*, 55, **2021**, 1359
45. Liang, Y., and **Lin, S.\***, “Mechanism of Permselectivity Enhancement in Polyelectrolyte-Dense Nanofiltration Membranes via Surfactant-Assembly Intercalation”, *Environmental Science & Technology*, 55, **2021**, 738
46. Liang, Y., Gao, F., Wang, L., and **Lin, S.\***, “In-situ Monitoring of Polyelectrolytes Adsorption Kinetics by Electrochemical Impedance Spectroscopy: Application in Fabricating Nanofiltration Membranes via Layer-by-Layer Deposition”, *Journal of Membrane Science*, 619, **2021**, 118747
47. Horseman, T., Yin, Y., Christie, K., Wang, Z., Tong, T\*, and **Lin, S.\***, “Wetting, Scaling, and Fouling in Membrane Distillation: State-of-the-Art Insights on Fundamental Mechanisms and Mitigation Strategies”, *ACS ES&T Engineering*, 1, **2021**, 117
48. Wang, R., and **Lin, S.\***, “Pore model for nanofiltration: History, theoretical framework, key predictions, limitations, and prospects”, *Journal of Membrane Science*, 620, **2021**, 118890
49. Zhu, Z., L., Zhong, H., Horseman, T., Liu, Z., Zeng, G., Li, Z., **Lin, S.**, Wang, W.\*, “Superhydrophobic-omniphobic membrane with anti-deformable pores for membrane distillation with excellent wetting resistance”. *Journal of Membrane Science*, 620, **2021**, 118768
50. Robbins, C.A., Graubeger, B.M., Garland, S.D., Carlson, K.H., **Lin, S.**, Bandhauer, T.M. and Tong, T., “On-site treatment capacity of membrane distillation powered by waste heat or natural gas for unconventional oil and gas wastewater in the Denver-Julesburg Basin”. *Environment International*, 145, **2020**, 106142.
51. Lu, H., Wang, L., Wycisk, R., Pintauro, P., and **Lin, S.\***, “Quantifying the kinetics-energetics performance tradeoff in bipolar membrane electro dialysis”, *Journal of Membrane Science*, 612, **2020**, 118279
52. Wang, L., Zhang, C., He, K., Waite, D., and **Lin, S.\***, “Equivalent Film-Electrode Model for Flow-Electrode Capacitive Deionization: Experimental Validation and Performance Analysis” *Water Research*, 181, **2020**, 115817
53. Wang, R., and **Lin, S.\***, Thermodynamic Reversible Cycles of Capacitive Deionization with Intercalation Materials in Symmetric and Asymmetric Configurations, *Journal of Colloid and Interface Science*, 574, 2020, p152
54. Liang, Y., Zhu, Y.\*, Liu C., Lee, K-R., Hung, W-R., Wang, Z., Li, Y., Elimelech, M., Jin, J.\*, and **Lin, S.\***, Polyamide Nanofiltration Membrane with Highly Uniform Sub-nanometre Pores for Sub-1Å Precision Separation, *Nature Communications*, 11, **2020**, #2015
55. Christie, K., Horseman T., and **Lin, S.\***, Energy Efficiency of Membrane Distillation: Simplified analysis, Heat recovery, and the Use of waste-heat, *Environment International*, 138, 2020, 105588
56. **Lin, S.\***, Energy Efficiency of Desalination: Fundamental Insights from Intuitive Interpretation *Environmental Science & Technology*, 54, **2020**, p76 (invited perspective)
57. Christie, K., Yin, Y., **Lin, S.\*** and Tong, T.\*, Distinct Behaviors between Gypsum and Silica Scaling in Membrane Distillation, *Environmental Science & Technology*, 54, **2020**, p569
58. Gao, F., Wang, L., Wang, J., Zhang, H., **Lin, S.\***, "Nutrient Recovery from Treated Wastewater by a Hybrid Electrochemical Sequence Integrating Bipolar Membrane

- Electrodialysis and Membrane Capacitive Deionization" *Environmental Science: Water Research & Technology*, 6, **2020**, p383
59. Su, C., Horseman, T., Cao, H., Christie, K.S., Li, Y. and **Lin, S.\***, Robust Superhydrophobic Membrane for Membrane Distillation with Excellent Scaling Resistance. *Environmental Science & Technology*. 53, **2019**, p11801
  60. Wang, Z., Horseman, T., Straub, A.P., Yip, N.Y., Li, D., Elimelech, M.\*, and **Lin, S.\***, "Pathways and challenges for efficient solar-thermal desalination", *Science Advances*, 5, **2019**, eaax0763
  61. Liang, Y., and **Lin, S.\***, Intercalation of zwitterionic surfactants dramatically enhances the performance of low-pressure nanofiltration membrane, *Journal of Membrane Science*, 596, **2019**, p117726
  62. Zou, S., Smith, E. D., **Lin, S.**, Martin, S. M., & He, Z. (2019). Mitigation of bidirectional solute flux in forward osmosis via membrane surface coating of zwitterion functionalized carbon nanotubes. *Environment International*, 131, **2019**, p104970.
  63. Horseman, T., Su, C., Christie, K., and **Lin, S.\***, "Highly Effective Scaling Mitigation in Membrane Distillation using Superhydrophobic Membrane with Gas Purging", *Environmental Science & Technology-Letters*, 6, 2019, p423
  64. Wang, L., and **Lin, S.\***, "Theoretical Framework for Designing a Desalination Plant based on Membrane Capacitive Deionization", *Water Research*, 158, 2019, p359
  65. Huang, Y.X., Liu, M.J., Chen, S., Jasmi, II, Tang, Y., and **Lin, S.\***, "Enhanced Adsorption and Slow Release of Phosphate by Dolomite-Alginate Composite Beads as Potential Fertilizer", *Water Environment Research*, 91, **2019**, p797
  66. Wang, L., and **Lin, S.\***, "Mechanism of Selective Ion Removal in Membrane Capacitive Deionization for Water Softening", *Environmental Science & Technology*, 53, **2019**, p5797
  67. Wang, L., Dykstra, J., and **Lin, S.\***, "Energy efficiency of capacitive deionization " *Environmental Science & Technology*, 53, **2019**, p3366
  68. Ji, F., Wang, L., Yang, J., Wu, X., Li, M., Jiang, Si., **Lin, S.\***, Z Chen\* "Highly compact, free-standing porous electrodes from polymer-derived nanoporous carbons for efficient electrochemical capacitive deionization", *Journal of Materials Chemistry A*, 7, **2019**, p1768
  69. Wang, Z., Chen, Y., Zhang, F., and **Lin, S.\***, "Significance of surface excess concentration in the kinetics of surfactant-induced pore wetting in membrane distillation" *Desalination*, 450, **2019**, p46
  70. Wang, Z., Chen, Y., and **Lin, S.\***, "Kinetic model for surfactant-induced pore wetting in membrane distillation" *Journal of Membrane Science*, 564, **2018**, p275
  71. Hou, D.\*, Lin, D., Wang, Z., Wang, J., and **Lin, S.\***, "Composite Membrane with Electrospun Multiscale-textured Surface for Robust Oil-fouling Resistance in Membrane Distillation", *Journal of Membrane Science*, 546, **2018**, p179
  72. Shan, L., Liang, Y., Prozorovska, L., Jennings, K., Ji, S, and **Lin, S.\***, " Multifold Enhancement of Loose-Nanofiltration Membrane Performance by Intercalation of Surfactant Assemblies", *Environmental Science & Technology-Letters*, 5, **2018**, p668
  73. Wang, L., and **Lin, S.\***, "Membrane Capacitive Deionization with Constant Current vs. Constant Voltage Charging: Which is Better?" *Environmental Science & Technology*, 52, **2018**, p4051

74. Wang, Z., Wang, Z., **Lin, S.**, Jin, H., Gao, S., Zhu, Y.\*, and Jin, J.\*, "Nanoparticle-templated nanofiltration membranes for ultrahigh performance desalination", *Nature Communications*, 9, **2018**, article # 2004
75. Wang, Z., Chen, Y., Sun, X., Duddu, R., and **Lin, S.**\*, "Mechanism of pore wetting in membrane distillation with alcohol vs. surfactant" *Journal of Membrane Science*, 559, 2018, p183
76. Deshmukh, A., Boo, C., Karanikola, V., **Lin, S.**, Straub A., Tong, T., Warsinger, D., and Elimelech, M.\*, "Membrane distillation at the water-energy nexus: limits, opportunities, and challenges", *Energy & Environmental Science*, 11, **2018**, p1177
77. Wang, L., and **Lin, S.**\*, "Intrinsic tradeoff between kinetic and energetic efficiencies in membrane capacitive deionization", *Water Research*, 129, **2018**, p394
78. Wang, L., Biesheuvel, P.M., and **Lin, S.**\*, "Reversible thermodynamic cycle analysis for capacitive deionization with modified Donnan model", *Journal of Colloid and Interface Science*, 512, **2018**, p522
79. Huang, Y.X., Wang, Z., Jin, J, and **Lin, S.**\*, "Novel Janus Membrane for Simultaneous Anti-Wetting and Anti-Fouling Membrane Distillation Desalination", *Environmental Science & Technology*, 51, **2017**, p13304
80. Chen, Y.#, Wang, Z.#, Jennings, K., and **Lin, S.**\*, Probing Pore Wetting in Membrane Distillation using Impedance: Early Detection and Mechanism of Surfactant-induced Wetting", *Environmental Science & Technology-Letters*, 4, **2017**, p505 (# Equal contributions)
81. Bogler, A., **Lin, S.**, and Bar-Zeev, E.\*, "Biofouling of membrane distillation, forward osmosis and pressure retarded osmosis: principles, impacts and future directions", *Journal of Membrane Science*, 542, **2017**, p378
82. Huang, Y.X., Wang, Z., Hou, D., and **Lin, S.**\*, "Coaxially Electrospun Super-amphiphobic Silica-based Membrane for Anti-surfactant-wetting Membrane Distillation", *Journal of Membrane Science*, 531, **2017**, p122
83. Wang Z., and **Lin, S.**\*, "Membrane Fouling and Wetting in Membrane Distillation and their Mitigation by Novel Membranes with Special Wettability", *Water Research*, 112, 2017, p 38
84. Wang Z., and **Lin, S.**\*, "The Impact of Low-surface-energy Functional Groups on Oil Fouling Resistance in Membrane Distillation", *Journal of Membrane Science*, 527, **2017**, p68
85. **Lin, S.**\* and Elimelech, M., "Kinetics and Energetics Trade-off in Reverse Osmosis Desalination with Different Configurations", *Desalination*, 402, **2017**, p42
86. Wang, Z., Jin, J., Hou, D., and **Lin, S.**\*, "Tailoring surface charge and wetting property for robust oil-fouling mitigation in membrane distillation", *Journal of Membrane Science*, 516, 2016, p113
87. Straub, A.P., Yip, N.Y., **Lin, S.**, Lee, J., and Elimelech, M., "Harvesting low-grade heat energy using thermo-osmotic vapor transport through nonporous membranes", *Nature Energy*, 1, **2016**, p16090
88. **Lin, S.**\*, "Mass Transfer in Forward Osmosis with Hollow Fiber Membranes", *Journal of Membrane Science*, 514, **2016**, p176



89. Wang, Z., Hou, D., and **Lin, S.\***, “Composite Membrane with Underwater-Oleophobic Surface for Anti-Oil-Fouling Membrane Distillation”, *Environmental Science & Technology*, 50, **2016**, p3866
90. Wang, Z., Elimelech, M., and **Lin, S.\***, “Environmental Applications of Interfacial Materials with Special Wettability”, *Environmental Science & Technology*, 50, **2016**, p2132
91. Wang, Z., Hou, D., and **Lin, S.\***, “Gross vs. Net Energy: Towards a Rational Framework for Assessing the Practical Viability of Pressure Retarded Osmosis”, *Journal of Membrane Science*, 503, **2016**, p132
92. **Lin, S.** and Elimelech, M., “Staged Reverse Osmosis Operation: Configuration, Energy Efficiency, and Application Potential”, *Desalination*, 366, **2015**, p9
93. Deshmukh, A., Yip, N.Y., **Lin, S.**, and Elimelech, M. "Desalination by forward osmosis: identifying performance limiting parameters through module-scale modeling", *Journal of Membrane Science*, 491, **2015**, Pp 159-167
94. Shaulsky, E., Boo, C., **Lin, S.**, and Elimelech, M., “Membrane-Based Osmotic Heat Engine with Organic Solvent for Enhanced Power Generation from Low-Grade Heat”, *Environmental Science & Technology*, 49, **2015**, p5820
95. Shaffer, D., Jaramillo, H., Werber, J.R., **Lin, S.**, and Elimelech, M., “Forward Osmosis: Where Are We Now?” *Desalination*, 356, **2015**, p271
96. **Lin, S.**, Nejati, S., Boo, C., Hu, Y., Chinedum, O., and Elimelech, M., “Omniphobic Membrane for Robust Membrane Distillation”, *Environmental Science & Technology-Letters*, 1(11), **2014**, pp 443-447
97. A.P. Straub, **Lin, S.**, and Elimelech, M., “Pressure Retarded Osmosis: Practical Performance and Module Scale Operational Factors”, *Environmental Science & Technology*, 48(20), **2014**, p12435
98. **Lin, S.**, A.P. Straub, and Elimelech, M., “Thermodynamic Limits of Extractable Energy by Pressure Retarded Osmosis”, *Energy & Environmental Science*, 7, **2014**, p 2706
99. **Lin, S.**, Yip, N.Y., Cath, T.Y., Osuji, C.O., and Elimelech, M., “Hybrid Pressure Retarded Osmosis—Membrane Distillation System for Power Generation from Low-grade Heat: Thermodynamic Analysis and Energy Efficiency”, *Environmental Science & Technology*, 48, **2014**, p5306
100. Hotze, E.M., Louie, S.M., **Lin, S.**, Wiesner, M.R., Lowry, G.V. “Nanoparticle Core Properties Affect Attachment of Macromolecule-coated Nanoparticles to Silica Surfaces”, *Environmental Chemistry*, 13, **2014**, p257
101. **Lin, S.**, Yip, N.Y., and Elimelech, M., “Direct Contact Membrane Distillation with Heat Recovery: Thermodynamic Insights from Module Scale Modeling”, *Journal of Membrane Science*, 453, **2014**, p498
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109. **Lin, S.** and Wiesner, M.R., “Theoretical Investigation on the Interaction between a Soft Particle and a Rigid Flat Surface”, *Chemical Engineering Journal*, 191, **2012**, p297
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116. **Lin, S.**, and Wiesner, M.R. “Exact Analytical Expressions for the Potential of Electrical Double Layer Interactions for a Sphere–Plate System”, *Langmuir*, 26, **2010**, p16638
117. Cheng, Y., Yin, L., **Lin, S.**, Wiesner, M.R., Bernhardt, E., and Liu, L. “Toxicity Reduction of Polymer-Stabilized Silver Nanoparticles by Sunlight”, *Journal of Physical Chemistry C*, 115, **2010**, p4425
118. Chae, S-R., Badireddy, A.R., Farner Budarz, J., **Lin, S.**, Xiao, Y., Therezien, M., and Wiesner, M.R., “Heterogeneities in Fullerene Nanoparticle Aggregates Affecting Reactivity, Bioactivity, and Transport”, *ACS Nano*, 4, **2010**, p5011

**Invited or Keynote Technical Presentations (Selected)**

1. “Membrane-based Processes for Li/Mg Separation”, Tongji University, 11/8/2023
2. “Membrane-based Processes for Li/Mg Separation”, Tsinghua University, 11/6/2023
3. “Membrane-based Processes for Li/Mg Separation”, Institute of Process Engineering, Chinese Academy of Sciences, 11/5/2023
4. “Membrane-based Processes for Li/Mg Separation”, 5<sup>th</sup> International Water Association—Resource Recovery, Shenzhen, 11/2/2023
5. “Performance Metrics, Process Innovation, and Membrane Design for Selective Ion Separation: Li/Mg Separation as an Example”, New Jersey Institute of Technology, 10/9/2023
6. “Moving Ions to Achieve Greater Sustainability” Oak Ridge National Laboratory, 8/22/2023
7. “Performance Metrics for Nanofiltration-based Selective Separation for Resource Extraction and Recovery”, International Water Association-Membrane Technology Conference, Washington University St. Louis, MI, 7/24/2023
8. “Electro-dialytic Crystallization”, Battery Deionization and Electrochemical Separation, Taipei, 7/4/2023
9. “Evaluating Performance of Nanofiltration-based Selective Solute Separation”, North America Membrane Society Annual Conference, Tuscaloosa, AL, 5/16/2023
10. “New approaches to mitigate wetting and scaling in membrane distillation” North America Membrane Society Annual Conference, Tuscaloosa, AL, 5/16/2023
11. “Moving Ions to Achieve Greater Sustainability”, University of Missouri, MI, 4/21/2023
12. “Foundational framework for evaluating performance of nanofiltration-based solute-solute separation”, International Congress on Separation and Purification Technology, 12/11/2022 (virtual)
13. “Moving Ions to Achieve Greater Sustainability” Clarkson University, 12/2/2022 (virtual)
14. “Nanofiltration for Li/Mg separation” Inaugural ORNL-Vanderbilt Collaborative Workshop, Nashville, TN, 11/21/2022
15. “Energy efficiency of desalination and zero liquid discharge”, Southern University of Science and Technology, China, 6/23/2022 (virtual)
16. “Selectivity in solute-solute separation: definitions, measurements, and comparability” 5<sup>th</sup> International Conference on Desalination using Membrane Technology, 11/16/2021(virtual)
17. “Energy efficiency of desalination”, Louisiana State University, 4/23/2021 (virtual)
18. “Energy efficiency of desalination”, University of New Haven, 4/2/2021 (virtual)
19. “Mechanism and mitigation strategies of fouling, wetting, and scaling in membrane distillation”, University of California Riverside, 01/22/2021 (virtual)
20. “Material strategies to overcome fouling, wetting, and scaling in membrane distillation”, Drylands, Deserts, and Desertification conference (Israel), 11/17/2020 (virtual)
21. “Control of membrane failure” MIT Innotherm panel on Membrane Distillation for Desalination, Massachusetts Institute of Technology, 11/10/2020 (virtual)
22. “Toward Selective Solute Separation for Sustainable Water and Wastewater Treatment”, Paul L. Busch Award Lecture, 10/29/2020 (virtual)

23. "Energy efficiency of desalination", University of Southern California, 09/14/2020 (virtual)
24. "Pore Wetting and Mineral Scaling in Membrane Distillation: Mechanisms and Solutions", Georgia Institute Technology, 10/30/2019
25. "Energy efficiency of desalination", Dalian University of Technology, 8/14/2020 (virtual)
26. "Progress in understanding and mitigating fouling, wetting, and scaling in membrane distillation", Xiamen University, Xiamen, China, 07/02/2019
27. "Energy Efficiency and Performance Evaluation for Capacitive Deionization", Shanghai Jiaotong University, Shanghai, China, 06/26/2019
28. "Energy Efficiency of Desalination" Sun Yet-sen University, Guangzhou, Guangdong, China, 06/21/2016
29. "Energy Efficiency of Desalination", University of Science and Technology of China, Hefei, Anhui, China, 06/20/2019
30. "Performance Evaluation for Capacitive Deionization", University of Science and Technology of China, Hefei, Anhui, China, 06/20/2019
31. "Energy Efficiency of Desalination and Design Principles of NF Membranes", Suzhou Institute of Nano-Tech and Nano-Bionics, Suzhou, Jiangsu, China, 06/17/2019
32. "Capacitive Deionization: Energy Efficiency and System Operation" Shandong University, Qingdao, Shandong, China, 06/11/2019
33. "Progress in understanding and mitigating fouling, wetting, and scaling in membrane distillation", Shandong University, Shandong, China, 06/11/2019
34. "Capacitive Deionization: Energy Efficiency and System Operation" Harbin Institute of Technology, Harbin, Heilongjiang, China, 06/05/2019
35. "Pore wetting in membrane distillation: detection, mechanism, and solution", Shanghai Advanced Research Institute, Shanghai, China, 06/02/2018
36. "Energy Efficiency of Desalination", Tianjin Polytechnic University, Tianjin, China, 05/29/2019
37. "Energy Efficiency of Desalination", Nankai University, Tianjin, China, 05/28/2019
38. "Energy Efficiency of Desalination and Research Activities in the Lin Lab", Institute of Process Engineering of the Chinese Academy of Sciences, Beijing, China, 05/24/2019
39. "Energy Efficiency of Desalination and Research Activities in the Lin Lab", Research Center for Eco-Environmental Research of the Chinese Academy of Sciences, Beijing, China, 05/22/2019
40. "Pore wetting in membrane distillation: detection, mechanism, and solution", University of Tennessee, Knoxville, TN, 04/19/2018
41. "Wetting in membrane distillation: relevance, detection, dynamics, and solution", Tennessee State University, Nashville, TN, 09/28/2017
42. "Developing anti-wetting and anti-fouling membranes for membrane distillation with challenging applications", Dow Company, Lake Jackson, TX, 07/18/2017
43. "Anti-fouling and anti-wetting membrane distillation using membranes with special wettability" U.S. Army Engineer Research and Development Center, Vicksburg, MS, 04/19/2017

44. “Membrane-based desalination: fundamentals, challenges, and potential areas for technical innovations”, Chinese Academy of Science, Suzhou Institute of Nano-Tech and Nano-Bionics, Suzhou, Jiangsu, China, 12/30/2016
45. “Developing anti-fouling and anti-wetting membranes for membrane distillation” Huazhong University of Science and Technology, Wuhan, Hubei, China, 12/27/2016
46. “Developing anti-fouling and anti-wetting membranes for membrane distillation” Sun Yet-sen University, Guangzhou, Guangdong, China, 12/21/2016
47. “Developing anti-fouling and anti-wetting membranes for membrane distillation” Ji-nan University, Guangzhou, Guangdong, China, 10/14/2016
48. “Membrane-based desalination: fundamentals, challenges, and potential areas for technical innovations”, Oak Ridge National Lab, Oak Ridge, TN, 12/30/2016
49. “Expanding the Versatility of Membrane Distillation via Materials Innovation”, Clemson University, Clemson, SC, March, 2016
50. “Membrane distillation for improving sustainability at water-energy-environment nexus”, University of Michigan, Ann Arbor, MI, February, 2014
51. “Membrane distillation: thermodynamic analysis and novel membrane development”, University of Massachusetts, Amherst, MA, September, 2014

### **Past and Current Research Sponsors**

National Science Foundation (6 projects), Bureau of Reclamation, Desalination and Water Purification Research (2 projects), Strategic Environmental Research and Development Program (3 projects), National Energy Technology Laboratory, Department of Energy (2 projects), National Alliance of Water Innovation, Department of Energy, Consortium for Risk Evaluation with Stakeholder Participation, Office of Naval Research, Water Research Foundation, US-Israel Binational Agricultural Research and Development Fund, American Society of Chemistry Petroleum Research Fund, Environmental Protection Agency, Discovery Grant Program, Vanderbilt University, Seeding Success Grant, Vanderbilt University, Venture Well

## **TEACHING AND MENTORING**

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### **Courses Taught**

- CE 3600 Environmental Engineering
- CE 3100W Civil and Environmental Laboratory (co-teach)
- ENVE 4625/5625 Environmental Separation Processes
- ENVE 4605/5605 Environmental Thermodynamics, Kinetics, and Mass Transfer

### **Graduate Student Supervised**

#### **Current Graduate Students (with selected awards)**

- Rayan Alghanayem (PhD student, Chemical and Biomolecular Engineering)
- Jin Zhang (PhD student, Civil and Environmental Engineering)
- Abigail Cafferty (PhD student, Civil and Environmental Engineering)
- Sk Md Ali Zaker Shawon (PhD student, Chemical and Biomolecular Engineering)
- Joshua Livingston (PhD student, Chemical and Biomolecular Engineering)
- Weifan Liu (PhD student, Civil and Environmental Engineering)

- Siyuan Feng (PhD student, Civil and Environmental Engineering)
- Rui Chen (PhD student, Civil and Environmental Engineering)
- Ariel Roh (MSc student, Civil and Environmental Engineering)

#### **Past Graduates (with selected awards while at Vanderbilt)**

- Ruoyu Wang (PhD 2023, Postdoc at Yale University)
  - 2023 CAPEES/Elsevier Outstanding Graduate Student Award
  - 2023 ACS Environmental Chemistry Graduate Student Award
  - 2019/2020 Carl E. Adams Graduate Award
- Thomas (Drew) Horseman (PhD 2022, currently Senior Engineer in Linkan Engineering)
  - 2022 AIChE Separation Division Graduate Student Research Award
  - 2022 M. Douglas LeVan Award for Distinguished Record of Graduate Research
  - 2022 Chain Reaction Innovation at ANL-Finalist
  - 2020 DOE Solar Desalination Prize
- Yuanzhe Liang (PhD 2020, currently Assistant Professor at Oregon State University)
  - 2020 Graduate Student Best Paper Award, Interdisciplinary Material Science
- Kofi Christie (PhD 2020, currently Assistant Professor in Louisiana State University)
  - 2020 Princeton Presidential Postdoctoral Research Fellowship
  - 2016 NSF Graduate Research Fellowship
- Li Wang (PhD 2019, currently Full Professor in Tongji University, China)
  - 2019 Carl E Adams Best Paper Award, Dept. of Civil and Environmental Engineering
  - 2019 Best Poster Award, International Conference on CDI&E
  - 2019 ACS Environmental Chemistry Graduate Student Award
- Zhangxin Wang (PhD 2018, currently Full Professor at Guangdong University of Technology)
  - 2017 Best Student Paper Award, CAPEES
  - 2016 Carl E Adams Best Paper Award, Dept. of Civil and Environmental Engineering
  - 2016 ACS Environmental Chemistry Graduate Student Award
- Yuanmiaoliang Chen (MSc 2018, currently Research Associate in Guangdong University of Technology)
  - 2018 National University of Singapore President's Graduate Fellowship

#### **Undergraduate Student Supervised**

##### **Department of Civil and Environmental Engineering**

Chiwon Oh, Derek Gloudemans, Jacob Van Geffen

##### **Department of Chemical and Biomolecular Engineering**

Penelope Fries, Riley Miller, Molly Friedman, Nicholas Lowes, Sydney Juda, Irfan Iskandar Jasmi, Victoria Yao

#### **Postdoc Supervised**

- Longqian Xu (current)
- Ruoyu Wang (currently postdoctoral associate at Yale University)
- Yu-xi Huang (currently associate professor at Sun Yet-sen University, China)

**Visiting Students Supervised**

- Zhichao Xia (2023, Undergraduate student at University of Science and Technology China)
- Yujiao Li (2019-2020, PhD student at Institute of Process Engineering, CAS)
- Chunlei Su (2018-2019, PhD student at Institute of Process Engineering, CAS)
- Fei Gao (2018-2019, currently at Tiangong University, China)
- Linglong Shan (2018, currently research associate at Institute of Process Engineering, CAS)

**Visiting Scholar Hosted**

- Yanhong Shi (2019-2020, currently associate professor at Institute of Process Engineering, Chinese Academy of Sciences)
- Fei Shen (2017-2018, currently associate professor at Institute of Process Engineering, Chinese Academy of Sciences)
- Huixia Lu (2017-2018, currently associate professor at Nankai University)
- Deyin Hou (2015-2016, currently Professor at Research Center for Eco-environmental Sciences, Chinese Academy of Sciences)

**PhD Dissertation Committee (not primary supervisor)**

- Zane Parkerson (Chemical and Biomolecular Engineering, VU)
- Allison Cordova Huaman (Chemical and Biomolecular Engineering, VU)
- Guanyu Zhu (Civil and Environmental Engineering, New Jersey Institute of Technology)
- Nicholas Craven (Chemical and Biomolecular Engineering, VU)
- Zezhou Yang (Chemical and Biomolecular Engineering, VU)
- Andrew Naclerio (Chemical and Biomolecular Engineering, VU)
- Zekun Liu (Chemical and Environmental Engineering, University of California Riverside, defended in 2023)
- John Waugh (Chemical and Biomolecular Engineering, VU, defended in 2023)
- Alyssa Nelson (Chemical and Biomolecular Engineering, VU, defended in 2023)
- Zhihao Shang (Chemical and Biomolecular Engineering, VU, defended in 2022)
- Hanqing Fan (Earth and Environmental Engineering, Columbia U, defended in 2022)
- Justin Gilmer (Chemical and Biomolecular Engineering, VU, defended in 2022)
- Matthew Fitzgerald (Mechanical Engineering, VU, defended in 2022)
- Imri Atlas (Mechanical Engineering, Technion, Israel, defended in 2022)
- Liudmyla Prozorovska (Interdisciplinary Material Science, VU, defended in 2021)
- Yanjie Zheng (Mechanical Engineering, VU, moved to Princeton in 2021)
- Matthew D. Gerboth (Interdisciplinary Material Science, VU, defended in 2020)
- Ke (Jack) Ding (Civil and Environmental Engineering, VU, defended in 2020)
- Nathaniel J. Barnes (Civil and Environmental Engineering, VU, defended in 2020)
- Mengya Li (Mechanical Engineering, VU, defended in 2018)
- Andrew S. Westover (Mechanical Engineering, VU, defended in 2016)

## **PROFESSIONAL SERVICES AND MEMBERSHIPS**

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### **Service in Professional Societies**

- Committee member, Conference Site Selection Committee, Association of Environmental Engineering and Science Professors (AEESP), 2022-present
- President, association of Chinese American Professors in Environmental Engineering and Science (CAPEES), 2022-present
- President-elect and strategic communication officer, association of Chinese American Professors in Environmental Engineering and Science (CAPEES), 2019-2022

### **Professional Society Memberships**

- American Chemical Society (ACS)
- American Society of Civil Engineers (ASCE)
- Association of Environmental Engineering and Science Professors (AEESP)
- American Water Works Association (AWWA)
- International Water Association (IWA)
- North American Membrane Society (NAMS)
- Chinese American Professors in Environmental Engineering and Science (CAPEES)
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### **Reviewer for Funding Agencies and Programs**

#### **United States**

- National Science Foundation
- Department of Energy
- National Alliance of Water Innovation
- Uniformed Services University Center for Global Health Engagement (DOD)
- SLAC National Accelerator Laboratory
- ACS Petroleum Research Foundation

#### **International**

- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Israeli Ministry of Science Technology, and Space
- The German-Israeli Foundation for Scientific Research and Development
- NWO Wetsus Partnership Program (Netherlands)
- Luxembourg National Research Fund (FNR)
- Austrian Science Fund (FWF)
- King Abdullah University of Science and Technology
- King Abdulaziz City for Science and Technology
- United Arab Emirates University (UAEU)
- Competitive Research Grants (CRG) program KAUST (Saudi Arabia)
- Nazarbayev University Research Council, Kazakhstan
- The U.S. - Egypt Science and Technology Joint Fund
- U.S.-Israel Binational Science Foundation
- Research Grant Council of Hong Kong



- Hong Kong Innovation & Technology Commission (HK-ITC)

## **Reviewer for Academic Journals**

### **As a Frequent Reviewer**

*Environmental Science & Technology, Environmental Science & Technology Letters, Energy and Environmental Science, ACS ES&T Engineering, Water Research, Desalination, Journal of Membrane Science, Environmental Science: Water Research & Technology, Environmental Science: Nano, Journal of Material Chemistry A*

### **Others (selected)**

*Science, Science Advances, Nature Water, Nature Nanotechnology, Nature Sustainability, Nature Communication, Joule, Advanced Materials, ACS Nano, ACS Energy Letter, ACS Sustainable Chemistry & Engineering, Nano Letter, Progress in Material Science, Progress in Polymer Science, Journal of Colloid and Interface Science, Langmuir, Journal of Electrochemical Society, AIChE Journal, Advance in Colloid and Interface Science*

## **Conference Session Organizer/Chair (selected)**

- Membrane Synthesis, International Water Association-Membrane Technology Conference, July 23-26, 2023
- Drinking Water Treatment, International Water Association-Membrane Technology Conference, July 23-26, 2023
- Membrane Separation: Performance and Fouling Control, AEESP2022 Conference, St. Louis, June 28-30, 2022
- Electrified Water Treatment Processes, American Society of Chemistry Fall Meeting, Atlanta, August 21-25, 2021
- 5<sup>th</sup> International CDI&E conference, Atlanta, GA, USA, May 11-14, 2021 (changed to Virtual due to COVID 19)
- AIChE Sustainable Waste Management Workshop, Glasgow UK, September 11-12, 2020
- Molecular and Process Modeling, North American Membrane Society (NAMS) 29th Annual Meeting, Tempe, AZ, (changed to virtual due to COVID 19)
- Gordon Research Conference: Materials and Processes, NH, August 12-17, 2018
- Membranes for Water Treatment: Membrane Distillation, North American Membrane Society (NAMS) 27th Annual Meeting, Lexington, KY, June 10-13, 2018
- Membranes for water treatment: special synthesis and water remediation, North American Membrane Society (NAMS) 27th Annual Meeting, Lexington, KY, June, 2018
- Advanced Membrane Materials, Gordon Research Conference: Membranes: Materials and Processes, New London, New Hampshire, July 31- August 5, 2016
- Membranes: Water Treatment, 2015 AEESP Research and Education Conference, Yale, New Haven, Connecticut, June 12-16, 2015
- Membranes: Processes, 2015 AEESP Research and Education Conference, Yale, New Haven, Connecticut, June 12-16, 2015

**Service within Vanderbilt University (selected)**

- Vanderbilt Sustainability, Energy, and Climate Institute Research Committee (2023)
- VUceptor (2023)
- Internal Awards Review Committee, 2022-present
- Undergraduate Honor Council, 2021-present
- Undergraduate Advisor (Class of 2019 and 2024)
- Faculty Search Committee, CEE (2017, 2023), ChBE (2022)
- University Working Group on Schools and Childcare, 2021-present
- Oversight and Management Policy Committee (EnvE), 2017-present
- Director of Graduate Recruiting (EnvE), 2016-present