

ZHIYONG JASON REN, Ph.D.

Acting Director & Associate Director for Research, Andlinger Center for Energy and the Environment
Professor, Department of Civil and Environmental Engineering, Princeton University
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Research Areas: water energy nexus; sustainable water/wastewater infrastructure; energy & resource recovery; environmental biotechnology; microbial & electrochemical processes; electrochemical water reuse and desalination; carbon capture & utilization; data science for water systems

EDUCATION

2008 Ph.D. in Environmental Engineering, The Pennsylvania State University, University Park, PA
2003 M.S. in Environmental Science & Engineering, Tianjin University, Tianjin, China
2000 B.S. in Environmental Engineering, Tianjin University of Urban Construction, Tianjin, China

PROFESSIONAL APPOINTMENTS

Professor

2018 – present

Department of Civil and Environmental Engineering & Andlinger Center for Energy and the Environment

- Perform fundamental and applied research on water-energy nexus to transform chemical and environmental processes to integrated carbon-efficient resource recovery systems.
- Educate and train students and research scholars to become leaders in engineering science and practice with interdisciplinary knowledge and skills.
- Provide professional service and foster collaborations at international, national, regional, university, school, center, and department levels.

Acting Director

1/2020-1/2021

Andlinger Center for Energy and the Environment, Princeton University, NJ

- Oversee Andinger Center operation
- Lead center faculty search, faculty tenure and promotion review, strategic planning, annual meeting, and other major activities
- Lead and oversee center public events, media releases, reports, meetings, and other activities

Associate Director for Research

2019 – present

Andlinger Center for Energy and the Environment, Princeton University, NJ

- Provide leadership and coordination for major interdisciplinary research initiatives and activities
- Organize and manage center research funding programs, distinguished postdoc, visiting fellow, and other programs

Visiting Professor, US National Renewable Energy Laboratory

2009 – 2012, 2015-present

- Initiate and sustain research collaborations with NREL National Bioenergy Center and Basic Science Division in research areas of Material Science, Biomass Energy, and Microbiology

Director, Water-Energy Nexus Interdisciplinary Research Theme (IRT)

2017 – 2018

Associate Professor

2013 –2018

Department of Civil, Environmental and Architectural Engineering, University of Colorado Boulder, CO

Director, Center for Sustainable Infrastructure Systems,

2012 – 2013

Assistant Professor

2008– 2013

Department of Civil and Environmental Engineering, University of Colorado Denver, CO

Graduate Research Assistant, The Pennsylvania State University

2004 – 2008

Graduate Teaching Assistant, The Pennsylvania State University

2007 – 2008

Graduate Research Assistant, Tianjin University **2000-2003**

INDUSTRIAL EXPERIENCE

Chief Science Advisor, Emergy LLC. **2016-2018**
• Serve as a science advisor for the university spin-off company to develop and commercialize the new fungal biomanufacturing technology (licensed from Ren lab at CU)

Chief Science Advisor, Hysummit Corporation **2016-2018**

Co-Founder and President, BioElectric, Inc. **2013-2015**

Environmental Engineer, North China Municipal Eng. Design and Research Institute/Spring Environmental. **2003-2004**

Engineering Intern, Veolia Environmental **2001-2002**

HONORS, AWARDS, DISTINCTIONS

2020 ASCE Walter L. Huber Civil Engineering Research Prize
2019 CAPEES Founder's Best Paper Award
2019 Best Reviewer Award, *Environmental Science: Water Research Technology*
2019 Best Paper Award (co-author), *Environmental Science: Water Research Technology*
2018 Inaugural RIO Fellow, University of Colorado Boulder
2017 Nanova/CAPEES Frontier in Research Award
2017 The Michael Kavanaugh's Best Podium Award in AEESP2017
2017 Research Development Award, Department of Civil, Environmental, Architectural Engineering
2016- Steering committee for the National Testbed Network for Energy Positive Water Resource Recovery (interagency program by DOE-EPA-NSF-USDA)
2016 Top 3 Faculty in Research (weighted combination of publications, expenditures, and graduate students) among >260 tenured/tenure-track faculty in the College of Engineering and Applied Science
2016 Top 10 Hottest Articles in *Environmental Science: Water Research Technology* in 2015
2015 New Inventor of the Year Award, University of Colorado Technology Transfer Office
2015 Research Development Award, Department of Civil, Environmental and Architectural Engineering
2012 Excellence in Review Award, *Environmental Science & Technology (ES&T)*
2012 University Award for Excellence in Research and Creative Work
2012 Outstanding Faculty in Research Award, College of Engineering and Applied Science
2012 Chang Junior Faculty Achievement Award, College of Engineering and Applied Science

BOOK CHAPTER

Wang, H., Lu, L., Ren, ZJ., Chapter 23: Enhanced Bioremediation of Petroleum Hydrocarbons Using Microbial Electrochemical Technology, In: Tiquia-Arashiro S. and Pant, D., *Microbial Electrochemical Technologies*, CRC Press, 2019, 343-359.

Ren, ZJ., 2013. Chapter 19: The Principle and Applications of Bioelectrochemical Systems, In: Gupta V.K., *Biofuel Technologies*, Springer, 2013, 501-527.

PEER REVIEWED JOURNAL PUBLICATIONS

Published:

(H Index = 50, Citation = 8434, by December 31, 2020 via Google Scholar)

1. Chen, X., Lobo, F. L., Bian, Y., Lu, L., Chen, X., Tucker, M. P., Wang, Y., & Ren, Z. J. (2020). Electrical decoupling of microbial electrochemical reactions enables spontaneous H₂ evolution. *Energy & Environmental Science*, 13(2), 495-502. (Front Cover Article, Top 10 Hot Article, ISMET 2020 Innovation Award)
2. Bian, Y., Chen, X., & Ren, Z. J. (2020). pH dependence of phosphorus speciation and transport in flow-electrode capacitive deionization. *Environmental Science & Technology*, 54(14), 9116-9123.
3. Wang, H., Lu, L., Chen, H., McKenna, A. M., Lu, J., Jin, S., Zuo, Y., Rosario-Ortiz, F.L., & Ren, Z. J. (2020). Molecular Transformation of Crude Oil Contaminated Soil after Bioelectrochemical Degradation Revealed by FT-ICR Mass Spectrometry. *Environmental Science & Technology*, 54(4), 2500-2509.
4. Chen, X., Zhu, X., He, S., Hu, L., & Ren, Z. J. (2020). Advanced Nanowood Materials for the Water–Energy Nexus. *Advanced Materials*, 2001240.
5. Lu, L., Li, Z., Chen, X., Wang, H., Dai, S., Pan, X., Ren, Z.J., & Gu, J. (2020). Spontaneous Solar Syngas Production from CO₂ Driven by Energetically Favorable Wastewater Microbial Anodes. *Joule*, 4(10), 2149-2161.
6. Jack, J., Lo, J., Donohue, B., Maness, P. C., & Ren, Z. J. (2020). High rate CO₂ valorization to organics via CO mediated silica nanoparticle enhanced fermentation. *Applied Energy*, 279, 115725.
7. Zhu, X., Leininger, A., Jassby, D., Tsesmetzis, N., & Ren, Z. J. (2020). Will Membranes Break Barriers on Volatile Fatty Acid Recovery from Anaerobic Digestion. *ACS ES&T Engineering*, <https://doi.org/10.1021/acsestengg.0c00081>
8. Zhang, B., Jiang, Y., Zuo, K., He, C., Dai, Y., & Ren, Z. J. (2020). Microbial vanadate and nitrate reductions coupled with anaerobic methane oxidation in groundwater. *Journal of hazardous materials*, 382, 121228.
9. Lo, J., Humphreys, J. R., Jack, J., Urban, C., Magnusson, L., Xiong, W., Gu, Y., Ren, Z.J., & Maness, P. C. (2020). The Metabolism of *Clostridium ljungdahlii* in Phosphotransacetylase Negative Strains and Development of an Ethanogenic Strain. *Frontiers in bioengineering and biotechnology*, 8.
10. Yu, L., He, D., Zhang, E., He, Q., Li, J., Ren, Z. J., & Zhou, S. (2020). Electricity from anaerobic methane oxidation by a single methanogenic archaeon *Methanosarcina barkeri*. *Chemical Engineering Journal*, 405, 126691.
11. Bhatt, A. H., Ren, Z. J., & Tao, L. (2020). Value Proposition of Untapped Wet Wastes: Carboxylic Acid Production through Anaerobic Digestion. *iScience*, 101221.
12. Wang, H., Cui, Y., Lu, L., Jin, S., Zuo, Y., Ge, Z., & Ren, Z. J. (2020). Moisture retention extended enhanced bioelectrochemical remediation of unsaturated soil. *Science of The Total Environment*, 138169.
13. Zhang, W., Chen, X., Zhang, G., Li, J., Ji, Q., Hu, C., Ren, Z. J., & Qu, J. (2020). A salt-rejecting anisotropic structure for efficient solar desalination via heat–mass flux decoupling. *Journal of Materials Chemistry A*, 8(24), 12089-12096.
14. Iddya, A., Hou, D., Khor, C. M., Ren, Z., Tester, J., Posmanik, R., Gross, A., & Jassby, D. (2020). Efficient ammonia recovery from wastewater using electrically conducting gas stripping membranes. *Environmental Science: Nano*, 7, 1759-1771.
15. Liang, P., Ren, Z. J., & Huang, X. (2020). Capacitive deionization and electrosorption: from desalination to ion management. *Environmental Science: Water Research & Technology*, 6(2), 241-242.

16. Park, E., Jack, J., Hu, Y., Wan, S., Huang, S., Jin, Y., Maness, P.C., Yazdi, S., Ren, Z., & Zhang, W. (2020). Covalent organic framework-supported platinum nanoparticles as efficient electrocatalysts for water reduction. *Nanoscale*, 12(4), 2596-2602.
17. Jack, J., Park, E., Maness, P. C., Huang, S., Zhang, W., & Ren, Z. J. (2020). Selective ligand modification of cobalt porphyrins for carbon dioxide electrolysis: Generation of a renewable H₂/CO feedstock for downstream catalytic hydrogenation. *Inorganica Chimica Acta*, 119594.
18. Jin, K. S., Fallgren, P. H., Santiago, N. A., Ren, Z. J., Li, Y., & Jin, S. (2020). Monitoring in situ microbial activities in wet or clayey soils by a novel microbial-electrochemical technology. *Environmental Technology & Innovation*, 100695.
19. Song, P., Xiao, Y., Ren, Z.J., Brooks, J.P., Lu, L., Zhou, B., Zhou, Y., Freguia, S., Liu, Z., Zhang, N. & Li, Y. (2020). Electrochemical biofilm control by reconstructing microbial community in agricultural water distribution systems. *Journal of Hazardous Materials*, 403, 123616.
20. Dudley, H. J., Ren, Z. J., & Bortz, D. M. (2020). Competitive exclusion in a DAE model for microbial electrolysis cells. *Mathematical Biosciences and Engineering: MBE*, 17(5), 6217-6239.
21. Hou, D., Li, T., Chen, X., He, S., Dai, J., Mofid, S., Hou, D., Iddya, A., Jassby, D., Yang, R., Hu, L., Ren, ZJ. Hydrophobic Nanostructured Wood Membrane for Thermally Efficient Distillation, *Science Advances*, 2019, 5(8), eaaw3203.
22. Hou, D., Jassby, D., Nerenberg, R., Ren, ZJ. Hydrophobic Gas Transfer Membranes for Wastewater Treatment and Resource Recovery, *Environmental Science & Technology*, 2019, 53 (20), 11618-11635.
23. Lu, L., Vakki, W., Aguiar, JA., Xiao, C., Hurst, K., Fairchild, M., Chen, X., Yang, F., Gu, J., Ren, ZJ. Unbiased solar H₂ production with current density up to 23 mA/cm² by swiss-cheese black Si coupled with wastewater bioanode, *Energy & Environmental Science*, 2019, 12, 1088-1099.
24. Wang, H., Lu, L., Chen, X., Bian, Y., Ren, ZJ. Geochemical and microbial characterizations of flowback and produced water in three shale oil and gas plays in the central and western United States, *Water Research*, 2019, 164, 114942.
25. Chen, X., Katahira, R., Ge, Z., Lu, L., Hou, D., Peterson, D., Tucker, M., Chen, X., Ren, ZJ. Microbial electrochemical treatment of biorefinery black liquor and resource recovery. *Green Chemistry*, 2019, 21, 1258-1266. (Front Cover Article)
26. Lu, L., Lobo, FL., Xing, D., Ren, ZJ. Active harvesting enhances energy recovery and function of electroactive microbiomes in microbial fuel cells, *Applied Energy*, 2019, 247, 492-502.
27. He, S., Chen, C., Kuang, Y., Mi, R., Liu, Y., Pei, Y., Kong, W., Gan, W., Xie, H., Hitz, E. and Jia, C., Chen, X., Gong, A., Liao, J., Li, J., Ren, ZJ., Yang, B., Das, S., Hu, L. Nature-inspired salt resistant bimodal porous solar evaporator for efficient and stable water desalination. *Energy & Environmental Science*, 2019, 12(5), 1558-1567.
28. Bian, Y., Chen, X., Lu, L., Liang, P., Ren, ZJ. Concurrent nitrogen and phosphorus recovery using flow-electrode capacitive deionization, *ACS Sustainable Chemistry & Engineering*, 2019, 78, 7844-7850.
29. Bian, Y., Ge, Z., Albano, C., Lobo, F. L., & Ren, ZJ. Oily bilge water treatment using DC/AC powered electrocoagulation. *Environmental Science: Water Research & Technology*, 5(10), 1654-1660.
30. Wang, H., Lu, L., Mao, D., Huang, Z., Cui, Y., Jin, S., Zuo, Y. and Ren, Z.J., Dominance of electroactive microbiomes in bioelectrochemical remediation of hydrocarbon-contaminated soils with different textures. *Chemosphere*, 2019, 235, 776-784.

31. Mei, X., Wang, H., Hou, D., Lobo, F. L., Xing, D., Ren, Z. J. Shipboard bilge water treatment by electrocoagulation powered by microbial fuel cells. *Frontiers of Environmental Science & Engineering*, 2019, 13(4), 53.
32. Jack, J., Huggins, TM., Huang, Y., Fang, Y., Ren, ZJ. Production of magnetic biochar from waste-derived fungal biomass for phosphorus removal and recovery, *Journal of Cleaner Production*, 2019, 224, 100-106.
33. Jack, J., Lo, J., Maness, PC., Ren, ZJ. Directing *Clostridium ljungdahlii* fermentation products via hydrogen to carbon monoxide ratio in syngas. *Biomass and Bioenergy*, 2019, 124, 95-101.
34. Ren, ZJ. Editorial Perspectives: the value proposition of resource recovery, *Environmental Science: Water Research & Technology*, 2019, 5, 196-197.
35. Jiang, Y., May, D.H., Lu, L., Liang, P., Huang, X., Ren, ZJ. Carbon Dioxide and Organic Waste Valorization by Microbial Electrosynthesis and Electro-fermentation, *Water Research*, 2019, 149, 42-55.
36. Pan, Y.R., Wang, X., Ren, Z.J., Hu, C., Liu, J. and Butler, D., Characterization of implementation limits and identification of optimization strategies for sustainable water resource recovery through life cycle impact analysis. *Environment international*, 2019, 133, 105266.
37. Shang, H., Zhu, X., Shen, M., Luo, J., Zhou, S., Li, L., Shi, Q., Zhou, D., Zhang, S., Chen, J. and Ren, Z.J., Decarbonylation reaction of saturated and oxidized tar from pyrolysis of low aromaticity biomass boost reduction of hexavalent chromium. *Chemical Engineering Journal*, 2019, 360, 1042-1050.
38. Hutfles, J., Lumley, C., Chen, X., Ren, Z.J. Pellegrino, J., Graphene-integrated polymeric membrane as a flexible, multifunctional electrode. *Chemical Engineering Science*, 2019, 209, 115221.
39. Lu, L., Gu, J. and Ren, Z.J., Comment on “Unbiased solar H₂ production with current density up to 23 mA cm⁻² by Swiss-cheese black Si coupled with wastewater bioanode” *Energy & Environmental Science*, 2019, 12(11), 3412-3414.
40. Dudley, H. J., Lu, L., Ren, Z. J., Bortz, D. M. Sensitivity and Bifurcation Analysis of a Differential-Algebraic Equation Model for a Microbial Electrolysis Cell. *SIAM Journal on Applied Dynamical Systems*, 2019, 18(2), 709-728.
41. Dudley, HJ., Ren, ZJ., Bortz, DM. Competitive Exclusion in a DAE Model for Microbial Electrolysis Cells, 2019, *arXiv*:1906.02086.
42. Ren, Z.J. The Rewards and Challenges of Interdisciplinary Collaborations, *iScience*, 2019, 20, 575–578.
43. Lu, L., Guest, J., Peters, CA., Zhu, X., Rau, G.H., Ren, ZJ. Wastewater treatment for carbon capture and utilization, *Nature Sustainability*, 2018, 1, 750-758.
44. Rau, GH., Willauer, H., Ren, ZJ. The global potential for converting renewable electricity to negative-CO₂-emissions hydrogen, *Nature Climate Change*, 2018, 8, 621–625.
45. Li, T., Wang, X., Zhou, QX., Liao, C., Zhou, L., Wan, L., An, J., Du, Q., Li, N., Ren, ZY. Swift Acid Rain Sensing By Synergistic Rhizospheric Bioelectrochemical Responses. *ACS Sensors*, 2018, 3 (7), 1424-1430. (*ACS Editor's Choice Article*)
46. Hou, D., Iddya, A., Chen, X., Wang, M., Zhang, W., Ding, Y., Jassby, D., Ren ZJ. Nickel Based Membrane Electrodes Enable High Rate Electrochemical Ammonia Recovery, *Environmental Science & Technology*, 2018, 52 (15), 8930-8938.

47. Zhang, B., Qiu, R., Lu, L., Chen, X., He, C., Lu, J., Ren, ZJ. Autotrophic Vanadium (V) Bio-reduction in Groundwater by Elemental Sulfur and Zerovalent Iron. *Environmental Science & Technology*, 2018, 52 (13), 7434-7442.
48. Hao, S., Zhu, X., Liu, Y., Qian, F., Fang, Z., Shi, Q., Zhang, S., Chen, J., Ren, ZJ. Production Temperature Effects on the Structure of Hydrochar-derived Dissolved Organic Matter and Associated Toxicity. *Environmental Science & Technology*, 2018, 52 (13), 7486–7495.
49. Fang, Y., Zhou, W., Tang, C., Huang, Y., Johnson, DM., Ren, ZJ., Ma, W. Brønsted Catalyzed Hydrolysis of Microcystin-LR by Siderite. *Environmental Science & Technology*, 2018, 52 (11), 6426–6437.
50. Qian F., Zhu X., Liu Y., Shi Q., Wu L., Zhang S., Chen J., Ren ZJ. Influences of Temperature and Metal on Subcritical Hydrothermal Liquefaction of Hyperaccumulator: Implications for the Recycling of Hazardous Hyperaccumulators. *Environmental Science & Technology*, 2018, 52 (4), 2225–2234.
51. Jiang, Y., Lu, Lu., Wang, H., Shen, R., Ge, Z., Hou, D., Chen, X., Liang, P., Huang, X., Ren, ZJ. Electrochemical control of redox potential arrests methanogenesis and regulates products in mixed culture electro-fermentation, *ACS Sustainable Chemistry & Engineering*, 2018, 6 (7), 8650–8658.
52. Liu, Y., Zhu, X., Wei, X., Zhang, S., Chen, J., Ren, ZJ. CO₂ activation promotes available carbonate and phosphorus of antibiotic mycelial fermentation residue-derived biochar support for increased lead immobilization, *Chemical Engineering Journal*, 2018, 334, 1101-1107.
53. Singer, S., Magnusson, L., Hou, D., Lo, J., Maness, P.C. and Ren, Z.J., Anaerobic membrane gas extraction facilitates thermophilic hydrogen production from *Clostridium thermocellum*. *Environmental Science: Water Research & Technology*, 2018. 4(11), 1771-1782. (*Front Cover Article*)
54. Ge, Z., Chen, X., Huang, X., Ren, ZJ. Capacitive deionization for nutrient recovery from wastewater with disinfection capability, *Environmental Science: Water Research & Technology*, 2018, 4 (1), 33-39.
55. Shen, R., Jiang, Y., Ge, Z., Lu, J., Zhang, Y., Liu, Z., Ren, ZJ. Microbial electrolysis treatment of post-hydrothermal liquefaction wastewater with hydrogen generation, *Applied Energy*, 2018, 212, 509-515.
56. Jiang, Y., Liang, P., Huang, X., Ren, ZJ. A novel microbial fuel cell sensor with a gas diffusion biocathode sensing element for water and air quality monitoring, *Chemosphere*, 2018, 203, 21-25.
57. Zhu, X., Liu, Y., Qian, F., Shang, H., Wei, X., Zhang, S., Chen, JM., Ren, ZJ. Carbon Transmission of CO₂ Activated Nano-MgO Carbon Composites Enhances Phosphate Immobilization, *Journal of Materials Chemistry A*, 2018, 6 (8), 3705-3713.
58. Sun, D., Gao, Y., Hou, D., Zuo, K., Chen, X., Liang, P., Zhang, X., Ren, ZJ., Huang, X. Energy-neutral sustainable nutrient recovery incorporated with the wastewater purification process in an enlarged microbial nutrient recovery cell, *Journal of Power Sources*, 2018, 384, 160-164.
59. Shrestha, N., Chilkoor, G., Wilder, J., Ren, ZJ., Gadhamshetty, V. Comparative performances of microbial capacitive deionization cell and microbial fuel cell fed with produced water from the Bakken shale, *Bioelectrochemistry*, 2018, 121, 56-64.
60. Gao, Y., Sun, D., Wang, H., Lu, L., Ma, H., Wang, L., Ren, Z.J., Liang, P., Zhang, X., Chen, X. and Huang, X., 2018. Urine-powered synergy of nutrient recovery and urine purification in a microbial electrochemical system. *Environmental Science: Water Research & Technology*, 2018, 4(10), 1427-1438.

61. Fang, Y., Zhou, A., Yang, W., Araya, T., Huang, Y., Zhao, P., Johnson, D., Wang, J., Ren, ZJ. Complex Formation via Hydrogen bonding between Rhodamine B and Montmorillonite in Aqueous Solution, *Scientific reports*, 2018, 8 (1), 229.
62. Dudley, HJ., Lu, L., Ren, ZJ., Bortz, DM. Sensitivity and Bifurcation Analysis of a DAE Model for a Microbial Electrolysis Cell, 2018, *arXiv*:1802.06326.
63. Ren, ZJ. Microbial Fuel Cells: Running on Gas, *Nature Energy*, 2017, 2, 17093.
64. Mihelcic, JR., Ren, ZJ., Cornejo, PK., Fisher A., Simon, AJ., Snyder, SW., Zhang, Q., Rosso, D., Huggins, TM., Cooper, W., Moeller, J., Rose, B., Schottel, BL., Turgeon, J. et al. Accelerating Innovation that Enhances Resource Recovery in the Wastewater Sector: Advancing a National Testbed Network, *Environmental Science & Technology*, 2017, 51 (14), 7749–7758. [*Invited Feature Article; Most Read Articles in ES&T*]
65. Lu, L., Williams, N., Turner, JA., Maness, PC., Gu, J., Ren, ZJ. Microbial Photoelectrosynthesis for Self-sustaining Hydrogen Generation, *Environmental Science & Technology*, 2017, 51 (22), 13494–13501.
66. Chen, X., Gao, X., Hou, D., Ma, H., Lu, L., Sun, D., Zhang, X., Liang, P., Huang, X., Ren, ZJ. Microbial Electrochemical Acceleration of Ureolysis for Nutrient Recovery from Source-separated Urine and Wastewater Treatment, *Environmental Science & Technology Letters*, 2017, 4 (7), 305–310 [*Most Read Articles in ES&TL*]
67. Zhu, X., Liu, Y., Qian, F., Lei, Z., Zhang, Z., Zhang, S., Chen, J., Ren, ZJ. Demethanation Trend of Hydrochar Induced by Organic Solvent Washing and its Influence on Hydrochar Activation *Environmental Science & Technology*, 2017, 51 (18), 10756–10764.
68. Hou, D., Lu, L., Sun, D., Ge, Z., Huang, X., Cath, TY., Ren, ZJ. Microbial Electrochemical Nutrient Recovery in Anaerobic Osmotic Membrane Bioreactors, *Water Research*, 2017, 114, 181-188.
69. Chen, X., Zhou, H., Zuo, K., Zhou, Y., Wang, Q., Sun, D., Gao, Y., Liang, P., Zhang, X., Ren, Z.J., Huang, X. Self-sustaining advanced wastewater purification and simultaneous in situ nutrient recovery in a novel bioelectrochemical system. *Chemical Engineering Journal*, 2017, 330, 692-697.
70. Huang, Z., Gong, A., Hou, D., Hu, L., Ren, ZJ. Conductive Wood Membrane Anode Improves Effluent Quality of Microbial Fuel Cells, *Environmental Science: Water Research & Technology*, 2017, 3, 940-946.
71. Huang, Z., Lu, L., Jiang, D., Xing, D., Ren, ZJ. Electrochemical Hythane Production for Renewable Energy Storage and Biogas Upgrading, *Applied Energy*, 2017, 187, 595–600.
72. Alaraj, M., Roane, T., Ren, ZJ., Park, J. Dynamic Modeling of a Microbial Fuel Cell Considering Anodic Electron Flow and Electrical Charge Storage, *Applied Energy*, 2017, 193, 507-514.
73. Zhou, H., Liu, B., Wang, Q., Sun, J., Xie, G., Ren, N., Ren, Z.J., and Xing, D., Pulse electromagnetic fields enhance extracellular electron transfer in magnetic bioelectrochemical systems. *Biotechnology for Biofuels*, 2017, 10, 238.
74. Lobo, F., Wang, X., Ren, ZJ. Energy harvesting influences electrochemical performance of microbial fuel cells, *Journal of Power Sources*, 2017, 356, 356-364.
75. Li, N., Jiang, J., Wang, X., Ren, ZJ. Resin-enhanced Rolling Activated Carbon Electrode for Efficient Capacitive Deionization, *Desalination*, 2017, 419, 20-28.
76. Zhou, H., Liu, B., Wang, Q., Sun, J., Xie, G., Ren, N., Ren, ZJ, Xing, D. Pulse electromagnetic fields enhance extracellular electron transfer in magnetic bioelectrochemical systems, *Biotechnology for Biofuels*, 2017, 10:238.

77. Zhao, Q., Li, R., Ji, M., Ren, ZJ. Long-term Performance of Sediment Microbial Fuel Cells with Multiple Anodes. *Bioresource Technology*, 2017, 237, 178-185.
78. Zhang, J., Zhu, G., Lv, N., Pan, X., Li, L., Ren, ZJ. The Establishment and Characteristics of Dominant Syntrophic Propionate Oxidation Bacteria and Sulfate-Reducing Bacteria in a Mixed Culture, *Chemical Engineering Communications*, 2017, Doi: 10.1080/00986445.2017.1328410.
79. Wang, X., Zhou, L., Lu, L., Lobo, F., Li, N., Wang, H., Park, J., Ren, ZJ. Alternating Current Influences Anaerobic Electroactive Biofilm Activity. *Environmental Science & Technology*, 2016, 50 (17), 9169-9176.
80. Lu, L., Hou, D., Wang, X., Jassby, D., Ren, ZJ. Active H₂ Harvesting Prevents Methanogenesis in Microbial Electrolysis Cells, *Environmental Science & Technology Letters*, 2016, 3 (8), 286-290 [Most Read Articles in *ES&TL*]
81. Mao, D., Lu, L., Revil, A., Zuo, Y., Hinton, J., Ren, ZJ. Geophysical Monitoring of Hydrocarbon-Contaminated Soils Remediated with a Bioelectrochemical System, *Environmental Science & Technology*, 2016, 50 (15), 8205-8213
82. Ren, ZJ., Umble, AK. Water Treatment: Recover Wastewater Resources Locally. *Nature*, 2016, 529, 25.
83. Hou, D., Lu, L., Ren, ZJ. Microbial Fuel Cells and Osmotic Membrane Bioreactors Have Mutual Benefits for Wastewater Treatment and Energy Production, *Water Research*, 2016, 98, 183-189.
84. Huggins, TM., Haeger, A., Biffinger, JC., Ren, ZJ. Granular biochar compared with activated carbon for wastewater treatment and resource recovery *Water Research*, 2016, 94, 225-232.
85. Liu, Q., Ren, ZJ., Huang, C., Liu, B., Ren, N., Xing, D. Multiple syntrophic interactions drive biohythane production from waste sludge in microbial electrolysis cells, *Biotechnology for Biofuels*, 2016, 9, 162.
86. Lu, L., Ren, ZJ. Microbial Electrolysis Cells for Waste Biorefinery: A State of the Art Review. *Bioresource Technology*, 2016, 215, 254-264. [Invited Review]
87. Huggins, TM., Whiteley, J., Love, C., Lee, K., Lee, S., Ren, ZJ., Biffinger, J. Controlled Growth of Nanostructured Biotemplates with Cobalt and Nitrogen Co-Doping as a Binderless Lithium-Ion Battery Anode. *ACS Applied Materials & Interfaces*, 2016, 8, 26868–26877. [Featured in Forbes, Foxnews, Huffington Posts, CU News, etc.]
88. Qian, F., Zhu, X., Liu, Y., Hao, S., Ren, ZJ., Gao, B., Zong, R., Zhang S., Chen, JM. Synthesis, characterization and adsorption capacity of magnetic carbon composites activated by CO₂: implication to the catalytic mechanisms of iron salts. *Journal of Materials Chemistry A*, 2016, 4, 18942-18951.
89. Lu, L., Fang, Y., Huang, Y., Ren, ZJ. Self-sustaining carbon capture and mineralization via electrolytic carbonation of coal fly ash, *Chemical Engineering Journal*, 2016, 306, 330-335.
90. Huang, Z., Jiang, DJ., Lu, L., Ren, ZJ. Ambient CO₂ capture and storage in bioelectrochemically mediated wastewater treatment. *Bioresource Technology*, 2016, 215, 380-385.
91. Lu, G., Zhu, Y., Lu, L., Xu, K., Wang, H., Jin, Y., Ren, ZJ., Liu, Z., Zhang, W. Iron-rich Nanoparticle Encapsulated, Nitrogen Doped Porous Carbon Materials as Efficient Cathode Electrocatalyst for Microbial Fuel Cells. *Journal of Power Sources*, 2016, 315, 302-307.
92. Lobo, F., Wang, H., Huggins, T., Rosenblum, J., Linden, K., Ren, ZJ. Low-energy Hydraulic Fracturing Wastewater Treatment via AC Powered Electrocoagulation with Biochar, *Journal of Hazardous Materials*, 2016, 309,180-184.

93. Forrester, C., Haeger, A., Dankovich, L., Cath, TY., and Ren, ZJ. A Liter-scale Microbial Capacitive Deionization System for the Treatment of Shale Gas Wastewater. *Environmental Science: Water Research & Technology*, 2016, 2, 353-361.
94. Huang, Z., Lu, L., Cai, Z., Ren, ZJ Individual and Competitive Removal of Heavy Metals Using Capacitive Deionization. *Journal of Hazardous Materials*, 2016, 302, 323-331.
95. Huggins, T., Latorrea, A., Biffinger, J., Ren, ZJ. Biochar as an Electrode Material for Enhanced Wastewater Treatment and Nutrient Recovery in a Microbial Fuel Cell, *Sustainability*, 2016, 8 (2), 169.
96. Stoll, Z., Dolfing, J., Ren, ZJ., and Xu, P. Interplay of anode, cathode and current in microbial fuel cells: implications for wastewater treatment. *Energy Technology*, 2016, 4, 583.
97. Lu, L., Hou, D., Fang, Y., Huang, L., Ren, ZJ. Nickel based catalysts for highly efficient H₂ evolution from wastewater in microbial electrolysis cells, *Electrochimica Acta*, 2016, 206, 381-387.
98. Zhao, Q., Li, R., Ji, M., Ren, ZJ. Organic Content Influences Sediment Microbial Fuel Cell Performance and Community Structure, *Bioresource Technology*, 2016, 220, 549–556.
99. Huang, K., Tang, H., Liu, D., Zhu, S., Ren, ZJ. A Review of Capacitive Deionization Technology: Part 3. Impact Factors. *Environmental Engineering*, 2016, S1, 101-106. (In Chinese)
100. Huang, K., Tang, H., Liu, D., Zhu, S., Ren, ZJ. A Review of Capacitive Deionization Technology: Part 2. Electrode Materials. *Environmental Engineering*, 2016, S1, 89-100. (In Chinese)
101. Huang, K., Tang, H., Liu, D., Zhu, S., Ren, ZJ. A Review of Capacitive Deionization Technology: Part 1. Theoretical Foundations. *Environmental Engineering*, 2016, S1, 82-88. (In Chinese)
102. Lu, L., Huang, Z., Rau, G., Ren, ZJ Microbial Electrolytic Carbon Capture for Carbon Negative and Energy Positive Wastewater Treatment. *Environmental Science & Technology*, 2015, 49, 8193-8201. [Featured in NSF News, Chemistry World, WE&T News, Water Online, Science Daily, CCTV, etc.]
103. Wang, H., Park, J., Ren, ZJ., Practical Energy Harvesting from Microbial Fuel Cells: A review. *Environmental Science & Technology*, 2015, 49, 3267-3277. [Featured on *ES&T* Front Page as Highlight Article]
104. Forrester, C., Stoll, Z., Xu, P., and Ren, ZJ. Microbial Capacitive Desalination for Integrated Organic and Salt Removal and Energy Production from Unconventional Natural Gas Produced Water. *Environmental Science: Water Research & Technology*, 2015, 1, 47-55. [Featured Journal Cover Article, featured in Chemistry World, CCTV, CBS, Science Daily, etc].
105. Lu, L., Xing, D., Ren, ZJ. Microbial Community Structure Accompanied with Electricity Production in A Constructed Wetland Plant Microbial Fuel Cell. *Bioresource Technology*, 2015, 195, 115-121.
106. Huggins, TM., Pietron, JJ., Wang, H., Ren, ZJ., Biffinger, JC. Graphitic Biochar as a cathode electrocatalyst support for microbial fuel cells. *Bioresource Technology*, 2015, 95, 147-153.
107. Lu, L., Zeng C., Wang, L., Yin, X., Jin S., Lu, A., Ren, ZJ Graphene Oxide and H₂ Production from Bioelectrochemical Graphite Oxidation. *Scientific Reports*, 2015, 5, 16242.
108. Wang, H., Luo, H., Fallgren, P., Jin, S., Ren, ZJ. Bioelectrochemical Platform for Sustainable Environmental Remediation and Energy Generation. *Biotechnology Advances*, 2015, 33, 317-334.
109. Lu, G., Yang, H., Zhu, Y., Huggins, T., Ren, ZJ., Liu, Z., Zhang, W. Synthesis of a conjugated porous Co(II) porphyrinylene–ethynylene framework through alkyne metathesis and its catalytic activity study. *Journal of Material Chemistry A*, 2015, 3 (9), 4954-4959

110. Lu, G., Zhu, Y., Xu, K., Jin, Y., Ren, ZJ, Liu, Z., Zhang, W. Metallated porphyrin based porous organic polymers as efficient electrocatalysts. *Nanoscale*, 2015, 7 (43), 18271-18277.
111. Lobo, FL., Wang, H., Forrestal, C., Ren, ZJ AC Power Generation from Microbial Fuel Cells. *Journal of Power Sources*, 2015, 297,252-259.
112. Ma, D., Forrestal, C., Ji, M., Li, R., Ma, H., Ren, ZJ. Membrane configuration influences microbial capacitive desalination performance. *Environmental Science: Water Research & Technology*, 2015, 1 (3), 348-354.
113. Stoll, Z., Forrestal, C., Ren, ZJ, Xu, P., Shale Gas Produced Water Treatment Using Innovative Microbial Capacitive Desalination Cell. *Journal of Hazardous Materials*, 2015, 283, 847-855.
114. Yazdi, H., Alzate-Gaviria, L., Ren, ZJ. Pluggable microbial fuel cell stacks for septic wastewater treatment and electricity production. *Bioresource Technology*, 2015, 180, 258-263.
115. Li, X., Wang, X., Ren, ZJ., Zhang, X., Li, N., Zhou, Q. Sand Amendment Enhances Bioelectrochemical Remediation of Petroleum Hydrocarbon Contaminated Soil. *Chemosphere*, 2015, 141, 62-70.
116. Wang, H., Heil, D., Ren, ZJ, Xu, P. Removal and Fate of Trace Organic Compounds in Microbial Fuel Cells. *Chemosphere*, 2015, 125, 94-101.
117. Liu, D., Tang, H., Huang, K., Xie L., and Ren, ZJ. Progress in Membrane Capacitive Deionization and Microbial Capacitive Desalination Cell Technologies. *Technology of Water Treatment*, 2015, 41, 20-24. (in Chinese)
118. Zhu, H¹., Wang, H¹., Li, Y., Bao, Z., Preston, C., Barcikowski, Z., Vaaland, O., Ren, ZJ. Hu., L., Lightweight, Conductive Hollow Fibers from Nature as Sustainable Electrode Materials for Microbial Energy Harvesting. *Nano Energy*, 2014, 10, 268-276. [Featured in Materials Today, Science Daily, etc.]
119. Lu, L., Huggins, T., Jin, S., Zuo, Y., Ren, ZJ. Microbial Metabolism and Community Structure in Response to Bioelectrochemically Enhanced Remediation of Petroleum Hydrocarbon-contaminated Soil. *Environmental Science & Technology*, 2014, 48, 4021-4029.
120. Haeger, A., Forrestal, C., Xu, P., Ren, ZJ. High Performance Spiral Wound Microbial Fuel Cell with Hydraulic Characterization. *Bioresource Technology*, 2014, 174, 287-293.
121. Forrestal, C., Huang, Z., and Ren, ZJ. Percarbonate as a Naturally Buffering Catholyte for Microbial Fuel Cells. *Bioresource Technology*, 2014, 172, 429-432.
122. Huggins, T., Wang, H., Kearns, J., Jenkins, P., Ren, ZJ. Biochar as a Sustainable Electrode Material for Electricity Production in Microbial Fuel Cells, *Bioresource Technology*, 2014, 157, 114-119.
123. Wang, H., and Ren, ZJ. Bioelectrochemical metal recovery from wastewater: A review. *Water Research*, 2014, 66, 219-232. [Featured in Water Online, etc.]
124. Lu, L.,Yazdi, H., Jin, S., Zuo, Y., Fallgren,P., Ren, ZJ. Enhanced Bioremediation of Hydrocarbon-Contaminated Soil Using Pilot-Scale Bioelectrochemical Systems. *Journal of Hazardous Materials*, 2014, 274, 8-15.
125. Alaraj, M., Ren, ZJ, and Park, J. Microbial Fuel Cell Energy Harvesting using Synchronous Flyback Converter. *Journal of Power Sources*, 2014, 247, 636-642.
126. Chookaew, T., Prasertsan, P., and Ren, ZJ. Two-stage conversion of crude glycerol to energy using dark fermentation linked with microbial fuel cell or microbial electrolysis cell. *New Biotechnology*, 2014, 31, 179-184.

127. Ma, D., Li, R., Forrestal, C., Ren, ZJ., Ji, M. Study on microbial capacity desalination cell. *Journal of Environmental Science*, 2014, 34, 1375-1380.
128. Wang, H., Ren, ZJ. A Comprehensive Review of Microbial Electrochemical Systems as a Platform Technology. *Biotechnology Advances*, 2013, 31 (8), 1796–1807. [Featured in Water Technology Frontier, Water Online, etc.]
129. Fallgren, P., Zeng, C., Ren, ZJ., Lu, A., Ren, S., Jin, S. Feasibility of Microbial Production of New Natural Gas from Non-gas-producing Lignite. *International Journal of Coal Geology*, 2013, 115, 79-84.
130. Fallgren, P., Jin, S., Zeng, CP., Ren, ZJ., Lu, A., Colberg, PJ. Comparison of Coal Rank for Enhanced Biogenic Natural Gas Production. *International Journal of Coal Geology*, 2013, 115, 92-96.
131. Huggins, T., Fallgren, P., Jin, S., Ren, ZJ, Energy and Performance Comparison of Microbial Fuel Cell and Conventional Aeration Treating of Wastewater. *Journal of Microbiology and Biochemical Technology* 2013, S6-002.
132. Forrestal, C., Xu, P., and Ren, Z. Sustainable water desalination using a capacitive microbial desalination cell. *Energy Environmental Science*, 2012, 5, 7161-7167. [Featured in Science Daily, etc.]
133. Forrestal, C., Xu, P., Jenkins, PE., and Ren, Z. Microbial desalination cell with capacitive adsorption for ion migration control. *Bioresource Technology*, 2012, 120, 332-6.
134. Luo, H., Xu, P., Roane, TM., Jenkins, PE., and Ren, Z. Microbial desalination cells for improved performance in wastewater treatment, electricity production, and desalination. *Bioresource Technology*, 2012, 105, 60-66.
135. Wang, H., Park, J., and Ren, Z. Active energy harvesting from microbial fuel cells at the maximum power point without using resistors. *Environmental Science & Technology*, 2012, 46(9), 5247-5252. [Featured by more than 70 science news releases including Science Daily, ScienceNews Online, ScienceNewsDaily, PhysOrg news, CU newsletter, etc.]
136. Rhodes, E., Ren, Z., and Mays, D., Zinc Leaching from Tire Crumb Rubber. *Environmental Science & Technology* 2012, 46, 12856-12863.
137. Luo, H., Xu, P., Jenkins, PE., and Ren, Z. Long-term performance and characterization of microbial desalination cells in treating domestic wastewater. *Bioresource Technology*, 2012, 120:187-93.
138. Luo, H., Xu, P., and Ren, Z. Ionic Composition and Transport Mechanisms in Microbial Desalination Cells. *Journal of Membrane Science*, 2012, 409-410, 16-23.
139. Park, J., and Ren, Z. Hysteresis Controller Based Maximum Power Point Tracking Energy Harvesting System for Microbial Fuel Cells. *Journal of Power Sources*, 2012, 205, 151-156.
140. Park, J., and Ren, Z. High Efficiency Energy Harvesting from Microbial Fuel Cells using a Synchronous Boost Converter. *Journal of Power Sources*, 2012, 208, 322-327.
141. Wang, H., Ren, Z., and Park, J. Power Electronic Converters for Microbial Fuel Cell Energy Extraction: Effects of Inductance, Duty Ratio, and Switching Frequency. *Journal of Power Sources*, 2012, 220, 89-94.
142. Park, J., and Ren, Z. Hysteresis Controller based Energy Harvesting Scheme for Microbial Fuel Cells with Parallel Operation Capability. *IEEE Transaction on Energy Conversion*, 2012, 99, 1-10.
143. Wang, W., Jenkins, PE., and Ren, Z. Electrochemical Corrosion of Carbon Steel Exposed to

- Biodiesel/Simulated Seawater Mixture. *Corrosion Science*, 2012, 57, 215-219.
144. Luo, H., Jenkins, PE., and Ren, Z. Concurrent desalination and hydrogen generation using microbial electrolysis and desalination cells, *Environmental Science & Technology*, 2011, 45(1), 340-344. [Featured by *ES&T Water-Energy Virtual Issue* and more than 100 science news releases including *Science Daily*, *Scientific American*, *NASA technical review*, *C&EN News*, *ABC 7News*, *Desalination Report*, *Membrane Technology*, *CU Faculty Newsletter*, etc., I received numerous Interview inquiries from USA, UK, Brazil, China, etc.]
 145. Ren, Z., Yan, H., Wang W., Mench, MM., and Regan, JM. Characterization of microbial fuel cells at microbially and electrochemically meaningful timescales. *Environmental Science & Technology* 2011, 45(6), 2435-2441
 146. Ren, Z., Ramasamy, RP., Yan, H., Cloud-Owen, SS., Mench, MM., and Regan, JM. Time-course correlation of biofilm properties and electrochemical performance in single chamber microbial fuel cells. *Bioresource Technology* 2011, 120(1), 416-421.
 147. Wang, H., Wu, Z., Jenkins, P., Plaseied, A., Simpson, L., Engtrakul, C., and Ren, Z. Carbon nanotube modified air-cathodes for electricity production in microbial fuel cells. *Journal of Power Sources* 2011, 196(18), 7465-7469.
 148. Wang, H., Davidson, M., Zuo, Y., Ren, Z. Recycled tire crumb rubber anodes for sustainable power production in microbial fuel cells. *Journal of Power Sources* 2011, 196 (14); 5863-66.
 149. Wang, W., Jenkins, PE., and Ren, Z. Heterogeneous corrosion behaviour of carbon steel in water contaminated biodiesel. *Corrosion Science* 2011, 53(2), 845-849.
 150. Ramasamy, RP., Ren, ZJ., Cloud-Owen, SS., Mench, MM., and Regan, JM. Effect of Biofilm Properties on the Electrochemical Performance of Microbial Fuel Cells. *ECS Transactions* 2008, 13(21), 11-17.
 151. Ramasamy, RP., Ren, Z., Mench, MM., and Regan, JM. Impact of initial biofilm growth on anode impedance of microbial fuel cells. *Biotechnology Bioengineering* 2008, 101(1): 101-108.
 152. Ren, Z., Steinberg, LM., and Regan, JM. Electricity production and microbial biofilm characterization in cellulose-fed microbial fuel cells. *Water Science & Technology* 2008, 58(3): 623-628.
 153. Ren, Z., Ward, TW., and Regan, JM. Electricity production from cellulose in a microbial fuel cell using a defined binary culture. *Environmental Science & Technology* 2007, 41(13); 4781- 86.
 154. Ren, Z., Ward, TW., Logan, BE., and Regan, JM. Characterization of the cellulolytic and hydrogen-producing activities of six mesophilic *Clostridium* species. *Journal of Applied Microbiology* 2007, 103(6); 2258-66.
 155. Ji, M., Liu, W., Ren, Z., Sun, L. Removal of organic matters and disinfection by-products precursors from micropolluted raw water by the new combined processes, *Technology of Water Treatment* 2004, 30(6), 333-337.
 156. Sun, L., Ji, M., Ren, Z., Liu, W. Treatment of Slightly Polluted Raw Water by Ceramisite Bio-Filter and Activated Micro-Flocculation Filter. *Water & Wastewater Engineering* 2003, 29(12), 24-27.
 157. Ji, M., Ren, Z., Song, Y., Dong, G., Yang, Z. Combined uascb-mbbr system for the treatment of ice-cream wastewater. *Environmental Engineering*, 2002, 21 (1), 18-20.
 158. Ren, Z., Qi, Y., Li, R. Biological nitrogen removal in drinking water treatment, *Urban Environment and Urban Ecology*, 2002, 15(3), 54-56.

159. Li, R., Ji, M., Ren, Z., Hu, Z., Ma, W. Approaches to the Development and Problems of Research and Application of Activated Sludge Model, *Industrial Water & Wastewater*, 2002, 33(4), 4-6.
160. Ji, M., Zhou, J., Ren, Z., Li, R., Jia, X. Comparison on Bio-Contact Oxidation Tank and Ceramic Bio-Filter Processes for Micro-Polluted Raw Water Pre-Treatment, *Water & Wastewater Engineering*, 2002, 28 (10), 26-29.

MAGAZINE ARTICLES

Ren, ZJ., Xing, D. A Tale of Two Labs – Our Academic Journeys in China and in the USA. (Journal blog) *NatureJobs*. 2016, 2, 12.

Ren, ZJ., 2012. Bug Power: Microbial Fuel Cell Technology for Sustainable Water Infrastructure. For *RUMBLES* - Official Bi-Monthly Magazine of the Rocky Mountain Section of the AWWA and the Rocky Mountain Water Environment Association, July, 2012.

PEER REVIEWED CONFERENCE PROCEEDINGS

1. Lu, L., Gu, J., Chen, X., Ren, ZJ. Microbial photoelectrochemical reactors for high rate wastewater treatment and energy recovery, WEFTEC 2019, Chicago, Sept. 23-26, 2019.
2. Huang, Z., Lu, L., Ren, ZJ. Using Wastewater Treatment for Direct CO₂ Capture and Utilization, Water Environment Federation Annual Technical Exhibition and Conference, Sept. 30- Oct. 4, Chicago, IL, 2017.
3. Forrestal, C., Haeger, A., Ren, ZJ. Microbial Capacitive Desalination for Integrated Organic and Salt Removal and Energy Production from Shale Gas Wastewater, Water Environment Federation WEFTEC Conference, Chicago, IL, September 26-30, 2015
4. Lu, L., Huang, Z., Fallgren, P., Jin, S., Zuo, Y., Ren, ZJ. Bioelectrochemically Enhanced Remediation of Hydrocarbon-contaminated soil: From Bench to Pilot-scale. 2015 International Bioremediation Symposium Battelle Conference, Miami, FL, May 18-21, 2015.
5. Park, J., and Ren, ZJ. Efficient Energy Harvester for Microbial Fuel Cells using DC/DC Converters. IEEE Energy Conversion Congress and Exposition, Phoenix, AZ, September 17-22, 2011.
6. Morris, J., Jin, S., Fallgren, P., Ren, ZJ., and Cui, K. Enhanced Biodegradation of Hydrocarbon-Contaminated Sediments Using A Modified Microbial Fuel Cell. Battelle International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV June 27-31, 2011
7. Ren, ZJ., and Regan, JM. Cellulose-derived electricity production in microbial fuel cells by a defined binary culture and a natural inoculum. Water Environment Federation (WEFTEC) 80th Annual Exhibition & Conference, San Diego, Oct. 13-17, 2007.

PATENTS and LICENSES

1. Huggins, M., Ren, Z., Biffinger, J., Love, C. Filamentous Organism-Derived Carbon-Based Materials, and Methods of Making and Using Same, US patent, 10,829,420, 2020 (license agreement with Emergy LLC.)
2. Ren, Z., Lu, L. Carbon Dioxide Capture and Storage Electrolytic Methods, US provisional patent, 10,718,055, 2020 (license agreement with Hysummit Corporation)
3. Jin, S., Fallgren, P., Ren, Z. Bioelectrochemical Devices for Enhanced In Situ Bioremediation, US full patent, 10,406,572., 2019 (license agreement with Chevron Energy Company)

4. Huggins, M., Ren, Z., Whiteley, J., Lee, S., Fungal biomass as a template for the synthesis of carbon-based materials, US provisional patent, 62/365,536, 2016 (license agreement with Emery LLC.)
5. Zuo, Y., Ren, Z., Jin, S. Bioremediation of Hydrocarbon-Contaminated Soil, US full patent, US9545652 B2, 2014 (license agreement with Chevron Energy Company)
6. Ren, Z., Forrestal, C., and Xu, P, Modular Bioelectrochemical System and Method, US/EP/CN/WO full patent, PCT/US2012/055562, 2012 (license agreement with Bioelectric Inc.)

INVITED LECTURES/SEMINARS/WORKSHOPS/PRESENTATIONS

1. Novel Electroactive Membranes for Resource Recovery, The 8th International Symposium on water Environment Systems, Tohoku University (online), November 8th, 2020
2. Water Resource Recovery and Decarbonization, Engage 2020 Conference (online), Princeton University, November 5th, 2020
3. Material Innovations for a Circular Infrastructure Economy, NSF Convergence Accelerator Symposium (online), University of Maryland, September 30th, 2020
4. Develop a Data Research Platform for Water Infrastructure, IEEE Smart City Symposium (online), September 28th, 2020
5. A sustainable vision for Rikers Island Wastewater Treatment Facility, Climate Week NYC 2020 Conference (online), September 25th, 2020.
6. Using Low-Cost Renewable Energy for Waste Resource Recovery, MIT A+B 2020 Conference, MIT (Online), August 13-14th, 2020
7. Carbon valorization for waste management, Urban Sustainability Transitions in India and the World Conference, Princeton University, NJ, March 27-28th, 2020.
8. Microbial & Electrochemical Pathways for Wastewater Resource Recovery, *Montclair State University*, Montclair, NJ, January 28th, 2020.
9. Resource Recovery for a Circular Water Economy, Global Water Security Symposium, *Newcastle University*, Newcastle, UK, January 23-24th, 2020.
10. Using Low-Cost Renewable Energy for Waste Valorisation, *North East Centre for Energy Materials*, Newcastle University, Newcastle, UK, January 22nd, 2020.
11. The Challenges and Opportunities in Water Resource Recovery, *US-China Environment and Sustainability Forum*, University of Michigan, Ann Arbor, MI, October 1-2nd, 2019.
12. Wastewater Treatment for Energy Positive Carbon Valorization, *The 10th National Conference on Environmental Chemistry*, Tianjin, China, August 15-19th, 2019.
13. Microbial & Electrochemical Pathways for Wastewater Resource Recovery, *Advancing A Circular Water Economy Workshop*, University of Minnesota, Minneapolis, June 17-18th, 2019.
14. Microbial Electrochemistry for Wastewater Carbon Valorization, *The 2nd International Symposium on Biomass/Wastes Energy and Environment*, Tianjin University, Tianjin, China, May 23-26th, 2019.
15. Electrochemical Nutrient Recovery from Waste Streams, *4th International conference on capacitive deionization and electrosorption*, Tsinghua University, Beijing, China, May 20-23th, 2019.
16. Smart Water-Energy Infrastructure, *Princeton Smart Cities Initiative*, Princeton University, May 6th, 2019.
17. Microbial Ecological Interactions in Bioelectrochemical Remediation of Hydrocarbon-contaminated Soil, *ACS 2019 Spring National Meeting*, Orlando, March 31- April 4, 2019.

18. Wastewater Treatment for Carbon & Nutrient Valorization, ACS 2019 Spring National Meeting, Orlando, March 31- April 4, 2019.
19. Microbial & Electrochemical Conversion Pathways for Waste Valorization, University of South Florida, April 3, 2019.
20. CO₂ Valorization Using Microbial Electrochemistry, Princeton Catalysis Initiative, Princeton University, January 16, 2019.
21. Ren, ZJ., Chen, X., Bian, Y. Electrochemical Nutrient Recovery from Wastewater International Water Association Urban Water Summit, Harbin, China, November 26-28, 2018.
22. Water-Energy-Carbon Nexus and Opportunities for Water Resource Recovery, Center for Policy Research on Energy and the Environment, Princeton University, NJ, September 24th, 2018.
23. Ren, ZJ. When Microbiology Meets Electrochemistry, Energy and the Environment Find Synergy, Tsinghua University, Beijing, May 31th, 2018.
24. Ren, ZJ. Wastewater Treatment for Energy Positive Carbon and Nutrient Valorization, The 2018 International Water Association Leading-edge Technologies Conference, Nanjing, China, May 27-31th, 2018.
25. Ren, ZJ. Wastewater Treatment for Energy Positive Carbon Valorization, International Conference in Environmental Pollution and Health, Nankai University, Tianjin, May 18-20th, 2018.
26. Ren, ZJ. When Microbiology Meets Electrochemistry, Energy and the Environment Find Synergy, China Petroleum University, Beijing, May 18th, 2018.
27. Ren, ZJ., When Microbiology Meets Electrochemistry, Energy-guzzling Treatment Becomes History, University of Minnesota, Minneapolis, MN, March 30th, 2018.
28. Ren, ZJ., Conductive wood membrane electrode for energy recovery from wastewater treatment, 255th ACS National Meeting, Division of Cellulose and Renewable Materials, New Orleans, LA, March 18-22, 2018.
29. Ren, ZJ., Electrochemical Resource Recovery in Anaerobic Bioreactors, The 15th IWA International Conference on Anaerobic Digestion, Beijing, China, Oct. 17-20, 2017.
30. Ren, ZJ., High Rate Hydrogen Production Using Microbial Photo-Electrosynthesis Systems, The 9th National Conference in Environmental Chemistry, Hangzhou, China, Oct. 20-22, 2017.
31. Ren, ZJ., Bioelectrochemically Enhanced Remediation of Petroleum-contaminated Soil, Society for Industrial Microbiology and Biotechnology Annual Meeting and Exhibition, Denver, CO, Jul. 30 - Aug 03, 2017.
32. Ren, ZJ., Microbial Electrochemical Platform for Energy and Water Sustainability, University of Illinois at Urbana-Champaign, IL, May 1, 2017.
33. Ren, ZJ., Conductive Biomass Carbon Materials for Microbial Electrochemical Applications, University of New Mexico, NM, April 19, 2017.
34. Ren, ZJ., When Microbiology Meets Electrochemistry, Energy and the Environment Find Synergy, Princeton University, NJ, April 7th, 2017.
35. Ren, ZJ. Microbial Photoelectrochemical Energy Recovery from Wastewater. 2017 KAUST Research Conference, King Abdullah University of Science and Technology, Saudi Arabia, Mar. 27-29, 2017.
36. Ren, ZJ. Energy and Resource Recovery from Wastewater, Water Environment Federation Water Innovation Summit, San Francisco, CA, Mar. 15-16, 2017.

37. Ren, ZJ., Lu, L. Can wastewater become a carbon sink for CO₂ capture and utilization? *International Water Association Urban Water Summit*, Beijing, China, Nov. 2-3, 2016.
38. Ren, ZJ. Rewiring Anaerobic Digestion Workshop, *Advanced Research Projects Agency - Energy*, Arlington, VA, Oct. 26-28, 2016
39. Ren, ZJ., Ge, Z., Third International Symposium on Utilization of Wetland Resources and Environmental Restoration, *University of Florida*, FL, Jan. 21-25, 2016.
40. Ren, ZJ., Energy-positive Water Resource Recovery Facilities in the United States, *Tsinghua University*, Beijing, China, July 18, 2016.
41. Ren, ZJ., Biofabrication of Fungal Carbon Materials for Energy Storage and Wastewater Treatment, *Fudan University*, Shanghai, China, July 12, 2016
42. Ren, ZJ., The Structure of a National Test Bed Network for Energy Positive Water Resource Recovery Facilities, *NSF-DOE-EPA-USDA Joint Workshop*, Denver, June 20-22, 2016
43. Ren, ZJ., Developing Metrics for a National Test Bed Network for Energy Positive Water Resource Recovery Facilities, *NSF-DOE-EPA-USDA Joint Workshop*, Arlington, VA, May 17-19, 2016
44. Ren, ZJ., Microbial Electrochemical Platform for Energy and Water Sustainability, *National Renewable Energy Laboratory*, Golden, CO, April 20, 2016
45. Ren, ZJ., When Microbiology Meets Electrochemistry, Energy-guzzling Treatment Becomes History, *Colorado School of Mines*, Golden, CO, April 15, 2016
46. Ren, ZJ., Microbial Electrochemical Desalination for Produced Water Treatment and Reuse, *Southwest Energy*, Houston, TX, March 31, 2016
47. Lu, L., Ren, ZJ., Can wastewater become a carbon sink for CO₂ capture and utilization. *2nd International Conference in State Key Laboratory of Pollution Control*, Beijing, China, Nov. 2-3, 2015
48. Lu, L., Ren, ZJ. Water and Energy Sustainability Achieved by Microbial Electrochemistry. *Tsinghua University*, Beijing, China, Nov. 1, 2015.
49. Ren, ZJ., Microbial Electrochemical Technology Platform for Water and Energy Sustainability, *Swiss Federal Institute of Aquatic Science and Technology (EAWAG)*, Zurich, Switzerland, October 21, 2015.
50. Ren, ZJ., Microbial Capacitive Deionization for Natural Gas Produced Water Treatment and Energy Production, *Southwest Energy Company*, Houston, August 10-11, 2015
51. Ren, ZJ., Sustainable Oil/Gas Wastewater Management by Microbial Electrochemical Technology, *Oklahoma Independent Petroleum Association (OIPA) Conference*, Dallas, TX, June 27-29, 2015.
52. Ren, ZJ., Microbial Capacitive Desalination for Sustainable Oil/Gas Wastewater Management, *Cardinal River Energy Company*, Oklahoma City, OK, June 29, 2015.
53. Ren, ZJ., Group Rapporteur for *NSF-DOE-EPA Energy-positive Wastewater Treatment Workshop*, Arlington, VA, April 28-30, 2015
54. Ren, ZJ., Microbial Capacitive Desalination for Produced Water Treatment and Energy Production, *Marcellus Shale Water Management Conference*, Pittsburgh, PA, March 24-25, 2015
55. Ren, ZJ., Microbial Electrochemical Technology (MxCs): Challenge and Opportunities, *US Department of Energy*, Washington D.C. March 17-18, 2015

56. Ren, ZJ., Bioelectrochemical Systems for Decentralized Water and Resource Recovery, IWA Science Summit for Urban Water and Chinese Academy of Engineering Conference, Harbin Institute of Technology, China, July 13-17, 2014
57. Ren, ZJ., Understanding the niche applications of microbial electrochemical technology, Tsinghua University, China, July 7-8, 2014
58. Ren, ZJ., Wang, H., Metal and Resource Recovery from Wastewater Using Bioelectrochemical Systems. 2nd Waterloo Conference on Sustainable technologies to treat organic wastes and wastewaters: the recovery of value-added products. University of Waterloo, Canada, February 19, 2014
59. Ren, ZJ. Microbial Electrochemical Systems for Water and Energy Sustainability. University of Colorado Boulder Department of Mechanical Engineering, January 26, Boulder, 2014
60. Ren, ZJ. Electrode Array for Corrosion Detection and Electrochemistry in Microbial Electrochemical Systems. Biorrosion Summit, The University of Oklahoma, January 20-21, Norman, 2014
61. Ren, ZJ. Waste to Value – How Environmental Engineering Is Reinventing Itself. Denver Café Sci, Denver, January 13, 2014.
62. Ren, ZJ. Bio-Electrochemical (BEC) Systems for Enhanced Petroleum Hydrocarbon Remediation and Energy Production. Chevron Energy Technology Company, San Raman, October 29, 2013
63. Ren, ZJ. Microbial Electrolysis Cells (MECs) for High Yield H₂ Production from Biodegradable Materials. US Department of Energy – National Renewable Energy Laboratory, September 24-25, CO, 2013
64. Ren, ZJ. Studies on Corrosion and Fouling Detection and Prevention Using Micro Electrode Arrays, US National Institute of Standards and Technology, July 23-24, CO, 2013
65. Ren, ZJ. Energy and Resource Recovery from Oil Mill Waste Using Microbial Electrochemical Systems. 2013 Annual Convention of International Oil Mill Superintendents Association (IOMSA). Denver, CO, June 14-19, 2013
66. Ren, ZJ. Microbial Electrochemical System as a Platform for Class Teaching in Environmental Biotechnology and Sustainability. American Society for Microbiology Conference for Undergraduate Educators (ASMCUE), Denver, CO, May 16-19, 2013
67. Ren, ZJ. Microbial Electrochemical Systems for Water and Energy Sustainability. Stanford University, CA, March 15, 2013
68. Ren, ZJ. Microbial Electrochemical Systems for Water and Energy Sustainability. University of Maryland, MD, February 15, 2013
69. Ren, ZJ. Microbial Electrochemical Systems for Water and Energy Sustainability. Virginia Tech, VA, January 19, 2013
70. Ren, ZJ., and Perlow, J., Bioelectric System Based Toilets for Integrated Energy and Fertilizer Recovery from Human Waste, Gates Foundation Reinvent the Toilet Fair, Seattle, August 13-17, 2012
71. Ren, ZJ. When Microbial Ecology Meets Electrochemistry: Bioelectrochemical Systems For Environmental Remediation And Biochemical Production, Lanzhou University, Gansu, China, July 16, 2012
72. Ren, ZJ. Bioelectrochemical Systems in Naval Applications, Naval Research Laboratory, Washington, DC, June 4, 2012

73. Ren, ZJ. Bioelectrochemical Systems for Simultaneous Wastewater Treatment, Energy Production, and Desalination. Rice University, TX, March 19, 2012
74. Ren, ZJ. Bioenergy Production and Desalination Using Microbial Electrochemical Systems. University of California, Riverside, CA, February 22, 2012
75. Ren, ZJ. The complementary functions in bioelectrochemical systems. Nankai University, Tianjin, China, November 14, 2011
76. Luo, H., Xu, P., Forrestal., C, and Ren, ZJ. Bioelectrochemical Systems for Simultaneous Wastewater Treatment, Energy Production, and Desalination. The 7th International Conference on Environmental Anaerobic Technologies and Bioenergy, Tianjin, China, November 12-13, 2011
77. Ren, ZJ. Bioelectrochemical Systems for Simultaneous Wastewater Treatment, Energy Production, and Desalination. Colorado School of Mines, Golden, CO October 28, 2011
78. Ren, ZJ. Standards in Characterizing Microbial Desalination Cells. US Army Microbial Fuel Cell Standard Development Symposium, Penn State University, State College, PA September 14-15, 2011
79. Ren, ZJ. Enhanced Biodegradation of Hydrocarbon-Contaminated Sediments Using A Modified Microbial Fuel Cell. Chevron Energy Company, San Ramon, CA, August 29, 2011
80. Ren, ZJ. Bioenergy Production and Desalination Using Microbial Electrochemical Systems. Department of Integrated Biology, UCDenver, March 18, 2011
81. Ren, ZJ., Development of Bioelectrochemical Systems for Biofuel Production and Desalination. University of Wyoming, WY, January 24, 2011
82. Ren, ZJ., Bioenergy Production and Desalination Using Microbial Fuel Cell Technologies. University of Hong Kong, HK, December 15, 2010
83. Ren, ZJ., Low Carbon Bioenergy Production In Bioelectrochemical Systems. Pathways Toward Low Carbon Cities Workshop, NSF-USA and NSFC-China, Hong Kong, December 13-14, 2010
84. Ren, ZJ. Microbial Fuel Cells and Their Potential for Bioenergy Production. 2009 Colorado Renewable Energy Conference, Golden, CO, August 28–30, 2009
85. Ren, ZJ., Microbial Fuel Cells – From Waste to Power in One Step. Department of Biology, University of Colorado, February 6, 2009

CONFERENCE PRESENTATIONS (Competitive Peer Reviewed Abstracts, *first author is the presenter*)

1. Chen, X., Lobo, F. L., Ren, Z. J. Electrical decoupling of microbial electrochemical reactions enables spontaneous H₂ evolution, ISMET 2020 virtual conference, October 7-9th, 2020.
2. Jack, J., Lo, J., Maness, PC., Ren, ZJ. Hybrid bioelectrochemical CO₂ reduction, ISMET 2020 virtual conference, October 7-9th, 2020.
3. Jack, J., Lo, J., Maness, PC., Ren, ZJ. High rate CO₂ valorization to organics via CO mediated silica nanoparticle enhanced fermentation, ACS Fall National Meeting, August 16–20th, 2020.
4. Lu, L., Chen, X., Jack, J., Ren, ZJ. Novel electroactive membranes for resource recovery, Univ. of Michigan Borchardt Conference on Water & Wastewater, Ann Arbor, MI, February 25-26, 2020.
5. Iddyia, A., Hou, D., Ren, Z., Tester, J., Jassby, D., & Gross, A. Highly efficient ammonia recovery from wastewater using electrically conducting gas-stripping membranes, ACS Fall Meeting, San Diego, CA, August 25-29th, 2019.

6. Lu, L., Gu, J., Ren, ZJ., Microbial photoelectrochemical reactors for high rate wastewater treatment and energy recovery, International Water Association Anaerobic Digestion Conference AD16, Delft, The Netherlands, June 23-27th, 2019.
7. Bassett, H., Ren, ZJ., Artificial Photosynthesis using *E.coli* for isopropanol production, 2019 AEESP Research and Education Conference, May 14-16th, 2019.
8. Lu, L., Gu, J., Ren, ZJ., Microbial Photoelectrochemical H₂ Production from Wastewater, International Water Association Urban Water Summit, Harbin, China, November 26-28, 2018.
9. Lobo, F., Lu, L., Ren, ZJ. Active Energy Harvesting Leads to Distinct Microbial Community Structure and High Performance in Microbial Fuel Cells, 4th International Society of Microbial Electrochemical Technology Conference, Oct. 2-6, Lisbon, Portugal, 2017.
10. Lu, L., Jin, S., Zuo, Y., Ren, ZJ. Metagenomic Insights and System Scale up For Bioelectrochemical Petroleum Hydrocarbon Remediation, 4th International Society of Microbial Electrochemical Technology Conference, Oct. 2-6, Lisbon, Portugal, 2017.
11. Huang, Z., Lu, L., Ren, ZJ. Using Wastewater Treatment for Direct CO₂ Capture and Utilization, Water Environment Federation Annual Technical Exhibition and Conference, Sept. 30- Oct. 4, Chicago, IL, 2017.
12. Ren, ZJ., Hou, D., Chen, X. Electrochemical Nutrient Recovery In Anaerobic Membrane Bioreactors, 2nd International Resource Recovery Conference, Aug. 5-9, New York City, NY, 2017.
13. Ren, ZJ., Lu, L., Huang, Z. Using Wastewater Treatment For Direct CO₂ Capture And Utilization, 2nd International Resource Recovery Conference, Aug. 5-9, New York City, NY, 2017.
14. Ren, ZJ., Lu, L., Gu, J. Self-sustaining Microbial Photoelectrosynthesis for Hydrogen Generation from Wastewater, AEESP Research and Education Conference, Ann Arbor, MI, June 20-22, 2017.
15. Hou, D., Jassby, D., Ren, ZJ. Electrically Conductive Membranes for Energy and Resource Recovery in Membrane Electrochemical Bioreactors, AEESP Research and Education Conference, Ann Arbor, MI, June 20-22, 2017.
16. Hou, D., Chen, X., Ren, ZJ. Microbial Electrochemical Nutrient and Energy Recovery in Anaerobic Osmotic Membrane Bioreactors, AEESP Research and Education Conference, Ann Arbor, MI, June 20-22, 2017.
17. Ge, Z., Albano, C., Chen, X., Ren, ZJ. Integrated carbon, nutrients, and salt removal using capacitive deionization powered by microbial fuel cells, AEESP Research and Education Conference, Ann Arbor, MI, June 20-22, 2017.
18. Lu, L., Jin, S., Zuo, Y., Ren, ZJ. Effects of Soil Texture on Soil Bioelectrochemical Remediation and Associated Geophysical Monitoring, 4th International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 22-25, 2017.
19. Lu, L., Jin, S., Zuo, Y., Ren, ZJ. Enhanced Remediation of Crude Oil-Contaminated Soil by Bioelectrochemical Systems, 4th International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 22-25, 2017.
20. Ge, Z., Ren, ZJ. Capacitive nutrient removal and recovery from anaerobic membrane bioreactor effluent, 253rd ACS National Meeting, San Francisco, CA April 2-6, 2017.
21. Ren, ZJ., Lu, L. Active H₂ Harvesting Prevents Methanogenesis in Microbial Electrolysis Cells, International Society of Microbial Electrochemical Technology North America Conference, Stanford, CA, Oct. 5-7, 2016.

22. Lobo, F., Wang, X., Ren, ZJ. Real-time Electrical Control for Bioelectrochemical Systems, International Society of Microbial Electrochemical Technology North America Conference, Stanford, CA, Oct. 5-7, 2016.
23. Huggins, MT., Daniel, R., Ren, ZJ. Biomass Derived Carbon Materials for Wastewater and Energy Applications, International Society of Microbial Electrochemical Technology North America Conference, Stanford, CA, Oct. 5-7, 2016.
24. Dankovich, L., Forrestal, C., Ren, ZJ. Conductive Membranes for Scalable Microbial Fuel Cell Air Cathode, International Society of Microbial Electrochemical Technology North America Conference, Stanford, CA, Oct. 5-7, 2016.
25. Ge, Z., Albano, C., Ren, ZJ., Microbial Capacitive Deionization for Oil and Gas Produced Water Treatment and Reuse, NSF SBIR-STTR Conference, Atlanta, GA, Jun. 6-8, 2016.
26. Ren, ZJ., Lu, L., Huang, Z. Synergizing waste management for power and wastewater facilities via low-energy electrolytic carbonation, ACS 251th National Meeting, San Diego, CA, March 13-17, 2016.
27. Hou, D., Lu, L., Ren, ZJ. Osmotic membrane electrochemical bioreactor for wastewater treatment and power production, ACS 251th National Meeting, San Diego, CA, March 13-17, 2016.
28. Hou, D., Lu, L., Ren, ZJ. Electrically conductive membrane for energy and resource recovery in membrane electrochemical bioreactors, ACS 251th National Meeting, San Diego, CA, March 13-17, 2016.
29. Forrestal, C., Ren, ZJ. International Symposium on Capacitive Deionization and Electrosorption Technolgis, Saarbrücken, Germany, Oct. 26-29, 2015
30. Forrestal, C., Haeger, A., Ren, ZJ. Microbial Capacitive Desalination for Integrated Organic and Salt Removal and Energy Production from Shale Gas Wastewater, Water Environment Federation WEFTEC Conference, Chicago, IL, September 26-30, 2015.
31. Lu, L., Huang, Z., Ren, ZJ. Bioelectrochemically enhanced remediation of hydrocarbon in soil and groundwater. The 5th International Meeting on Microbial Electrochemistry and Technologies (ISMET), Tempe, AZ, October 1-4, 2015.
32. Lu, L., Jin, S., Zuo, Y., Ren, ZJ. Microbial Electrolytic Carbon Capture and Energy Production for Wastewater Treatment, The 5th International Meeting on Microbial Electrochemistry and Technologies (ISMET), Tempe, AZ, October 1-4, 2015.
33. Ren, ZJ., Lu, L., Huang, Z. Can wastewater become a carbon sink for CO₂ capture and utilization, Association of Environmental Engineering and Science Professors (AEESP) conference, New Haven, CT, June 14-16, 2015.
34. Ren, ZJ., Lu, L., Huang, Z. Bioelectrochemically enhanced remediation of hydrocarbon in soil and groundwater. Association of Environmental Engineering and Science Professors (AEESP) conference, New Haven, CT, June 14-16, 2015.
35. Lu, L., Huang, Z., Fallgren, P., Jin, S., Zuo, Y., Ren, ZJ. Bioelectrochemically Enhanced Remediation of Hydrocarbon-contaminated soil: From Bench to Pilot-scale. 2015 International Bioremediation Symposium Battelle Conference, Miami, FL, May 18-21, 2015.
36. Ren, ZJ. Microbial Electrochemical Technology Platform for Energy-positive Wastewater Treatment, NSF I/UCRC MAST Center Spring Conference, Boulder, CO, April 26-28, 2015.
37. Forrestal, C., Haeger, A., Ren, ZJ. Microbial capacitive desalination for organic and salt removal and energy production from unconventional natural gas produced water. ACS 249th National Meeting, Denver, CO, March 23-25, 2015.

38. Lu, L., Zeng, C., Yin, X., Wang, L., Ren, ZJ. Bioelectrochemical oxidation of graphite drives graphene oxide production and electrosynthesis. ACS 249th National Meeting, Denver, CO, March 23-25, 2015.
39. *Forrestal, C.*, Haeger, A., Ren, ZJ. Produced water treatment capability of lab and pilot scale microbial capacitive desalination systems. 2014 NA-ISMET Conference, Penn State University, PA, May 13-15, 2014.
40. Haeger, A., *Forrestal, C.*, Ren, ZJ. High performance of spirally-wound microbial fuel cell design and its analysis using interdisciplinary methods. 2014 NA-ISMET Conference, Penn State University, PA, May 13-15, 2014.
41. *Huggins, M.*, Wang, H., Ren, ZJ. Biochar as a sustainable electrode material for electricity production in microbial fuel cells. 2014 NA-ISMET Conference, Penn State University, PA, May 13-15, 2014.
42. L Lu, T Huggins, S Jin, Y Zuo, ZJ Ren Bioelectrochemically enhanced remediation of petroleum hydrocarbons in the subsurface matrix. 2014 NA-ISMET Conference, Penn State University, PA, May 13-15, 2014.
43. *Wang, H.*, Luo, H., S Jin, Ren, ZJ. Bioelectrochemical platform for sustainable environmental remediation and energy generation. 2014 NA-ISMET Conference, Penn State University, PA, May 13-15, 2014.
44. Zhang, C., Revil, A., Ren, Z., Karaoulis, M., Mendonca, A. Self-potential and Complex Conductivity Monitoring of In Situ Hydrocarbon Remediation in Microbial Fuel Cell. AGU Fall Meeting, Dec. 17-21, 2013.
45. *Huggins, M.*, Ren, ZJ. Throw Away Electrodes for Microbial Fuel Cells (MFCs) – Reinventing the electrode in the world of abundance. 2013 North American Biochar Symposium, University of Massachusetts, Amherst, October 13-16, 2013
46. *Forrestal, C.*, Xu, P., and Ren, ZJ. Microbial Capacitive Desalination Cell for Efficient Organic and Salt Removal from Produced Water. 2013 AEESP 50th Anniversary Conference, Golden, CO, July 14 - 16, 2013.
47. *Wang, H.*, Xu, P., and Ren, ZJ. Transformation and Removal of Trace Organic Compounds in Microbial Fuel Cells. 2013 AEESP 50th Anniversary Conference, Golden, CO, July 14 - 16, 2013.
48. Li, K., Wang, X., and Ren, ZJ. Life Cycle Assessment of Microbial Fuel Cell Systems. 2013 AEESP 50th Anniversary Conference, Golden, CO, July 14 - 16, 2013.
49. *Lu, L.*, Jin, S., and Ren, ZJ. Bioelectrochemically Enhanced Remediation of Petroleum Hydrocarbons in the Subsurface Matrix. The *2nd International Bioremediation and Sustainable Environmental Technologies Symposium*, Jacksonville, FL, June 10-13, 2013.
50. *Huggins, M.*, Biffinger, J., and Ren, ZJ. Conductive Antimicrobial Oxygen Reduction Catalysts for Biofouling Control, 2013 113th General Meeting, American Society for Microbiology, Denver, CO, May 18-21, 2013
51. *Huggins, M.*, *Wang, H.*, *Fallgren, P.*, and Ren, ZJ. Biochar as a sustainable and high-performing electrode material for bioelectrochemical systems. 10th Annual RMSAWWA/RMWEA Student Conference, Colorado School of Mines, CO, May 14th, 2013
52. *Forrestal, C.*, Xu, P., and Ren, ZJ. Microbial Capacitive Desalination Cell for Efficient Organic and Salt Removal from Produced Water. 10th Annual RMSAWWA/RMWEA Student Conference, Colorado School of Mines, CO, May 14th, 2013
53. *Wang, H.*, Xu, P., and Ren, ZJ. Transformation and Removal of Trace Organic Compounds in Microbial Fuel Cells. 10th Annual RMSAWWA/RMWEA Student Conference, Colorado School of

Mines, CO, May 14th, 2013

54. *Forrestal, C., Luo, H., Xu, P., and Ren, Z.* Understanding and Solving the Key Challenges in Microbial Desalination Systems. NA-ISMET meeting, Cornell University, October 8-10, 2012
55. *Wang, H., Park, J., and Ren, Z.* Maximizing Microbial Fuel Cell Energy Output by Active Harvesting. NA-ISMET meeting, Cornell University, October 8-10, 2012
56. *Ren, ZJ., Xu, P., Luo, H., and Forrestal, C.* Simultaneous Water Desalination, Energy Production, And Wastewater Treatment In Microbial Desalination Cells. 27th Annual WateReuse Symposium, Hollywood, FL, September 9-12, 2012.
57. *Ren, ZJ., Xu, P., Luo, H., and Forrestal, C.* Simultaneous Water Desalination, Energy Production, and Wastewater Treatment In Microbial Desalination Cells. The 8th International Conference on Sustainable Water Environment, Guilin, China, July 17-19, 2012.
58. *Fallgren, P., Ren, V., Jin, S., Zeng, C., and Ren, ZJ.,* Feasibility of Microbial Production of Natural Gas from Low-rank Non-Producing Coals. 2nd Biogenic Coal Bed Natural Gas Conference. University of Wyoming, Wyoming, June 20-21, 2012.
59. *Fallgren, P., Colberg, P., Ren, V., Jin, S., Zeng, C., and Ren, ZJ.,* Biogenic Natural Gas Production from Coals of Different Ranks. 2nd Biogenic Coal Bed Natural Gas Conference. University of Wyoming, Wyoming, June 20-21, 2012.
60. *Luo, H., Forrestal, C., Xu, P., and Ren, Z* Complementary functions within microbial fuel cells: energy production and desalination. 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011
61. *Zinner, D., and Ren, ZJ.* Scale-up microbial fuel cell for direct conversion of food waste to electricity. 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011
62. *Forrestal, C., Xu, P., and Ren, Z* Capacitive Deionization in Combination with Microbial Fuel Cell for Desalination. 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011
63. *Wang, H., Wu, Z., Jenkins, P., and Ren, ZJ.* Exploring new electrode materials for sustainable electricity production in microbial fuel cells. 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011
64. *Wang, W., Wang, H., Jenkins, P., and Ren, ZJ.* Corrosion mechanism of carbon steel in seawater contaminated biodiesel. 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011
65. *Park, J., Ren, ZJ.* Efficient Energy Harvester for Microbial Fuel Cells using DC/DC Converters
66. IEEE Energy Conversion Congress and Exposition, Phoenix, AL, September 17-22, 2011.
67. *Ren, ZJ., Luo, H., Forrestal, C., and Xu, P.* Simultaneous water desalination, energy production, and wastewater treatment in bioelectrochemical systems. AEESP 2011 Conference, Tampa, FL, July 10-12, 2011
68. *Morris, J., Jin, S., Fallgren, P., Ren, ZJ., and Cui, K.* Enhanced Biodegradation of Hydrocarbon-Contaminated Sediments Using A Modified Microbial Fuel Cell. Battelle International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV June 27-31, 2011
69. *Luo, H., Forrestal, C., Jenkins, PE., and Ren, ZJ.* Improved Performance of Bioelectrochemical Systems by Integrating Energy Production with Water Desalination. 3rd International Microbial Fuel Cell Conference, Wetsus, The Netherlands, June 6-8, 2011
70. *Xu, P., Luo, H., Forrestal, C., and Ren, ZJ.* Self-Sustained Desalination in Combination with Wastewater Treatment - Hybrid Microbial Desalination System. 15th Annual Water Reuse & Desalination Research Conference, Las Vegas, NV, May 16-17, 2011.

71. *Zinner, D.*, Ramaswami, A., and Ren, ZJ. Scale-Up Microbial Fuel Cell for Direct Conversion of Food Waste to Electricity, RMSAWWA 8th Annual Student Research Conference, University of New Mexico, NM, May 17, 2011
72. *Luo, H.*, Xu, P., Jenkins, PE., and Ren, ZJ. Simultaneous energy production and desalination in microbial electrochemical systems. 241th American Chemical Society (ACS) National Meeting, Anaheim, CA, March 27-31, 2011
73. *Rhodes, E.* Ren, ZJ., and Mays, D. Zinc Leaching from Tire Crumb Rubber. American Geophysical Union (AGU) 2010 Fall Meeting, San Francisco, CA, December 13-17, 2010
74. *Luo, H.*, Jenkins, PE., and Ren, ZJ. Concurrent desalination and H₂ generation using an integrated bioelectric system. 1st North America BioElectric Systems Meeting, UMass, October 11-13, 2010
75. Regan, JM., Ren, ZJ., Yan, H., Jung, S., Ramasami, R., and Mench, MM. Prospects for Engineering BES Biofilm Ecology and Performance. 1st North America BioElectric Systems Meeting, UMass, October 11-13, 2010
76. Regan, JM., Ren, ZJ., Yan, H., Jung, S., Ramasami, R., and Mench, MM. MFC Operational Effects on Anode Biofilm Microbial Ecology and Electrochemical Performance. 3rd World Congress of Industrial Biotechnology, Dalian, China, July 25-27, 2010
77. *Rhodes, E.* Ren, ZJ., and Mays, D. Tire Crumb Rubber in Stormwater Filtration. AWWA/WEF Rocky Mountain Student Conference, Boulder, CO, May 18-20, 2010
78. *Rhodes, E.* Ren, ZJ., and Mays, D. Tire Crumb Rubber in Stormwater Filtration. UCDenver Research and Creative Activities Symposium, AMC, CO, April 30, 2010 (Student Research Award)
79. *Wang, H.* Wu, Z. Jenkins, P. Plaseied, A. Simpson, L. Engtrakul, C. and Ren, ZJ. Carbon Nanofiber Modified Air Cathodes for Improving Electricity Production in Microbial Fuel Cells. 239th American Chemical Society (ACS) National Meeting, San Francisco, CA, March 21-25, 2010
80. Regan JM., Ren, ZJ., Carpenter W., Ramasamy, RP., and Mench MM.. External Resistance Effects on Anode Biofilm Architecture and Performance. 2nd International Microbial Fuel Cell Conference; Gwangju, Korea, June 10 - 12, 2009
81. *Huang, YH.*, and Ren, ZJ. Electricity Generation and Treatment of High Strength Animal Liquid Waste Using Microbial Fuel Cells. Association of Environmental Engineering and Science Professors Association (AEESP) Education and Research Conference, Univ of Iowa, IA, Jul. 26-28, 2009.
82. Ren, ZJ., Cloud-Owen, SS., Carpenter W., Ramasamy, RP., Mench MM., and Regan JM. Biofilm Architecture Evolution in Microbial Fuel Cells - The Effects of External Resistance and Operation Duration, American Society of Microbiology (ASM) 109th General Meeting, Philadelphia, PA, May 17-21, 2009.
83. Kronoveter, KM., Ramaswami A., and Ren, Z. Quantitation of Energy Recovery Potential from Food Wastes Using Microbial Fuel Cells and Biochemical Methane Potential Assays. 2nd International Microbial Fuel Cell Conference; Gwangju, Korea, June 10 - 12, 2009
84. Kronoveter, KM, Ren, Z, Song, J., Colberg, PC., Mehraban T., Arens, S., Olsen, H., and Roginske, M. Electrically Induced TCE and Nitrate Reduction ZVI Rejuvenation; World Environmental and Water Resources Congress, Kansas City, MO, May 17-21, 2009.
85. Ren, ZJ., and Regan, JM. Electricity production and microbial biofilm characterization in cellulose fed microbial fuel cells. International Water Association (IWA) biofilm technologies conference, Singapore, Jan. 8-10, 2008. Conference proceedings on CD-ROM.

86. Ren, ZJ., Mao, X., Shi, J., Huang, TJ., Mench, MM., and Regan, JM. Correlation of biological constraints and electricity production using a micro-microbial fuel cell (MMFC). Microbial Fuel Cells First International Symposium, University Park, PA, May 27-29, 2008.
87. Ren, ZJ., Terrill, JB., and Regan, JM. Electricity from cellulose-fed microbial fuel cells: comparing a co-culture of *Clostridium cellolyticum*-*Geobacter sulfurreducens* with an undefined mixed culture, 2008 Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies, Houston, TX, Oct 5-9, 2008
88. Ren, ZJ., Direct Electricity Production from Cellulose in Microbial Fuel Cells, 2008, CU/NREL Energy Initiative Annual Research Symposium, Boulder, CO, Nov. 17th, 2008.
89. Terrill, JB., Ren, ZJ., and Regan, JM. The effects of settling on cellulose degrading microbial fuel cells. The American Society of Agricultural and Biological Engineers, 2008 Annual International Meeting, Providence, RI, Jun 29 - Jul 2, 2008
90. Ramasamy, RP., Ren Z., Cloud-Owen, SS., Mench MM., and Regan JM. Effect of biofilm properties on the electrochemical performance of microbial fuel cells. 213th meeting of the Electrochemical Society, Phoenix, AZ, May 18-22, 2008
91. Ren, ZJ., and Regan, JM. Cellulose-derived electricity production in microbial fuel cells by a defined binary culture and a natural inoculum. Water Environment Federation (WEFTEC) 80th Annual Exhibition & Conference, San Diego, Oct. 13-17, 2007. Conference proceedings on CD-ROM.
92. Ren, ZJ., and Regan, JM. Renewable electricity production from cellulose in microbial fuel cells. Association of Environmental Engineering and Science Professors Association (AEESP) Education and Research Conference, Virginia Tech, VA, Jul. 28-Aug. 1, 2007.
93. Ren, ZJ., Ward, TW., and Regan, JM. A plate assay for isolating microorganisms capable of anaerobic extracellular electron transfer. American Society of Microbiology (ASM) 107th General Meeting, Toronto, Canada, May 21-25, 2007.
94. Ramasamy, RP., Ren Z., Mench MM., and Regan JM. Electrochemical impedance spectroscopy studies on microbial fuel cells. American Chemical Society (ACS) 234th National Meeting & Exposition Boston, MA, Aug. 19-23, 2007
95. Regan JM., Ramasamy, RP., Ren Z., and Mench MM. Microbial fuel cells for wastewater treatment. 212th meeting of the Electrochemical Society, Washington D.C., Oct. 7-12, 2007.

TECHNICAL/RESEARCH REPORTS

1. Ren, ZJ. Self-sustaining microbial photoelectrosynthesis for energy and fuel production, for National Science Foundation, August, 2019
2. Ren, ZJ. Integrated Microbial Desalination System for Navy Wastewater Management, for Office of Naval Research, August, 2019
3. Ren, ZJ. Systematical Modeling and Control of Microbial Electrochemical Activities towards Efficient Electrical Energy Harvesting, for National Science Foundation, September, 2019
4. Ren, ZJ. Systematical Modeling and Control of Microbial Electrochemical Activities towards Efficient Electrical Energy Harvesting, for National Science Foundation, September, 2018
5. Ren, ZJ. Integrated Microbial Desalination System for Navy Wastewater Management, for Office of Naval Research, August, 2018

6. Ren, ZJ. Self-sustaining microbial photoelectrosynthesis for energy and fuel production, for National Science Foundation, August, 2018
7. Ren, ZJ. Systematical Modeling and Control of Microbial Electrochemical Activities towards Efficient Electrical Energy Harvesting, for National Science Foundation, September, 2017
8. Ren, ZJ. Integrated Microbial Desalination System for Navy Wastewater Management, for Office of Naval Research, August, 2017
9. Ren, ZJ. Microbial Energy Systems for Sustainable Oil/Gas Hydraulic Fracturing Wastewater Management, for National Science Foundation, August, 2017
10. Ren, ZJ. Workshop for Developing an Energy Positive Water Resource Recovery Facility Test Bed Network, June, 2017
11. Ren, ZJ. Systematical Modeling and Control of Microbial Electrochemical Activities towards Efficient Electrical Energy Harvesting, for National Science Foundation, December, 2016
12. Ren, ZJ. Integrated Microbial Desalination System for Navy Wastewater Management, for Office of Naval Research, August, 2016
13. Ren, ZJ. Microbial Energy Systems for Sustainable Oil/Gas Hydraulic Fracturing Wastewater Management, for National Science Foundation, December, 2016
14. Ren, ZJ. Integrated Microbial Desalination System for Navy Wastewater Management, for Office of Naval Research, August, 2016
15. Ren, ZJ. One-pot Synthesis of fungal biomass for electrochemical applications. Office of Naval Research, 2016
16. Ren, ZJ. Understanding the Niche of Bioelectrochemical Systems for Water and Energy Sustainability, for National Science Foundation, 2016
17. Ren, ZJ. Bioelectrochemical systems for in situ hydrocarbon remediation in soil and groundwater, Chevron Energy Company, 2016
18. Ren, ZJ. Microbial Energy Systems for Sustainable Oil/Gas Hydraulic Fracturing Wastewater Management, for National Science Foundation, December, 2015
19. Ren, ZJ. One-pot Synthesis of fungal biomass for electrochemical applications. Office of Naval Research, 2015
20. Ren, ZJ. Understanding the Niche of Bioelectrochemical Systems for Water and Energy Sustainability, for National Science Foundation, 2015
21. Ren, ZJ. Bioelectrochemical systems for in situ hydrocarbon remediation in soil and groundwater, Chevron Energy Company, 2015
22. Ren, ZJ. Integrated Microbial Desalination System for Navy Wastewater Management, For Office of Naval Research, August, 2014
23. Ren, ZJ. Microbial Energy Systems for Sustainable Oil/Gas Hydraulic Fracturing Wastewater Management, for National Science Foundation, December, 2014
24. Ren, ZJ. Integrating Capacitive Deionization with Carbon Adsorption for Point-of-Use Water Treatment and Energy Production, for Amway Corporation, September, 2014
25. Ren, ZJ. Understanding the Niche of Bioelectrochemical Systems for Water and Energy Sustainability, for National Science Foundation, August, 2013

26. Ren, ZJ. Bioelectrochemically Enhanced Remediation of Petroleum Hydrocarbons in the Subsurface Matrix, for Chevron Energy Company. December, 2013
27. Ren, ZJ. Thwarting Cathode Biofouling For Microbial Fuel Cells Using Conductive Antimicrobial Oxygen Reduction Catalysts, for Office Of Naval Research, June, 2013
28. Ren, ZJ. Direct Electricity from Fecal Sludge In Bioelectric Systems, for Bill & Melinda Gates Foundation, December, 2013
29. Ren, ZJ. Understanding the Niche of Bioelectrochemical Systems for Water and Energy Sustainability, for National Science Foundation, August, 2013
30. Ren, ZJ. Thwarting Cathode Biofouling For Microbial Fuel Cells Using Conductive Antimicrobial Oxygen Reduction Catalysts, for Office Of Naval Research, June, 2013
31. Ren, ZJ. The Potential of Microbial Fuel Cells in Bioenergy Recovery and Green House Gas Mitigation, Final Report, US Environment Protection Agency, 2011
32. Ren, ZJ. Low-energy Desalination and Electricity Generation in Bioelectrochemical Systems, Final Report, Office of Naval Research, 2011
33. Mays, D.C., Ren, Z. Rhodes, E.P. Trash to treasure: Using crumb rubber from recycled tires for storm water pollution control, Final Evaluation Report, Advanced Technology Fund Research Grant, Colorado Department of Public Health and Environment, 2010
34. Ren, Z. The Potential of Microbial Fuel Cells in Bioenergy Recovery and Green House Gas Mitigation, Research Progress Report, EPA, 2010
35. Ren, Z. Low-energy Desalination and Electricity Generation in Bioelectrochemical Systems, Research Progress Report, Office of Naval Research, 2010
36. Ren, Z., and Luo, H., Microbial electrochemical cell for simultaneous water desalination, energy production, and wastewater treatment. Pathways Toward Low Carbon Cities Workshop, NSF-USA and NSFC-China, Hong Kong, December 13-14, 2010
37. Ren, Z. The Potential of Microbial Fuel Cells in Bioenergy Recovery and Green House Gas Mitigation, Research Progress Report, EPA, 2009
38. Ren, Z. Low-energy Desalination and Electricity Generation in Bioelectrochemical Systems, Research Progress Report, ONR, 2009
39. Kronoveter KM. and Ren, Z.; Electrically Induced Reduction (EIR) of Trichloroethene (TCE) and Zero Valent Iron (ZVI) Rejuvenation; Research project report, MWH America, 2009
40. Gee, J.A., D.C. Mays, Z. Ren, and E.M. Rhodes (2009), Using crumb rubber from recycled tires for storm water pollution control: Regulation summary and market report, Colorado Department of Public Health and Environment (CDPHE), 2009

SELECTED MEDIA REPORTS ON GROUP RESEARCH

2019

[Newscientist: A super-thin slice of wood can be used to turn saltwater drinkable](#)

[Nanowerk News: 'Wood' you like some fresh water?](#)

[Princeton: New wood membrane provides sustainable alternative for water filtration](#)

[NSF News: 4 Awesome Discoveries You Probably Didn't Hear About This Week](#)

[Princeton: Sunlight pulls hydrogen from wastewater](#)

[C&EN News: Turning organic waste into hydrogen](#)
[Princeton – Nature Sustainability: Sewers could help clean the atmosphere](#)
[Nature Sustainability Community: Can Wastewater Treatment Become Carbon Negative and Revenue Positive?](#)

2018

[Ren to join andlinger center, examine water-energy nexus](#)

2016

[Forbes - Engineers Convert Brewery Wastewater Into Energy Cells For Biobatteries](#)
[Climate Central - Sewage Plants Overlooked Source of CO2](#)
[Huffington Post - How Tapping The Power Of Beer Could Make A Better Smartphone Battery](#)
[Fox News - Colorado engineers use beer waste water to fuel eco-friendly battery](#)
[CU News - Turning brewery wastewater into battery power](#)
[Colorado Engineer, Waste or Not](#)

2015

[CBS News - Microbes could help clean up after fracking](#)
[Chemistry World - Energy positive treatment for fracking water](#)
[NSF News - CU-Boulder researchers use wastewater treatment to capture CO2, produce energy](#)
[WE&T Magazine - Energy-positive Wastewater Treatment Arrives](#)
[CCTV - Scientists suggest new ways to clean water, create energy](#)
[Water Online - New Tech Offers Low-Energy Oil And Gas Wastewater Management](#)
[Science Daily - Researchers use wastewater treatment to capture carbon dioxide, produce energy](#)
[Science Daily - New technology could make treatment of oil and gas wastewater simpler, cheaper](#)
[Civil Engineer Magazine \(ASCE\) - Microbial Capacitive Desalination System Generates Energy While Treating Fracking Wastewater](#)
[The Engineer - Wastewater treatment captures CO2 and produces energy](#)

2014

[Materials Today - Lightweight, conductive hollow fibers from nature as sustainable electrode materials for microbial energy harvesting](#)
[Biotechniques Commentary - Electric Bacteria](#)
[Renewable Energy FeaturedNews - Biochar As Electrodes](#)

2012

[NPR - Bill Gates Crowns Toilet Innovation At Sanitation Fair](#)
[Science Daily - New harvesting approach boosts energy output from bacteria](#)

[ABC-7News - Christmas Lights Powered By Poop](#)

2011

[Science Daily - Method developed to simultaneously desalinate water, produce hydrogen and treat wastewater](#)

[Scientific American - Technology developed to concurrently produce hydrogen and desalinate water](#)

[Water Desalination Report - Bug power desalts water, makes energy](#)

[ABC-7News - Zoo Hopes To Turn Poop Into Power](#)

SERVICE TO THE PROFESSION AND COMMUNITY

National and International Committee

Steering committee for developing a National Testbed Network for Energy Positive Water Resource Recovery (Non-partisan interagency program by DOE-EPA-NSF-USDA), 2016-

Board member and Treasurer, International Society of Microbial Electrochemical Technologies (ISMET), 2018-2021

Chairman (2015), President (2014), President-Elect (2013), Board of Directors (2012-), and Newsletter Editor (2008-2012), Chinese-American Professors in Environmental Engineering and Science

Co-Chair (2016-) and Member (2014-), Education Committee, Association of Environmental Engineering and Science Professors (AEESP)

2013 Conference Organizing Committee, Association of Environmental Engineering and Science Professors (AEESP)

Student Service Committee (2009-2013), Association of Environmental Engineering and Science Professors (AEESP)

Organizer of Symposiums, Conferences, and Workshops

Chair, Workshop for Developing the Structure of the National Test Bed Network for Energy Positive Water Resource Recovery, Denver, CO June 22-23, 2016

Rapporteur, Workshop for Energy Positive Water Resource Recovery, Arlington, VA, May 21-22, 2015

Chair, Workshop on Environmental Education and Research in China, Association of Environmental Engineering and Science Professors (AEESP) Conference, New Haven, CT, June 16, 2015.

Chair, Workshop on Environmental Education and Research in China, Association of Environmental Engineering and Science Professors (AEESP) Conference, Golden, CO, July13, 2013.

Session Chair of Sustainable Development and Education, Association of Environmental Engineering and Science Professors (AEESP) Conference, Golden, CO, July13, 2013

Chair, Emerging Issues and Solutions for Sustainable Water and Wastewater Systems, 24th National

Meeting, American Chemical Society (ACS), Denver, CO, August 28-September 1, 2011

Service to Local Community

Denver Metro Wastewater Reclamation District Citizen Advisory Committee
Asian American Advisory Committee for Colorado Congressman
ASCE Student Chapter Faculty Mentor

Editorship

Associate Editor – Environmental Science: Water Research Technology, By Royal Society of Chemistry
Editorial Advisory Board – Environmental Science & Technology (ES&T), by ACS
Editorial Advisory Board – ES&T Letters, by ACS
Editorial Advisory Board – ACS ES&T Engineering, by ACS
Editorial Board – Chemical Engineering Journal, By Elsevier
Editorial Board – Environmental Science & Ecotechnology, By Elsevier
Editorial Board – Scientific Report, by Nature Publishing Group
Special Issue Editor – Sustainability, 2014-2015
Review Editor - Nanoenergy Technologies and Materials

Panelist/Reviewer Services

Regular panelist for National Science Foundation, US Department of Energy, Environmental Protection Agency, US Department of Agriculture

Reviewer for U.S. Army Corps of Engineers, US-Israel Binational Agricultural Research & Development Fund (BARD), European Science Foundation, Polish Research Council, Danish Research Council, National Research Foundation of Singapore, The Research Grants Council of Hong Kong, National Research Council of South Africa, University of Wisconsin Foundation, University of Maryland Foundation, Gates Foundation Scholars, etc.

Regular reviewer for numerous journals; review an average ~100 manuscripts per year

Professional Affiliations

American Society of Civil Engineers (ASCE)
American Chemical Society (ACS)
Association of Environmental Engineering and Science Professors (AEESP)
International Society of Microbial Electrochemical Technologies (ISMET)
International Water Association (IWA)
Water Environment Federation (WEF)
Royal Society of Chemistry (RSC)