

CURRICULUM VITAE

Zhi (George) Zhou

Ph.D., P.E., BCEE, ENVSP

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EDUCATION

- 2007 **Ph.D.** Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, IL
- 2002 **M.S.** Department of Environmental Science, Nanjing University, China
- 1999 **B.S.** Department of Environmental Science, Nanjing University, China

LICENSURE and CERTIFICATION

- 2018–present **Envision Sustainability Professional (ENV SP)** Institute for Sustainable Infrastructure
- 2017–present **Board Certified Environmental Engineer (BCEE)** American Academy of Environmental Engineers & Scientists
- 2010–present **Professional Engineer (PE, Civil: Water Resources and Environmental)** California Board for Professional Engineers, Land Surveyors, and Geologists
- 2010 **Certificate** on "Developing Sustainable Program Assessment Processes" workshop Accreditation Board for Engineering and Technology (ABET), Inc.
- 2003–2006 **Certified Livestock Manager** Illinois Department of Agriculture, IL

PROFESSIONAL EXPERIENCE

- 08/2020–present **Associate Professor** Civil Engineering and Environmental and Ecological Engineering, Purdue University, West Lafayette, IN
- 06/2014–07/2020 **Assistant Professor** Civil Engineering and Environmental and Ecological Engineering, Purdue University, West Lafayette, IN
- 04/2017–present **Affiliated Faculty** Center for the Environment, Purdue University
- 02/2017–present **Affiliated Faculty** Purdue Policy Research Institute, Purdue University
- 06/2014–present **Affiliated Faculty** Interdisciplinary Graduate Program of Ecological Sciences & Engineering, Purdue University
- 02/2010–05/2014 **Assistant Professor** Department of Civil and Environmental Engineering, National University of Singapore (NUS), Singapore
- 06/2013–07/2013 **Visiting Professor** School of Engineering and Applied Sciences, Harvard University, Cambridge, MA
- 07/2007–01/2010 **Consulting Engineer** Carollo Engineers, Inc., Walnut Creek, CA
- 08/2002–06/2007 **Research Assistant** University of Illinois at Urbana-Champaign, Urbana, IL

- 10/2004–11/2004 **Visiting Student** The French National Centre for Scientific Research,
National Chemical Engineering Science Laboratory
(CNRS, ENSIC), Nancy, France
- 09/2000–06/2002 **Research Assistant** Nanjing University, China
- 06/1998–06/1999 **Research Assistant** Nanjing University, Jiangsu, China
- 02/1998–06/1998 **Intern** National Environmental Protection Bureau, Nanjing,
Jiangsu, China

HONORS AND AWARDS

- 08/2021 Outstanding Engineering Teachers, College of Engineering, Purdue University
- 04/2019 Outstanding Faculty Mentor of Environmental and Ecological Engineering Graduate Students, Purdue University
- 11/2018 Certificate of Outstanding Contribution in Reviewing of journal Renewable Energy
- 10/2018 Certificate of Outstanding Contribution in Reviewing of journal Environmental International
- 04/2018 Certificate of Outstanding Contribution in Reviewing of journal Bioresource Technology
- 02/2018 Certificate of Outstanding Contribution in Reviewing of journal Science of the Total Environment
- 07/2017 Certificate of Outstanding Contribution in Reviewing of journal Chemical Engineering Journal
- 01/2010 Certificate of Appreciation, Chinese American Environmental Professionals Association, Oakland, CA
- 05/2007 Graduate College Conference Travel Award, University of Illinois
- 05/2007 Racheff Graduate Student Travel Fund Award, University of Illinois
- 05/2006 Racheff Graduate Student Travel Fund Award, University of Illinois
- 06/2005 Natural Science Progress Award (second class), Nanjing, China
- 05/2005 Racheff Graduate Student Travel Fund Award, University of Illinois
- 05/2004 American Society for Microbiology Travel Grant
- 08/2002 University Fellowship, University of Illinois
- 08/2002 John W. Page Fellowship, University of Illinois
- 06/2001 Excellence Fellowship, Nanjing University

HONORS AND AWARDS OF ADVISED STUDENTS

- 05/2018 Best Poster Award in 39th Annual Indiana Water Resources Association Symposium for Zhe Sun (Ph.D. student), Purdue University
- 06/2012 Excellence Award of Environmental Science and Engineering (ESE) Poster Symposium for Yuanyan Du (senior student), NUS
- 06/2012 Merit Award of ESE Poster Symposium for Chenghui Lin (senior student), NUS
- 08/2011 President's Graduate Fellowship for Xinzhu Yi (Ph.D. student), NUS

RESEARCH GRANTS

- 2020–2021 **Co-PI** Cost-effective and affordable defluoridation treatment Shah Family Global Innovation Lab

2019–2020	PI	Southport advanced wastewater treatment plant – phosphorus control	Citizen’s Energy Group
2018–2020	PI	Emerging contaminant removal and microbial growth in membrane filtration and activated carbon point-of-use systems	Water Quality Research Foundation
2018–2019	PI	Evaluation of our current and other available anti-icing/de-icing products under controlled environmental conditions to test effectiveness	Indiana Department of Transportation
2018	PI	Nature-inspired cost-effective production of biofuels with algal viruses	Purdue Research Foundation
2017–2019	PI	Effects of viruses on the development of harmful algal blooms	United States Geological Survey
2017	PI	Anti-fouling electrochemical graphene/carbon nanotube ceramic membrane for wastewater treatment	Purdue Research Foundation
2016	PI	Development of electrochemical membranes to reduce biofouling for water purification	Purdue EEE Support for Exploratory Research
2015–2016	PI	Microbial source tracking for Gunpowder Creek Watershed in Kentucky	Sanitation District No. 1 of Northern Kentucky and Boone County Conservation District
2015–2016	PI	Artificial photosynthesis for efficient biofuel production with bioelectrocatalyzed reduction of CO ₂	Purdue Research Foundation
2015	Co-PI	Recovery of nutrients from animal and human wastes	Bio Town AG Inc.
2014–2016	Co-PI	Development of ceramic-based electrochemical graphene filter for oil & gas wastewater treatment	General Electric-NUS Environmental Research Institute
2013–2016	PI	Rapid and accurate quantification of antibiotic resistant bacteria and quantitative risk assessment for water security	Singapore Environment & Water Industry
2013–2015	Co-PI	Guidelines for engineered storage for direct potable reuse systems	U.S. WaterReuse Research Foundation
2013–2015	PI	Development of electrochemical carbon nanotube filters to remove off-flavor compounds	Singapore Environment & Water Industry
2012–2013	Co-PI	Interaction of microbial consortia in anaerobic MBR treating high organic strength waste	General Electric
2011–2014	PI	A new type of photosynthesis through electrode-driven anaerobic respiration	Singapore Ministry of Education
2010–2013	PI	Photoelectrochemical water splitting for the production of value-added chemicals	Singapore, Peking and Oxford Research Enterprise
2010–2013	Co-PI	Development of microbial fuel cell sensor for detection of used water toxicity	Singapore Public Utilities Board
2010–2013	PI	Evaluation of MLS _B antimicrobial resistance at environmental samples	Singapore Ministry of Education

TEACHING GRANT2021 **Co-PI** Agile Reform of EEE CurriculumAgile Reform of Curriculum
Innovation Grants, Purdue**JOURNAL PUBLICATIONS** (44)

1. Tian, M., H. Wang, X. Li, D. Li, **Z. Zhou**, and B. Li (2021). "Efficiency of hybrid systems enhanced with different sludge ratios in improving resistance to short-term low temperatures." *Journal of Environmental Management* 297: 113398.
2. Chen, L., S. Gao, L. Lou, and **Z. Zhou** (2021). "Removal of intracellular and extracellular antibiotic resistance genes from swine wastewater by sequential electrocoagulation and electro-Fenton processes." *Environmental Engineering Science* 38(2): 74-80.
3. Sun, Z., E.R. Blatchley III, and **Z. Zhou** (2020). "Using algal virus *Paramecium bursaria* chlorella virus as a human adenovirus surrogate for validation of UV treatment systems " *Environmental Science & Technology*.
4. Chen, L., **Z. Zhou**, C. Shen, and Y. Xu (2020). "Inactivation of antibiotic-resistant bacteria and antibiotic resistance genes by electrochemical oxidation/electro-Fenton process." *Water Science and Technology* 81(10): 2221-2231.
5. Zhang, Y., C. Li, Y. Wu, Y. Zhang, **Z. Zhou**, and B. Cao (2019). "A microfluidic gradient mixer-flow chamber as a new tool to study biofilm development under defined solute gradients." *Biotechnology and Bioengineering* 116(1): 54-64.
6. Yi, X., M. Wang, and **Z. Zhou** (2019). "The potential impact of naturally produced antibiotics, environmental factors, and anthropogenic pressure on the occurrence of erm genes in urban soils." *Environmental Pollution* 245: 282-289.
7. Yi, X., C. Lin, E.J.L. Ong, M. Wang, and **Z. Zhou** (2019). "Occurrence and distribution of trace levels of antibiotics in surface waters and soils driven by non-point source pollution and anthropogenic pressure." *Chemosphere* 216: 213-223.
8. Yi, X., C. Lin, E.J.L. Ong, M. Wang, B. Li, and **Z. Zhou** (2019). "Expression of resistance genes instead of gene abundance are correlated with trace levels of antibiotics in urban surface waters." *Environmental Pollution* 250: 437-446.
9. Sun, Z. and **Z. Zhou** (2019). "Nature-inspired virus-assisted algal cell disruption for cost-effective biofuel production." *Applied Energy* 251: 113330.
10. Li, B., W. Yan, Y. Wang, H. Wang, **Z. Zhou**, Y. Li, and W. Zhang (2019). "Effects of key enzyme activities and microbial communities in a flocculent-granular hybrid complete autotrophic nitrogen removal over nitrite reactor under mainstream conditions." *Bioresour Technol* 280: 136-142.
11. Li, B., Y. Wang, J. Li, L. Yang, X. Li, **Z. Zhou**, Y. Li, X. Chen, and L. Wu (2019). "The symbiosis of anaerobic ammonium oxidation bacteria and heterotrophic denitrification bacteria in a size-fractionated single-stage partial nitrification/anammox reactor " *Biochemical Engineering Journal*.
12. Salehi, M., M. Abouali, M. Wang, **Z. Zhou**, A.P. Nejadhashemi, J. Mitchell, S. Caskey, and A.J. Whelton (2018). "Case study: Fixture water use and drinking water quality in a new residential green building." *Chemosphere* 195: 80-89.
13. Pruden, A., R.E. Alcalde, P.J.J. Alvarez, N. Ashbolt, H. Bishel, N.L. Capiro, E. Crossette, D. Frigon, K. Grimes, C.N. Haas, K. Ikuma, A. Kappell, T. LaPara, L. Kimbell, M. Li, X. Li, P. McNamara, Y. Seo, M.D. Sobsey, E. Sozzi, T. Navab-Daneshmand, L. Raskin, M.V. Riquelme, P. Vikesland, K. Wigginton, and **Z. Zhou** (2018). "An Environmental Science and

- Engineering Framework for Combating Antimicrobial Resistance." *Environmental Engineering Science* 35(10): 1005-1011.
14. Liu, C., Y. Sun, D. Wang, Z. Sun, M. Chen, **Z. Zhou**, and W. Chen (2017). "Performance and mechanism of low-frequency ultrasound to regenerate the biological activated carbon." *Ultrasonics Sonochemistry* 34: 142-153.
 15. He, H. and **Z. Zhou** (2017). "Electro-Fenton process for water and wastewater treatment." *Critical Reviews in Environmental Science and Technology* 47(21): 2100-2131.
 16. Le, T.-H., C. Ng, H. Chen, X.Z. Yi, T.H. Koh, T.M.S. Barkham, **Z. Zhou**, and K.Y.-H. Gin (2016). "Occurrences and characterization of antibiotic resistant bacteria and genetic determinants of hospital wastewaters in a tropical country." *Antimicrobial Agents and Chemotherapy* 60(12): 7449-7456.
 17. Jing, H., S. Cheung, **Z. Zhou**, C. Wu, S. Nagarajan, and H. Liu (2016). "Spatial variations of the methanogenic communities in the sediments of tropical mangroves." *PLOS One* 11(9): e0161065.
 18. Jame, S.A. and **Z. Zhou** (2016). "Electrochemical carbon nanotube filters for water and wastewater treatment." *Nanotechnology Reviews* 5(1): 41-50.
 19. Goyal, N., **Z. Zhou**, and I.A. Karimi (2016). "Metabolic processes of *Methanococcus maripaludis* and potential applications." *Microbial Cell Factories* 15(1): 107.
 20. Yi, X., S. Bayen, B.C. Kelly, X. Li, and **Z. Zhou** (2015). "Improved detection of multiple environmental antibiotics through an optimized sample extraction strategy in liquid chromatography-mass spectrometry analysis." *Anal Bioanal Chem* 407(30): 9071-83.
 21. Liu, Y., J. Xie, C.N. Ong, C.D. Vecitis, and **Z. Zhou** (2015). "Electrochemical wastewater treatment with carbon nanotube filters coupled with in situ generated H₂O₂." *Environmental Science: Water Research & Technology* 1(6): 769-778.
 22. Liu, Y., H. Liu, **Z. Zhou**, T. Wang, C.N. Ong, and C.D. Vecitis (2015). "Degradation of the common aqueous antibiotic tetracycline using a carbon nanotube electrochemical filter." *Environmental Science & Technology* 49(13): 7974-7980.
 23. Jing, H., X. Xia, H. Liu, **Z. Zhou**, C. Wu, and S. Nagarajan (2015). "Anthropogenic impact on diazotrophic diversity in the mangrove rhizosphere revealed by nifH pyrosequencing." *Front Microbiol* 6: 1172.
 24. Goyal, N., M. Padhiary, I.A. Karimi, and **Z. Zhou** (2015). "Flux measurements and maintenance energy for carbon dioxide utilization by *Methanococcus maripaludis*." *Microbial Cell Factories* 14: 146.
 25. Liu, Y., J.H.D. Lee, Q. Xia, Y. Ma, Y. Yu, L.Y.L. Yung, J. Xie, C.N. Ong, C.D. Vecitis, and **Z. Zhou** (2014). "A graphene-based electrochemical filter for water purification." *Journal of Materials Chemistry A* 2(39): 16554-16562.
 26. Le, T.-H., V. Sivachidambaram, X. Yi, X. Li, and **Z. Zhou** (2014). "Quantification of polyketide synthase genes in tropical urban soils using real-time PCR." *Journal of Microbiological Methods* 106(0): 135-142.
 27. Goyal, N., H. Widiastuti, I.A. Karimi, and **Z. Zhou** (2014). "A genome-scale metabolic model of *Methanococcus maripaludis* S2 for CO₂ capture and conversion to methane." *Molecular BioSystems* 10(5): 1043-54.
 28. Bayen, S., X. Yi, E. Segovia, **Z. Zhou**, and B.C. Kelly (2014). "Analysis of selected antibiotics in surface freshwater and seawater using direct injection in liquid chromatography electrospray ionization tandem mass spectrometry." *Journal of Chromatography A* 1338: 38-43.
 29. Zhang, Y., C. Zhang, D.B. Parker, D.D. Snow, **Z. Zhou**, and X. Li (2013). "Occurrence of antimicrobials and antimicrobial resistance genes in beef cattle storage ponds and swine treatment lagoons." *Science of the Total Environment* 463-464: 631-8.

30. Zhang, Y., D.D. Snow, D. Parker, **Z. Zhou**, and X. Li (2013). "Intracellular and extracellular antimicrobial resistance genes in the sludge of livestock waste management structures." *Environmental Science & Technology* 47(18): 10206-13.
31. Nagarajan, S., S.K. Chou, S. Cao, C. Wu, and **Z. Zhou** (2013). "An updated comprehensive techno-economic analysis of algae biodiesel." *Bioresour. Technol.* 145: 150-6.
32. **Zhou, Z.** (2012). "Enhancing engineering students' learning in an environmental microbiology course." *Journal of Microbiology & Biology Education* 13(2): 191-192.
33. **Zhou, Z.**, L. Raskin, and J.L. Zilles (2010). "Effects of swine manure on macrolide, lincosamide, and streptogramin B antimicrobial resistance in soils." *Applied & Environmental Microbiology* 76(7): 2218-2224.
34. **Zhou, Z.**, L. Raskin, and J.L. Zilles (2009). "Macrolide resistance in microorganisms at antimicrobial-free swine farms." *Applied & Environmental Microbiology* 75(18): 5814-5820.
35. Vadiveloo, E., R. Cisterna, H. Breitenkam, J. Lopez, R. Harris, T. Greiner, P. Pitt, K. Alexander, R. Latimer, P. Vinci, **Z. Zhou**, and A. Salveson (2009). "Identifying the feasibility of canal recharge for indirect potable reuse: the Plantation experience." *Florida Water Resources Journal*(8): 38-43.
36. Finney, B., R. Gearheart, A. Salveson, **Z. Zhou**, M. Burke, and J.C. Ly (2009). "Water and wastewater treatment technologies appropriate (WAWTIAR), a planning tool for selecting wastewater treatment technologies." *Water Environment & Technology*(10): 51-54.
37. **Zhou, Z.**, M.N. Pons, L. Raskin, and J.L. Zilles (2007). "Automated image analysis for quantitative fluorescence *in situ* hybridization with environmental samples." *Applied & Environmental Microbiology* 73(9): 2956-2962.
38. Yang, L., L. Xiao, **Z. Zhou**, D. Pei, and X. Wang (2004). "Effect of pH on adsorption of phenol to organic montmorillonite." *Environmental Chemistry* 23(2): 183-187.
39. Yang, L., **Z. Zhou**, L. Xiao, and X. Wang (2003). "Chemical and biological regeneration of HDTMA-modified montmorillonite after sorption with phenol." *Environmental Science & Technology* 37(21): 5057-5061.
40. Yang, L., **Z. Zhou**, and L. Xiao (2003). "Study on adsorption of phenol to HDTMA-modified montmorillonite and its mechanism." *Shanghai Environmental Sciences* 22(7): 456-458.
41. Shi, X., F. Wang, L. Jiang, **Z. Zhou**, L. Yang, Z. Kong, G. Gao, and B. Qin (2003). "Effect of temperature on the transformation of exogenous ³²P in water column, *Microcystis aeruginosa* and sediments." *Chinese Journal of Applied Ecology* 14(11): 1967-1970.
42. Yang, L., L. Jiang, **Z. Zhou**, Y. Chen, and X. Wang (2002). "The sedimentation capabilities of hexadecyltrimethylammonium-modified montmorillonites." *Chemosphere* 48(4): 461-466.
43. Yang, L., Q. Fu, L. Jiang, **Z. Zhou**, D. Pei, and X. Wang (2002). "The stability of organic matters adsorbed on organoclay." *China Environmental Science* 22(1): 52-55.
44. **Zhou, Z.** and L. Yang (2001). "Screening of phenol degrading yeast and its characteristics." *Journal of Nanjing University* 37(6): 724-729.

CONFERENCE PROCEEDINGS, POSTERS, AND PRESENTATIONS (107)

1. Yu, H.-Y., S. Gupta, S. Hong, H. Congleton, B. Jolkovsky, S. Mendelson, and **Z. Zhou** (2021). "Removal of assimilable organic carbon in activated carbon and reverse osmosis water filtration systems." *26th Annual Environmental Engineering and Science Symposium*.
2. Graham, C., S. Gupta, H.-Y. Yu, and **Z. Zhou** (2021). "Removal of per- and polyfluoroalkyl substances (PFAS) in point-of-use (POU) activated carbon and membrane filtration systems." *26th Annual Environmental Engineering and Science Symposium*.

3. Bi, Y., S. Gupta, H.-Y. Yu, and **Z. Zhou** (2021). "Removal of manganese and uranium in tap water with point-of-use filtration systems." *26th Annual Environmental Engineering and Science Symposium*.
4. Sun, Z., **Z. Zhou**, and E.R. Blatchley III (2020). "Using algal virus *Paramecium bursaria* chlorella virus (PBCV-1) as a human adenovirus surrogate for the validation of UV treatment systems." *International UV Association, Orlando, FL*.
5. Graham, C., S. Gupta, and **Z. Zhou** (2020). "Impacting factors on removal efficiency of per- and polyfluoroalkyl substances (PFAS) in activated carbon and membrane filtration systems." *Purdue University Fall Undergraduate Research Exposition, West Lafayette, IN*.
6. Bi, Y., H.-Y. Yu, and **Z. Zhou** (2020). "Metal removal in tap water with point-of-use water filtration systems." *Purdue University Fall Undergraduate Research Exposition, West Lafayette, IN*.
7. **Zhou, Z.** (2019). "Drivers and barriers of antibiotic resistance in urban and natural environments." *Association of Environmental Engineering and Science Professors Research and Education Conference, Tempe, AZ*.
8. **Zhou, Z.** (2019). "Smart and resilient storm water management system." *Indiana Department of Transportation Research Program Innovation Fair, Indianapolis, IN*.
9. **Zhou, Z.** (2019). "Evaluation of emerging contaminants to support cost-effective storm water quality management." *Indiana Department of Transportation Research Program Innovation Fair, Indianapolis, IN*.
10. Wang, M. and **Z. Zhou** (2019). "Selective pressure of trace level antibiotics on the development of antibiotic resistance and horizontal gene transfer." *Association of Environmental Engineering and Science Professors Research and Education Conference, Tempe, AZ*.
11. Sun, Z. and **Z. Zhou** (2019). "UV radiation as a water treatment strategy for algal cultivation - Inactivation of algal virus measured by plaque assay and qPCR." *Association of Environmental Engineering and Science Professors Research and Education Conference, Tempe, AZ*.
12. Sun, Z., E.R. Blatchley III, and Z. Zhou (2019). "Application of UV irradiation to inactivate parasites in algal cultivation." *AlgalBBB 2019: The 9th International Conference on Algal Biomass, Biofuels and Bioproducts, Boulder, CO*.
13. Ji, Y., B. McCullouch, and **Z. Zhou** (2019). "Sustainability of commercially available anti-icing and de-icing chemicals." *Association of Environmental Engineering and Science Professors Research and Education Conference, Tempe, AZ*.
14. Ji, Y., B. McCullouch, and **Z. Zhou** (2019). "Life cycle assessment of environmental impacts of conventional and alternative anti-icing and de-icing chemicals." *Indiana Department of Transportation Research Program Innovation Fair, Indianapolis, IN*.
15. **Zhou, Z.** (2018). "Evaluation of biodegradable de-icing agents for sustainable ice and snow control." *Indiana Department of Transportation Research Program Innovation Fair, Indianapolis, IN*.
16. Wang, M. and **Z. Zhou** (2018). "Selective pressure of trace level antibiotics on the development of antibiotic resistance and horizontal gene transfer." *Association of Environmental Engineering and Science Professors Research and Education Distinguished Lecture Conference, West Lafayette, IN*.
17. Sun, Z. and **Z. Zhou** (2018). "Effects of viruses on the development and decay of harmful algal blooms." *39th Indiana Water Resources Association Symposium, Bloomington, IN*.
18. Sun, Z., S. Wu, and **Z. Zhou** (2018). "Nature-inspired virus-assisted lipid extraction for efficient biofuel production with microalgae *Chlorella* sp." *Association of Environmental Engineering and Science Professors Research and Education Distinguished Lecture Conference, West Lafayette, IN*.
19. Li, B., J.T. Li, **Z. Zhou**, R. Huang, and Y.N. Liang (2018). "The possible role of different aggregates in nitrogen removal in single-stage Autotrophic nitrogen removal process."

- Association of Environmental Engineering and Science Professors Research and Education Distinguished Lecture Conference*, West Lafayette, IN.
20. Chen, R., M. Wang, and **Z. Zhou** (2018). "Effect of carbon nanotube on horizontal gene transfer in microbes." *Association of Environmental Engineering and Science Professors Research and Education Distinguished Lecture Conference*, West Lafayette, IN.
 21. Blatchley III, E.R., J.V. Sinfield, W.T. Horton, L. Lu, Z. Nyssa, C. Mitchell, G. Burniske, **Z. Zhou**, J. Sullivan, D. Schuster, and E. Cronin (2018). "Potential for recovery and reuse of heat from municipal wastewater treatment facilities in urban areas." *International Water Association Specialized International Conferences on Ecotechnologies for Wastewater Treatment*, London, Ontario, Canada.
 22. Yi, X., M. Wang, and **Z. Zhou** (2017). "Selective pressure of trace levels of antibiotics on phenotypic antibiotic resistance in urban surface waters and soils." *American Society for Microbiology 117th General Meeting*, New Orleans, LA.
 23. Yi, X., M. Wang, Q. Wei, and **Z. Zhou** (2017). "Occurrence and distribution of erythromycin resistance methylase (*erm*) genes in urban surface waters without impact of treated wastewater." *Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
 24. Wu, S., Z. Sun, and **Z. Zhou** (2017). "Improvement of lipid extraction in algal biodiesel production with sonication." *Purdue University Undergraduate Research and Poster Symposium*, West Lafayette, IN.
 25. Wang, M., M.S. Esfandarani, A. Whelton, and **Z. Zhou** (2017). "Chemical leaching and microbial growth in drinking water pipes in a newly commissioned residential building." *23rd Annual Environmental Engineering & Science Symposium at University of Illinois*, Champaign, IL.
 26. Sun, Z., P. Mrutyunjay, and **Z. Zhou** (2017). "Microbial eletrosynthesis of biofuels with *Blautia* strains." *American Society for Microbiology 117th General Meeting*, New Orleans, LA.
 27. Sun, T., N.-A. Nguyen, Z. Sun, and **Z. Zhou** (2017). "Acetate production through microbial electrosynthesis as an intermediate for biofuels production." *Purdue University Undergraduate Research and Poster Symposium*, West Lafayette, IN.
 28. Stryker, B.M., S. Park, and **Z. Zhou** (2017). "Removal of lead with electrochemical multi-walled carbon nanotube filters." *23rd Annual Environmental Engineering & Science Symposium at University of Illinois*, Champaign, IL.
 29. Park, S. and **Z. Zhou** (2017). "Performance and mechanisms of electrochemical carbon nanotube filtration to remove antibiotic resistant bacteria and antibiotic resistance genes." *Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
 30. Park, S., X. Jin, and **Z. Zhou** (2017). "Removal of bacteria and DNA from wastewater using electrochemical multi-walled carbon nanotube filters." *23rd Annual Environmental Engineering & Science Symposium at University of Illinois*, Champaign, IL.
 31. Padhiary, M., K. Walczak, N. Goyal, Z. Sun, and **Z. Zhou** (2017). "Efficient biofuel production through microbial electrosynthesis." *23rd Annual Environmental Engineering & Science Symposium at University of Illinois*, Champaign, IL.
 32. Padhiary, M., Z. Sun, and **Z. Zhou** (2017). "Microbial electrosynthesis of biofuels using mixture culture in activated sludge." *Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
 33. Nguyen, N.-A., T. Sun, Z. Sun, and **Z. Zhou** (2017). "Acetate production through microbial electrosynthesis as an intermediate for biofuel production." *23rd Annual Environmental Engineering & Science Symposium at University of Illinois*, Champaign, IL.

34. He, H. and **Z. Zhou** (2017). "Efficient wastewater treatment in a carbon nanotube-based electro-Fenton system." *Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
35. He, H. and **Z. Zhou** (2017). "Removal of recalcitrant compounds with a flow through electro-Fenton carbon nanotube filters." *23rd Annual Environmental Engineering & Science Symposium at University of Illinois*, Champaign, IL.
36. Chen, R., M. Wang, Z. Sun, P. Sol, and **Z. Zhou** (2017). "Electrochemical treatment to remove chemical contaminants in landfill leachate." *Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
37. Wang, M., M. Scott, M. Jacobs, and **Z. Zhou** (2016). "Microbial source tracking of fecal bacteria in surface waters in Gunpower Creek watershed in Kentucky." *American Society for Microbiology 116th General Meeting*, Boston, MA.
38. Wang, M., M.S. Esfandarani, A. Whelton, and **Z. Zhou** (2016). "Effects of water temperature and TOC leached from PEX pipes on the occurrence of bacteria in household water distribution systems." *American Society for Microbiology 116th General Meeting*, Boston, MA.
39. Nguyen, N.-A., Z. Sun, and **Z. Zhou** (2016). "Efficient biofuel production through microbial electrosynthesis." *Purdue University Undergraduate Research and Poster Symposium*, West Lafayette, IN.
40. Yi, X., Q. Wei, and **Z. Zhou** (2015). "Occurrence of erythromycin resistance methylase (*erm*) genes driven by environmental antibiotics in urban soils." *Critical Zone Science, Sustainability and Services in a Changing World*, West Lafayette, IN.
41. Yi, X., C. Lim, J.L.E. Ong, M. Wang, and **Z. Zhou** (2015). "Correlation between trace levels of antibiotics and phenotypic antibiotic resistance in urban environmental samples." *Association of Environmental Engineering and Science Professors Research and Education Conference*, New Haven, CT.
42. Wang, T. and **Z. Zhou** (2015). "Effects of selective pressure of erythromycin on the development of antibiotic resistance in *E. coli*." *American Society for Microbiology 115th General Meeting*, New Orleans, LA.
43. Padhiary, M., K. Walczak, N. Goyal, Z. Sun, and **Z. Zhou** (2015). "Bioelectrocatalyzed reduction of CO₂ to higher alcohols and acids using mixed cultures of acetogens and acetate-utilizing *Clostridium* strains." *Association of Environmental Engineering and Science Professors Research and Education Conference*, New Haven, CT.
44. Liu, Y., J. Xie, **Z. Zhou**, and C.N. Ong (2015). "Electrochemical filter technology in water treatment." *8th International Conference on Materials for Advanced Technologies*, Singapore.
45. Liu, Y., Q. Xia, Y. Kong, J. Xie, C.N. Ong, C. Vecitis, S.A. Jame, T. Wu, and **Z. Zhou** (2015). "Improvement of electrochemical wastewater treatment with carbon nanotube filters coupled with *in situ* generated H₂O₂." *Association of Environmental Engineering and Science Professors Research and Education Conference*, New Haven, CT.
46. Goyal, N., I.A. Karimi, and **Z. Zhou** (2015). "Influence of nitrogen limitation on methanogenesis and growth in *M. maripaludis*." *13th International Conference on Carbon Dioxide Utilization*, Singapore.
47. E. Kallmyer, N., Z. Sun, K. Harris, Z. Zhou, and E.R. Blatchley III (2015). "Recovery of nutrients from animal and human wastes." *Purdue University Summer Fellowship Research Fellowship Symposium*, West Lafayette, IN.
48. Delgadoillo Ordoñez, N., L. Nies, R. Turco, and Z. Zhou (2015). "Effects of Lithium on anaerobic microbial communities of sludge, an exploratory study." *Undergraduate Research Experience Purdue-Colombia Research Symposium*, West Lafayette.

49. Goyal, N., I.A. Karimi, and **Z. Zhou** (2014). "Genome based metabolic flux analysis (MFA) of *Methanococcus maripaludis* for improved methane productivity." *American Institute of Chemical Engineers Annual Meeting*, Atlanta, GA.
50. Zhang, Y., X. Li, D. Snow, D. Parker, and **Z. Zhou** (2013). "Intracellular and extracellular antimicrobial resistance genes in livestock manure management structures." *American Society for Microbiology 113th General Meeting*, Denver, CO.
51. Yi, X., W. Cheng, Q. Wei, and **Z. Zhou** (2013). "Evaluation of antimicrobial resistance in urban environments in Singapore." *Microbial Ecology and Water Engineering Conference*, Ann Arbor, MI.
52. Yi, X., W. Cheng, Q. Wei, and **Z. Zhou** (2013). "Correlation of metal concentrations and *erm* genes in urban soils." *American Society for Microbiology 113th General Meeting*, Denver, CO.
53. Wu, C., S. Nagarajan, H. Jing, and **Z. Zhou** (2013). "Correlations of methanogenic activities and environmental parameters in tropical mangrove sediments." *American Society for Microbiology 113th General Meeting*, Denver, CO.
54. Wei, Q., X. Yi, W. Cheng, and **Z. Zhou** (2013). "Occurrence and diversity of erythromycin resistance genes (*erm*) in urban soils." *American Society for Microbiology 113th General Meeting*, Denver, CO.
55. Wang, T., T.M. Lim, X. Yi, and **Z. Zhou** (2013). "Microbial regrowth in soils under selective pressure of various levels of erythromycin." *American Society for Microbiology 113th General Meeting*, Denver, CO.
56. Padhiary, M., S. Nagarajan, and **Z. Zhou** (2013). "Evaluation of efficiencies of microbial electrochemical systems (MXCs)." *American Society for Microbiology 113th General Meeting*, Denver, CO.
57. Nagarajan, S., C. Wu, H. Jing, S.K. Chou, and **Z. Zhou** (2013). "Diversity and abundance of ammonia-oxidizing Archaea in Singapore mangrove sediments." *American Society for Microbiology 113th General Meeting*, Denver, CO.
58. Liu, Y. and **Z. Zhou** (2013). "Development of a highly efficient photocatalytic fuel cell for simultaneous wastewater treatment and energy recovery of emerging contaminants." *International Water Association Water Reuse Conference*, Windhoek, Namibia.
59. Jing, H., X. Kong, and **Z. Zhou** (2013). "Diversity and antibiotic resistance of *Streptomyces* in tropical soils." *American Society for Microbiology 113th General Meeting*, Denver, CO.
60. Goyal, N., H. Widiastuti, I.A. Karimi, and **Z. Zhou** (2013). "Genome-scale metabolic network reconstruction and *in silico* analysis of *Methanococcus maripaludis*." *23rd European Symposium on Computer Aided Process Engineering*, Lappeenranta, Finland.
61. Chua, S.L., S. Nagarajan, S.K. Chou, M. Padhiary, and **Z. Zhou** (2013). "Evaluation of hydrogen production rates and uptake rates for microbial electrosynthesis of methane." *American Society for Microbiology 113th General Meeting*, Denver, CO.
62. Cheng, W., X. Yi, Q. Wei, and **Z. Zhou** (2013). "Correlation of antibiotic resistance and heavy metals in urban environmental soil samples." *American Society for Microbiology 113th General Meeting*, Denver, CO.
63. Yi, X., C. Lin, J.L.E. Ong, and **Z. Zhou** (2012). "Environmental risk assessment of antimicrobial resistance in an urban environment." *21st Korea Advanced Institute of Science & Technology-Kyoto University-Nanyang Technological University-National University of Singapore Symposium*, Kuala Lumpur, Malaysia.
64. Yi, X., C. Lin, J.L.E. Ong, and **Z. Zhou** (2012). "Comparison of MLS_B antibiotic resistance among Gram-positive and Gram-negative bacteria in urban environments." *American Society for Microbiology 112th General Meeting*, San Francisco, CA.

65. Nagarajan, S., S.K. Chou, C. Wu, S. Cao, and **Z. Zhou** (2012). "Biomethane production potentials by methanogens for microbial electrosynthesis." *American Society for Microbiology 112th General Meeting*, San Francisco, CA.
66. Nagarajan, S., S.K. Chou, S. Cao, C. Wu, and **Z. Zhou** (2012). "An updated comprehensive techno-economic analysis of algae biodiesel." *5th International Conference on Industrial Bioprocesses*, Taipei, Taiwan.
67. Lin, C., X. Yi, X. Kong, J.L.E. Ong, X.Y.C. Chew, T. Wang, and **Z. Zhou** (2012). "Effects of human population densities on antimicrobial resistance in an urban environment." *Singapore International Water Weeks*, Singapore.
68. Lin, C., X. Kong, X. Yi, J.L.E. Ong, X.Y.C. Chew, T. Wang, and **Z. Zhou** (2012). "Correlation of anthropogenic pressure and antimicrobial resistance in urban environments." *American Society for Microbiology 112th General Meeting*, San Francisco, CA.
69. Kong, X., C. Lin, X. Yi, X.Y.C. Chew, and **Z. Zhou** (2012). "Quantification of minimum inhibition concentration and resistance levels of antimicrobials among *Streptomyces* in environmental samples." *American Society for Microbiology 112th General Meeting*, San Francisco, CA.
70. Auw, J.Q.M., X. Yi, and **Z. Zhou** (2012). "Comparison of double-labeled and single-labeled oligonucleotide probes for *in situ* quantification of *Streptomyces*." *American Society for Microbiology 112th General Meeting*, San Francisco, CA.
71. Amir, M.S.B., C. Wu, S. Nagarajan, S. Cao, X. Yi, and **Z. Zhou** (2012). "Development of novel 16S rRNA oligonucleotide probes to quantify methanogens." *American Society for Microbiology 112th General Meeting*, San Francisco, CA.
72. Amir, M.S.B., J.Q.M. Auw, S. Nagarajan, X. Yi, C. Wu, S. Cao, and **Z. Zhou** (2012). "Development of fluorescence *in situ* hybridization probes for the quantification of Archaea." *Singapore International Water Weeks*, Singapore.
73. **Zhou, Z.** and X.W. Wong (2011). "Low impact development techniques for sustainable environmental and water resources management." *4th American Society of Civil Engineering-Environmental & Water Resources Institute International Perspective on Water Resources & the Environment*, Singapore.
74. Yi, X., A. Christina, and **Z. Zhou** (2011). "Evaluation and design of fluorescence *in situ* hybridization probes for the quantification of *Streptomyces*." *Singapore International Water Weeks*, Singapore.
75. Ong, J.L.E., X. Yi, X.Y.C. Chew, T. Wang, and **Z. Zhou** (2011). "Evaluation of antimicrobial resistance at environmental samples in Singapore." *Singapore International Water Weeks*, Singapore.
76. Christina, A., **Z. Zhou**, X. Yi, and T. Wang (2011). "Development of a 16S rRNA-targeted probe for *Streptomyces*." *American Society for Microbiology 111th General Meeting*, New Orleans, LA.
77. Chew, X.Y.C., X. Yi, J.L.E. Ong, T. Wang, and **Z. Zhou** (2011). "Antimicrobial resistance among *Streptomyces* in natural soil samples." *American Society for Microbiology 111th General Meeting*, New Orleans, LA.
78. **Zhou, Z.**, A. Salveson, K. Bourgeois, and N. Fontaine (2010). "How different is different? The traps and pitfalls of applying statistics on system performance evaluation." *83rd Annual Water Environment Federation Technical Exhibition and Conference*, New Orleans, LA.
79. **Zhou, Z.**, L. Raskin, and J. Zilles (2010). "Optimization of cluster analysis for FISH image analysis." *American Society for Microbiology 110th General Meeting*, San Diego, CA.
80. Rauch-Williams, T., A. Salveson, B. Narayanan, **Z. Zhou**, J. Drewes, E. Dickenson, C. Higgins, K. Hyland, S. Snyder, B. Vanderford, D. Gerrity, M. Benotti, E. Snyder, and D.

- Drury (2010). "Trace organic compounds removal during wastewater treatment - selection of a suite of indicator TOxC." *83rd Annual Water Environment Federation Technical Exhibition and Conference*, New Orleans, LA.
81. **Zhou, Z.**, A. Salveson, B. Finney, R. Gearheart, and M. Burke (2009). "Cost-effective technologies for small-scale water reuse." *California Water Environment Association Annual Conference*, Palm Springs, CA.
82. **Zhou, Z.**, A. Salveson, B. Finney, R. Gearheart, and M. Burke (2009). "Cost capacity analysis and WAWTTAR model for small-scale water reuse." *24th Annual WateReuse Symposium*, Seattle, WA.
83. **Zhou, Z.**, A. Salveson, B. Finney, R. Gearheart, and M. Burke (2009). "Cost-effective technologies for small-scale water reclamation plants." *82nd Annual Water Environment Federation Technical Exhibition and Conference*, Orlando, FL.
84. **Zhou, Z.**, A. Salveson, B. Finney, and M. Burke (2009). "Cost-effective technologies for small-scale water reclamation plants (WRF 06-008)." *13th Annual Water Reuse & Desalination Research Conference*, Huntington Beach, CA.
85. **Zhou, Z.**, A. Salveson, J. Brown, J. Lopez, D. Sullivan, H. Breitenkam, R. Cisterna, E. Vadiveloo, R. Harris, S. Snyder, E. Snyder, and J. Drewes (2009). "Aquatic toxicology and removal of microconstituents through membrane processes." *American Water Works Association 10th Biennial Membrane Technology Conference and Exposition*, Memphis, TN.
86. **Zhou, Z.**, A. Salveson, J. Brown, J. Lopez, R. Cisterna, E. Vadiveloo, and H. Breitenkam (2009). "Evaluation of endocrine disrupting potentials in membrane effluents using aquatic toxicity tests and fish bioassays." *American Water Works Association Research Symposium*, Austin, TX.
87. **Zhou, Z.**, A. Salveson, J. Brown, J. Lopez, R. Cisterna, E. Vadiveloo, and H. Breitenkam (2009). "Advanced membrane treatment of wastewater and resulting aquatic impact of microconstituents in receiving waters." *California Water Environment Association Annual Conference*, Palm Springs, CA.
88. **Zhou, Z.**, A. Salveson, J. Brown, J. Lopez, R. Cisterna, E. Vadiveloo, and H. Breitenkam (2009). "Treatment of endocrine disruptors and pharmaceuticals through membrane processes." *American Membrane Technology Association 2009 Conference & Exposition*, Austin, TX.
89. **Zhou, Z.**, A. Salveson, J. Brown, G. Juby, and S. Li (2009). "Pathogen and microconstituent removal using a non-biological treatment process." *WateReuse California Annual Conference*, San Francisco, CA.
90. Vadiveloo, E., R. Cisterna, R. Harris, H. Breitenkam, T. Greiner, P. Pitt, P. Vinci, and **Z. Zhou** (2009). "Identifying the feasibility of canal recharge for indirect potable reuse: the Plantation experience." *Florida Water Resources Conference*, Palm Beach County, FL.
91. Vadiveloo, E., R. Cisterna, H. Breitenkam, J. Lopez, R. Harris, T. Greiner, P. Pitt, K. Alexander, R. Latimer, P. Vinci, **Z. Zhou**, and A. Salveson (2009). "Identifying the feasibility of canal recharge for indirect potable reuse: the Plantation experience." *82nd Annual Water Environment Federation Technical Exhibition and Conference*, Orlando, FL.
92. Alexander, K., R. Cisterna, E. Vadiveloo, A. Salveson, and **Z. Zhou** (2009). "Quantifying emerging contaminant removal with advanced water treatment in Arizona and Florida." *13th Annual Water Reuse & Desalination Research Conference*, Huntington Beach, CA.
93. **Zhou, Z.**, A. Salveson, B. Finney, R. Gearheart, and M. Burke (2008). "Low-cost treatment technologies for small-scale water reclamation plants (WateReuse Foundation 06-008)." *23rd Annual WateReuse Symposium*, Dallas, TX.
94. **Zhou, Z.**, A. Salveson, J. Brown, J. Lopez, D. Sullivan, H. Breitenkam, R. Cisterna, V. Enrique, R. Harris, S. Snyder, E. Snyder, and J. Drewes (2008). "Removal of

- microconstituents in an advanced water treatment facility and evaluation of potential water quality impact of discharged effluent to surface canals and groundwater." *81st Annual Water Environment Federation Technical Exhibition and Conference*, Chicago, IL.
95. **Zhou, Z.**, A. Salveson, J. Brown, J. Lopez, R. Cisterna, E. Vadiveloo, and H. Breitenkam (2008). "Water quality through advanced wastewater treatment (AWT) facilities and recharge modeling (WaterReuse Research Foundation 06-019)." *23rd Annual WasteReuse Symposium*, Dallas, TX.
 96. **Zhou, Z.**, A. Salveson, J. Brown, and J. Lopez (2008). "Water quality through advanced wastewater treatment (AWT) facilities and recharge modeling (WateReuse Research Foundation 06-019)." *California Section Annual Conference*, Newport Beach, CA.
 97. Poust, S., A. Salveson, **Z. Zhou**, J. Lopez, D. Sullivan, H. Breitenkam, R. Cisterna, E. Vadiveloo, R. Harris, J. Brown, S. Jain, M. Loinaz, and H. Joseph (2008). "Trace organics contaminant monitoring: removal, fate, and transport." *Water Quality Technology Conference and Exposition*, Cincinnati, OH.
 98. Poust, S., A. Salveson, **Z. Zhou**, J. Lopez, D. Sullivan, H. Breitenkam, R. Cisterna, E. Vadiveloo, R. Harris, J. Brown, and S. Jain (2008). "Trace organics and advanced wastewater treatment plants: removal, transport, and toxicology." *Florida Water Resources Conference*, Tampa, FL.
 99. **Zhou, Z.**, M. Robert, L. Raskin, and J. Zilles (2007). "Cumulative effects of land application of manure on levels of antimicrobials and antimicrobial resistant bacteria in soils." *American Society for Microbiology 107th General Meeting*, Toronto, Ontario, Canada.
 100. Greeley, T., **Z. Zhou**, and J. Zilles (2007). "Comparing abundance of *Candidatus Accumulibacter phosphatis* and performance in a full-scale wastewater treatment plant's transition to enhanced biological phosphorus removal." *American Society for Microbiology 107th General Meeting*, Toronto, Ontario, Canada.
 101. **Zhou, Z.**, M. Robert, L. Raskin, and J. Zilles (2006). "Quantification of MLS_B antimicrobial resistance in soil amended with swine wastes." *American Society for Microbiology 106th General Meeting*, Orlando, FL.
 102. **Zhou, Z.**, M.N. Pons, L. Raskin, and J. Zilles (2005). "Automated image analysis for quantitative fluorescence *in situ* hybridization in environmental samples." *American Society for Microbiology 105th General Meeting*, Atlanta, GA.
 103. **Zhou, Z.**, A. Jindal, M. Robert, L. Raskin, and J. Zilles (2005). " MLS_B resistance levels vary greatly for different populations in swine waste samples." *International Union of Microbiological Societies Meeting*, San Francisco, CA.
 104. **Zhou, Z.**, A. Jindal, M. Wagoner, L. Raskin, and J. Zilles (2004). "FISH analysis of MLS_B antimicrobial resistance in swine waste." *American Society for Microbiology 104th General Meeting*, New Orleans, LA.
 105. **Zhou, Z.** and L. Yang (2001). "Research on biological regeneration of organoclay." *5th National Environmental Microbiological Symposium of Chinese Society of Microbiology*, Nanjing, Jiangsu, China.
 106. Yang, L., Y. Gu, and **Z. Zhou** (2001). "Investigation of high efficiency benzene degrading microbe." *5th National Environmental Microbiological Symposium of Chinese Society of Microbiology*, Nanjing, Jiangsu, China.
 107. **Zhou, Z.** and M. Zhang (1999). "Use of protozoan (*Tetrahymena pyriformis*) bioassay to evaluate the toxicity and mutation of pesticides." *Biennial Conference of Nanjing Society of Microbiology*, Nanjing, Jiangsu, China.

TECHNICAL REPORTS (3)

1. Ji, Y., B. McCullouch, and **Z. Zhou** (2021). "Evaluation of our current and other available anti-Icing/de-Icing products under controlled environmental conditions to test effectiveness."
2. Salveson, A., **Z. Zhou**, B. Finney, M. Burke, and J.C. Ly (2010). "Low-cost technologies for small-scale water reclamation plants." Alexandria, VA, USA.
3. Salveson, A., J. Brown, and **Z. Zhou** (2010). "Monitoring microconstituents in an advanced wastewater treatment (AWT) facility and modeling discharge of reclaimed water to surface canals for indirect potable use." Alexandria, VA, USA.

INVITED PRESENTATIONS (28)

07/2021	Emerging contaminant removal and microbial growth in membrane filtration and activated carbon point-of-use systems	2021 Water Quality Association Convention & Exposition	Las Vegas, NV
11/2019	Removal of emerging pollutants; Nutrient control with wastewater treatment techniques	International Scientific Congress on multiple barrier system for safe and healthy water preservation,	Cusco, Peru
11/2019	Electrochemical filtration of antibiotics and antibiotic resistance genes	Universidad Nacional de San Antonio Abad del Cusco	
11/2019	Eutrophication and control of microbial growth		
11/2019	Membrane filtration including electrochemical carbon nanotubes and graphene filters		
11/2019	Elimination of pathogenic protozoa		
11/2019	Point of use water filtration systems		
11/2019	Techniques to control eutrophication		
11/2019	Nanotechnology in the treatment of drinking water		
11/2018	Antibiotic resistance in urban and natural environments	University of Notre Dame	South Bend, IN
10/2018	Water safety	Purdue Chapter of Engineers Without Borders	West Lafayette, IN
11/2017	Water	Guest lecturer in ENGR 103 (Global Engineering Practice & Design), Purdue University	West Lafayette, IN
09/2017	Electrochemical carbon nanotube filters for water and wastewater treatment	The 20th Annual Indiana Pollution Prevention Conference and Trade Show	Indianapolis, IN
11/2016	Water	Guest lecturer in Global Engineering Practice & Design, Purdue University	West Lafayette, IN
10/2016	Antibiotic resistance in urban and natural environments	Department of Biological Sciences, Purdue University,	Calumet, IN

06/2016	Antibiotic resistance in urban and natural environments	International Symposium of One Health: the Role of Microbe	Boston, MA
03/2016	Antibiotic resistance	Environmental Science Club, Purdue University	West Lafayette, IN
09/2014	Antimicrobials and antimicrobial resistance in natural and urban environments	Purdue Water Community Brown Bag Lunch Seminar Series	West Lafayette, IN
08/2013	Renewable methane production from carbon dioxide and water in a microbial electrosynthesis cell	Technical session “Sustainable Energy from Biomass and Wastewater” in the 15th Asian Chemical Congress	Singapore
06/2012	Electrode-driven anaerobic respiration for improved biofuel production	City University of Hong Kong–NUS Joint Seminar	Singapore
04/2012	Development of molecular biology techniques for the risk assessment of antibiotic resistance in environmental samples	Low-Carbon Forum of Urban and Regional Development, Peking University,	Shenzhen, China
02/2012	Evaluation of antimicrobial resistance at environmental samples	NUS–Peking University Scientific Workshop	Singapore
02/2012	Development of molecular microbiology tools for water quality monitoring	Singapore Ministry of Home Affairs–NUS Focus Group Meeting	Singapore
05/2011	Microbial conversion of CO ₂ to biofuel without biomass processing	NUS Industry Liaison Office–Siemens Joint Seminar	Singapore
11/2011	Microbial conversion of CO ₂ to biofuel	Singapore Economic Development Board–NUS Meeting on CO ₂ Conversion and Utilization Program,	Singapore
06/2010	Environmental sustainability: a microbiologist’s perspective	University of Michigan–NUS Joint Seminar	Singapore
06/2010	Environmental risk assessment of macrolide-lincosamide-streptogramin B antimicrobial resistance	Michigan State University–NUS–Singapore Public Utilities Board Joint Seminar	Singapore
03/2010	Advanced membrane treatment of wastewater and resulting aquatic impact of microconstituents in receiving waters	Singapore Public Utilities Board	Singapore

RESEARCH PERSONNEL HOSTED OR SUPERVISED (109)

Visiting Professors Hosted (4)

2017–2019	Associate Professor Bolin Li	Development of Energy-efficient Wastewater Treatment Technologies	Wuhan University of Technology, China
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2018	Associate Professor Lei Chen	Removal of pharmaceuticals and personal care products (PPCPs) in the electrochemical carbon nanomaterial filter	Nanjing Forestry University, China
2015–2016	Associate Professor Cheng Liu	Development of Nanomaterials for Wastewater Treatment	Hohai University, China
2014–2015	Associate Professor Shaohua Lin	Development of Nanomaterials for Wastewater Treatment	Nanjing Forestry University, China

Postdocs Supervised (5)

2013–2014	Dr. Laurence Glass-Haller	Rapid and accurate quantification of antibiotic resistant bacteria and quantitative risk assessment for water security	NUS
2013–2014	Dr. Thai Hoang Le	Rapid and accurate quantification of antibiotic resistant bacteria and quantitative risk assessment for water security	NUS
2013–2014	Dr. Yanbiao Liu	Development of electrochemical carbon nanotube filters to remove off-flavor compounds	NUS
2012–2013	Dr. Hongmei Jing	Photosynthesis through electrode-driven anaerobic Respiration	NUS
2011	Dr. Yiling Koh	Photosynthesis through electrode-driven anaerobic Respiration	NUS

Research Engineers Supervised (3)

2014	Tianren Wang	Rapid and accurate quantification of antibiotic resistant bacteria and quantitative risk assessment for water security	NUS
2013–2014	Vaishnavi Sivachidambaram	Rapid and accurate quantification of antibiotic resistant bacteria and quantitative risk assessment for water security	NUS
2011–2013	Sanjay Nagarajan	Photoelectrochemical water splitting for the production of value-added chemicals	NUS

Ph.D. Committees Chaired (8)

2021–present	Francisco J Montalvo (co-chaired)	Point-of-use water filtration systems	Purdue
2020–present	Sharon Hughes (co-chaired)	Life cycle analysis of biofuels	Purdue
2016–present	Ejike Akobundu Ken-Oporum	Development and persistence of antibiotic resistant bacteria	Purdue

2014–2019	Zhe Sun	Application of photochemical and biological approaches for cost-effective algal biofuel production	Purdue
2014–2019	Mian Wang	Development and removal of antibiotic resistance genes	Purdue
2011–2016	Chen Wu (co-chaired)	Molecular microbiology for improved biofuel production	NUS
2011–2016	Nishu Goyal (co-chaired)	Biochemical Conversion of Carbon Dioxide	NUS
2010–2015	Xinzhu Yi	Evaluation of antibiotic resistance at urban environments	NUS

Ph.D. Committees Chaired - Incomplete (2)

2014–2016	Sadia Jame	Electrochemical removal of chemical and biological contaminants with nanomaterials	Purdue
2012–2017	Mrutyunjay Padhiary	Electrosynthesis of biofuels from carbon dioxide	NUS

Master Committees Chaired (thesis-based) (10)

2021–present	Pritee Pahari	Point-of-use water filtration	Purdue
2021–present	Jonathan Fan	Electrochemical defluoridation	Purdue
2019–2021	Hsin-Yin Yu	Emerging contaminant removal in point-of-use devices	Purdue
2019–2021	Shreya Gupta	Emerging contaminant removal in point-of-use devices	Purdue
2016–2018	Ran Chen	Antibiotic resistance in environmental samples	Purdue
2015–2017	Sol Park	DNA removal in carbon nano-tube filters	Purdue
2013–2014	Qing Xia	Phenol removal with electrochemical carbon nanotube filters coupled with <i>in situ</i> generated H ₂ O ₂	NUS
2013–2014	Xiao Jin	Research on electrochemical carbon nanotube filters for bacterial and DNA removal	NUS
2012–2014	Tianren Wang	Evaluation of microbial regrowth after treatment of disinfectants or antimicrobials	NUS
2011–2013	Subhashini Kashinath	Utilization of landfill gases as renewable source of energy in India	NUS

Master Committees Chaired (non-thesis) (4)

2018–2019	Xiaoyi Peng		Purdue
2017–2019	Yi Ji		Purdue
2017–2019	Sacheev Mandhale		Purdue
2015–2017	Huanqi He		Purdue

Graduate Independent Study Module Student (4)

2019–present	Lingjun Xu	Electro-Fenton treatment of organic contaminants	Purdue
2018–2019	Yiming Yang	Improvement of AOC measurements	Purdue
2016–2017	Wei Liu	Electrochemical water treatment	Purdue
2015–2016	Huanqi He	Electron-Fenton treatment of chemical contaminants	Purdue

Undergraduate Independent Study Module Students (26)

2021–2022	Ashley Lynn Sanchez Gonzalez	Algal biofuel	EEE, Purdue
2021–2022	Leyan Peng	AOC measurement in POU systems	EEE, Purdue
2021	Preethi Goli	AOC measurement in POU systems	CS, Purdue
2020–2021	Sungmin Hong	Water quality measurement	EEE, Purdue
2020–2021	Benjamin E. Jolkovsky	Point-of-use filtration systems	EEE, Purdue
2020–2021	Chance Lehman	Algal virus for biofuel production	EEE, Purdue
2020–2021	Hannah Congleton	AOC measurement in POU system	EEE, Purdue
2020–2021	Sophie Mendelson	Microbial growth in POU systems	EEE, Purdue
2020–2021	Victoria Rose Pompeo	PFAS removal in POU systems	EEE, Purdue
2019–2020	Charles A. Graham	PFAS treatment in POU filters	EEE, Purdue
2019–2020	Yifei Bi	Metal removal in POU systems	EEE, Purdue
2017–2018	Benjamin M Stryker	Electrochemical water treatment	EEE, Purdue
2017–2018	Shujun Zhou	Electrochemical water treatment	EEE, Purdue
2017–2018	Songhao Wu	Efficient biofuel production	EEE, Purdue
2016–2017	Tianlong Sun	Microbial electrosynthesis for biofuel production	EEE, Purdue
2016–2017	Jingfei Deng	Antibiotic resistant bacteria in the environment	EEE, Purdue
2015–2017	Luna Nguyen	Efficient production of biofuels from carbon dioxide	EEE, Purdue
2015–2016	Mingyu Zhang	Development of CNT electrochemical filter for water purification	EEE, Purdue
2015–2016	Leslie Yoo	Enhanced biofuel production from carbon dioxide	EEE, Purdue
2014–2015	Emily Traxler	Development and persistence of antibiotic resistance	EEE, Purdue
2014–2015	Neil Perry	Enhanced biofuel production from carbon dioxide	EEE, Purdue
2014–2015	Ryan N Loveless	Development of graphene electrochemical filter for water purification	EEE, Purdue
2014–2015	Haitian Liu	Enhanced biofuel production from carbon dioxide	EEE, Purdue
2014–2015	Yvonne Shi	Development of graphene electrochemical filter for water purification	EEE, Purdue

2014–2015	Heyi Wang	Development of graphene electrochemical filter for water purification	EEE, Purdue
2014–2015	Maithilee Das	Enhanced biofuel production from carbon dioxide	EEE, Purdue
2011–2012	Zhe Zhang	Bioremediation in marine oil spill	CE, NUS

Undergraduate Research Assistants (10)

2021	Shreya Mullangi	AOC measurement in POU systems	CE, Purdue
2019–2020	Kendall Cooper Schwarz	Enhanced biological phosphorus removal	Purdue
2016	Mustafa Reyad Ghuneim	Resource recovery and reuse from human urine	Purdue
2015	Nathalia Delgadillo Ordoñez (co-supervised)	Effects of lithium on the performance of anaerobic digesters	Purdue
2013–2014	Wei Liang Tay	Design of FISH Probes to quantify linezolid Resistance	NUS
2012–2013	Qing Wei	Genetic diversity of erythromycin resistance genes in soils in Singapore	NUS
2011	Shenyan Cao	Biodiesel production of microalgae	NUS
2010–2011	Tianren Wang	Evaluation of MLS _B antimicrobial resistance at environmental samples	NUS
2006–2007	Maria Quinones	Isolation of <i>Streptomyces</i> from manure and soil samples	UIUC
2005–2006	Joanna Kepler	<i>Streptomyces</i> and the production of macrolide-lincosamide-streptogramin B antimicrobials in organic swine farm manure	UIUC

Purdue Summer Undergraduate Research Fellowship (SURF) Students (2)

2017	Benjamin M Stryker	Electrochemical removal of metals using carbon nanotube filters	Purdue
2015	Nathaniel Kallmyer (co-supervised)	Resource recovery and reuse from human urine	Purdue

U.S. Military Academy (West Point) Cadet's/Midshipmen Summer Program Students (2)

2016	Joshua Hulgán	Efficient production of biofuels from carbon dioxide	Purdue
2016	Peter Zhu	Efficient production of biofuels from carbon dioxide	Purdue

Final Year Industry Project Students from Republic Polytechnic, Singapore (5)

2013	Jess Junhan Loong	Testing of linezolid resistance with FISH probes	NUS
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2013	Xin Hui Soh	Occurrence of antibiotic resistance genes in environmental samples	NUS
2013	Yan Li	Microbial regrowth after exposure to erythromycin	NUS
2013	Chang Gao	Testing of PKS primers with conventional PCR	NUS
2013	Abizer Imran	Optimization of hybridization conditions for PKS primers	NUS

Independent Work Program Students for U.S. Department of Energy Solar Decathlon (4)

2012–2013	Xun Long Kew	Development of a grey water filtration system	CEE, NUS
2012–2013	Jason Hong Yang Tan	Development of a grey water filtration system	CEE, NUS
2012–2013	Miao He	Development of a grey water filtration system	CEE, NUS
2012–2013	Minghui Teo	Development of a grey water filtration system	CEE, NUS

Industrial Attachment Program Students (4)

2013	Elizabeth Ying Ping Wong		CEE, NUS
2013	Erik Christianto		CEE, NUS
2013	Hoang Linh Bui		CEE, NUS
2013	Khittisun Chaemdikawiwat		CEE, NUS

Undergraduate Research Opportunities Program (UROP) Student (1)

2012	Shenyan Cao	Cost analysis of algae-based biofuel	CEE, NUS
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Undergraduate Final Year Project (Senior Thesis) Students (15)

2013–2014	Yi Kong	Development of electrochemical carbon nanotube filters to remove off-flavor compounds	NUS
2013–2014	Dustin Juen Hon Lee	Development of electrochemical carbon nanotube filters to remove off-flavor compounds	NUS
2013–2014	Vidushini Siva	Optimization methane production in a microbial electrolysis cell	NUS
2012–2013	Li Jie Hsien	Optimization of hydrogen production to support methanogenesis in a microbial electrolysis cell	NUS
2012–2013	Shang Long Chua	Theoretical and experimental evaluations of methane production in a microbial electrolysis cell	NUS
2012–2013	Wen Chao Cheng	Evaluation of antimicrobial resistance at environmental samples	NUS
2011–2012	Jin Quan Max Auw	Development of oligonucleotide probes for <i>in situ</i> quantification of <i>Streptomyces</i>	NUS
2011–2012	Yuanyan Du	Studies on 2-methylisoborneol and geosmin producing <i>Actinomycetes</i> in water catchment area	NUS
2011–2012	Xieheng Kong	Antimicrobial resistance of <i>Streptomyces</i> at environmental samples in Singapore	NUS
2011–2012	Chenghui Lin	Evaluation of MLS _B antimicrobial resistance at environmental samples	NUS

2011–2012	Mohammad Sairi B Amir	Development of FISH probes to quantify methanogens	NUS
2011–2012	Tianren Wang	Evaluation of microbial regrowth after treatment of disinfectants or antimicrobials	NUS
2010–2011	Jie Li Eugene Ong	Evaluation of MLS _B antimicrobial resistance at environmental samples	NUS
2010–2011	Xin Yu Cynthia Chew	Evaluation of antibiotic-producing <i>Streptomyces</i> from soil samples	NUS
2010–2011	Agnes Christina	Quantification of <i>Streptomyces</i> using fluorescence <i>in situ</i> hybridization	NUS

THESIS EXAMINATION AND DEFENSE COMMITTEE (82)

Ph.D. Dissertation Examination Committee / Oral Defense Committee (22)

2021	Jennifer A Rackliffe	Optimizing co-digestion of agro-industrial feedstocks and predicting feedstock renewable energy potential via anaerobic digestion	ABE, Purdue
2019	Christian Ley	Biofilm detachment in plumbing systems	CE, Purdue
2018	Peng Chen	Improving nitrogen use efficiency in decoupled aquaponics system	ABE, Purdue
2018	Yi-Ju Wang	Nitrogen removal in sustainable aquaculture production	Horticulture, Purdue
2018	Sarah E. Daly	Anaerobic digestion of dairy manure	ABE, Purdue
2017	Raymond RedCorn	Conversion of municipal organic waste into higher value acids and sugars	ABE, Purdue
2014	Chang Ding	Isolation and characterization of dehalogenators that detoxify polybrominated diphenyl ethers and chlorinated alkanes	CEE, NUS
2014	Khorshed Alam Akm	Removal of fluoride from water solution using innovative nanoscale sorbent	CEE, NUS
2014	Siok Ling Low	Microalgae cultivation using permeate from membrane bioreactor	CEE, NUS
2013	Nandar Kyaw	The study of ultraviolet based advanced oxidation process modeling – disinfection and oxidation for drinking water treatment	CEE, NUS
2013	Yujia Shen	Development of microbial electrochemical sensor for toxicity screening of influent wastewater	CEE, NUS
2013	Bijing Cai	Fouling propensity of secondary effluents in ultrafiltration membrane process	CEE, NUS
2013	Yue Ma	Formation and risks of disinfection by-products in ballast water chlorination process	CEE, NUS
2012	Shruti Pavagadhi	Determination and toxicological evaluation of microcystins in tropical reservoirs	CEE, NUS
2012	Venketeswari Parida	Forward osmosis process for secondary effluent and seawater application	CEE, NUS

2012	Nichanan Thepsurungsikul	Development of carbon nanotube-modified electrodes for microbial fuel cell application	CEE, NUS
2012	Xiaoying Zhu	Development of novel functionalized membranes for antifouling performances in water or wastewater treatment	CEE, NUS
2012	Betha Raghu	Physical, chemical and toxicological characteristics of particulate emissions from stationary engine fueled with ultralow sulfur diesel and waste cooking oil derived biodiesel	CEE, NUS
2011	Jing Yu	Occurrence and fate of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in water and wastewater and their removal using a hybrid PAC-MBR system	CEE, NUS
2011	Caian Fan	Influence of trace erythromycin and erythromycin-H ₂ O on microbial consortia in sequencing batch reactors	CEE, NUS
2011	Thi Thai Yen Doan	Enhanced lipid production of marine microalgae for biodiesel feedstock.	CEE, NUS
2010	Rajesh Kumar Balasubramanian	Heterogeneous catalysis of plant derived oils to biodiesel	CEE, NUS

Ph.D. Oral Qualifying Examination Committee (27)

2014	Yang Yu	Arsenic removal from water by functional yttrium based adsorptive materials	CEE, NUS
2013	Fengxue Xing	Biobutanol production from lignobiomass	CEE, NUS
2013	Yu Yan	Realization of direct biological butanol production from lignocellulosic biomass by wild-type clostridium	CEE, NUS
2013	Mohammad Sherafatmand	Microbial fuel cells (MFCS) for degradation of polycyclic aromatic hydrocarbons (PAHs) from the soil	CEE, NUS
2013	Jothinathan Lakshmi	O ₃ /H ₂ O ₂ based AOP for PPCPs removal: kinetic studies on influence of initiator, promoter and inhibitors in presence/absence of NOM/EFOM	CEE, NUS
2013	Behdad Chehrenegar	Removal of emerging contaminants using plant-based system	CEE, NUS
2013	Wei Hong Fan	Tropospheric halocarbons in Southeast Asia-levels, sources and delineation of regional and local-scale emissions	CEE, NUS
2013	Genevieve Gabrielle Rose Vergara	Pathogens in recreational waters of Singapore	CEE, NUS
2013	Yun Wang	Novel MBR fouling control with quorum quenching	CEE, NUS
2013	Mahsa Foolad	Fate and transport of sewage-associated indicators through soil column	CEE, NUS

2012	Amalraj Appavoo Initha	Photocatalytic degradation of carbamazepine using graphene-TiO ₂ nanocomposites	CEE, NUS
2012	Krishnan Padmaja	Photocatalytic construction material for mitigation of air pollutants	CEE, NUS
2012	Chenxi Sun	Inactivation kinetics and mechanism of indicator and enteric viruses in tropical surface water	CEE, NUS
2012	Jinzhi Lim		CEE, NUS
2012	Xueqing Shi	Treatment of pharmaceutical wastewater under anaerobic processes	CEE, NUS
2012	Kai Yin Melvin Tan	Development and application of a novel anaerobic forward osmosis membrane bioreactor (AnFOMBR)	CEE, NUS
2011	Nan Li	Versatile preparation of ultrafiltration/nanofiltration membranes through a one-step simultaneous phase inversion and cross-linking method for water treatment applications	CEE, NUS
2011	Yuen Sean Lam	Novel syntrophic microbial consortium for the bioconversion of hemicellulose to value-added products	CEE, NUS
2011	Pei Xiong	Application of UVA/LED/TiO ₂ process for wastewater treatment-pharmaceutical degradation and bacteria disinfection	CEE, NUS
2011	Yu Ling	Heavy metal removal from water by using affinity membrane	CEE, NUS
2011	Yujia Shen	Development of microbial electrochemical sensor for toxicity screening of influent wastewater	CEE, NUS
2011	Vasanth Natarajan	Optimization of biochemical conversion process for lignocellulosic biomass to sugars by integrating the kinetic models	CEE, NUS
2010	Akm Khorshed Alam	Development of an innovative nano-scale sorbent for treatment of ionic contaminants in water solution	CEE, NUS
2010	Yue Ma	Formation and risks of disinfection by-products in ballast water chlorination process	CEE, NUS
2010	Chang Ding	Isolation and characterization of dehalogenators that detoxify polybrominated diphenyl ethers and chlorinated alkanes	CEE, NUS
2010	Bijing Cai	Fouling propensity of secondary effluents in ultrafiltration membrane process	CEE, NUS

Ph.D. Comprehensive Qualifying Examination Committee (15)

2013	Yang Yu	Arsenic removal from water by functional yttrium based adsorptive materials	CEE, NUS
2013	Shamik Chowdhury	Development of novel graphene-based nanocomposites for carbon dioxide capture and storage	CEE, NUS
2013	Le Wang	Novel MBR fouling control with quorum quenching	CEE, NUS
2013	Tze Ying Wong	Fate and transport of perfluoroalkylsulfonates and perfluoro carboxylates in ambient air	CEE, NUS

2012	Dandan Zhao	Arsenic adsorption	CEE, NUS
2012	Fengxue Xing	Biobutanol production from lignobiomass	CEE, NUS
2012	Daphane Tan	Fate and behavior of emerging organic contaminants from raw sewage in water environment	CEE, NUS
2012	Genevieve Gabrielle Rose Vergara	Pathogens in recreational waters of Singapore	CEE, NUS
2012	Yu Yan	Realization of direct biological butanol production from lignocellulosic biomass by wild-type clostridium	CEE, NUS
2011	Yun Wang	Quorum quenching as novel fouling control strategy for MBR fouling	CEE, NUS
2011	Siyao Zhao	Reductive dechlorination of chloroform and identification of reductive dehalogenase genes	CEE, NUS
2011	Yong Bin Phua	Rainwater harvesting and treatment system	CEE, NUS
2011	Govindaswamy Balaji	Assessment of air quality monitoring in urban cities through switching of fuels	CEE, NUS
2010	Yujia Shen	Development of microbial electrochemical sensor for toxicity screening of influent wastewater	CEE, NUS
2010	Pei Xiong	Application of UVA/LED/TiO ₂ process for wastewater treatment-pharmaceutical degradation and bacteria disinfection	CEE, NUS

M.S. Thesis Examination Committee (12)

2020	Kush Paliwal	Analyzing the effects of flowing water on the detection and quantification of Salmon eDNA	CE, Purdue
2018	Omar Nabil Tantawi	Sustainable electronics	EEE, Purdue
2018	Tianqi Wang	Waste materials and management: lessons from the Flint water crisis and blast furnace slag usage in Indiana	CE, Purdue
2017	Gaopin Cao	Formation and removal of toxic disinfection by-products from cross-linked polyethylene pipes in building premise plumbing system	EEE, Purdue
2014	Ling Ding	Assessing the performance of antimicrobial concrete admixtures in concrete subjected to microbially induced corrosion	CE, Purdue
2014	Zihan Wang	Reductive dehalogenation of chlorinated hydrocarbons by established cocultures	CEE, NUS
2012	Marc-Antoine Metais	Bio-hydrogen & bio-butanol generation by bacteria isolated from spent mushroom substrate	CEE, NUS
2011	Zi Tan	Optimisation of microbial fuel cells	CEE, NUS
2011	Junyou Zhang	Forward osmosis membrane bioreactor for water reuse	CEE, NUS
2011	Xue Feng	The effect of backwashing procedures on filter ripening and general effluent quality	CEE, NUS

2011	Pak Hang Martin	Optimization of photobioreactor for astaxanthin production in <i>Chlorella Zofingiensis</i>	CEE, NUS
2010	Fung		
2010	Sowpati Jayaker	Assessment of synergistic effect of UV/H ₂ O ₂ integrated disinfection process	CEE, NUS

Master Student Advisory Committee (non-thesis) (6)

2018–2019	Calvin Liu		CE, Purdue
2017–2018	Latha Bhat		CE, Purdue
2016–2018	Jesse Hamm		EEE, Purdue
2016–2018	Yifan Tong		EEE, Purdue
2016–2018	Wei Liu		EEE, Purdue
2016–2018	Yichen Wu		CE, Purdue

TEACHING EXPERIENCE

2021	Lecturer	Emerging Contaminant Removal	graduate	EEE, Purdue
2019	Co-Lecturer	Nanotechnology for Civil Engineering	undergraduate	CE, Purdue
2018	Lecturer	Membranes for Water Treatment	graduate	EEE, Purdue
2016–2020	Co-Lecturer	Senior Design	undergraduate	EEE, Purdue
2016–2017	Co-Lecturer	Direct Potabilization	graduate	EEE, Purdue
2015–present	Lecturer	Environmental Biotechnology	graduate	CE, Purdue
2015–present	Lecturer	Wastewater Treatment Processes	undergraduate	CE/EEE, Purdue
2014	Lecturer	Water and Wastewater Treatment	undergraduate	CE/EEE, Purdue
2012–2014	Lecturer	Topics in Environmental Biotechnology	graduate	CEE, NUS
2011–2014	Lecturer	Wastewater Microbiology	undergraduate	CEE, NUS
2010–2014	Co-lecturer	Environmental Engineering Principles	graduate	CEE, NUS
2010–2014	Coordinator and Resource Person	Design Project	undergraduate	CEE, NUS
2010–2012	Lecturer	Environmental Microbiological Principles	undergraduate	CEE, NUS
2007	Teaching Assistant	Engineering Risk and Uncertainty	undergraduate	CEE, UIUC
2006	Teaching Assistant	Environmental Engineering	undergraduate	CEE, UIUC
2006	Guest Lecturer	Biological Principles of Environmental Engineering Processes	graduate	CEE, UIUC
2005	Co-lecturer	Fluorescence <i>in situ</i> hybridization workshop	graduate	CEE, UIUC

SERVICE TO DEPARTMENT/UNIVERSITY

2018–present	Member	Academics Committee	EEE, Purdue
2020	Reviewer	Most Outstanding Interdisciplinary Project Award (MOIPA)	Graduate School, Purdue
2017	Reviewer	Ismail Travel Awards	Graduate School, Purdue
2017	Member	Internal Review Committee	CE, Purdue
2017	Reviewer	Engineering Projects in Community Service (EPICS)	Purdue
2016–2018	Member	Space/Facilities/Safety Committee	EEE, Purdue
2016	Reviewer	Graduate School Fellowship	Purdue
2016	Reviewer	Future Faculty Member Workshop	Purdue
2015–2017	Judge	Office of Interdisciplinary Graduate Programs (OIGP) Spring Reception	Purdue
2015–2016	Member	Academics Committee	EEE, Purdue
2015	Reviewer	Future Faculty Member Workshop	Purdue
2014–2016	Executive Committee Member	Purdue Water Community	Purdue
2014–2015	Member	Engagement Committee	EEE, Purdue
2014–2015	Member	Seminar Committee	EEE, Purdue
2014–2015	Member	Faculty Search Committee	EEE, Purdue
2013–2014	Member	Student Affairs/Alumni Committee	CEE, NUS
2013–2014	Member	Board of Examiners Committee	CEE, NUS
2012–2013	Member	Engineering Accreditation Board Committee	CEE, NUS
2012	Chairperson	Sessions “Efficient Systems for Safe Drinking Water, Integrated Technology Based on Reduce, Reuse and Recycle (3R)” and “River Ecological Rehabilitation”	NUS–Peking University Scientific Workshop
2012, 2013	Interviewer	M. Eng. Student Admission Committee	CEE, NUS
2011–2014	Member	Curriculum Committee	CEE, NUS
2011, 2013	Interviewer	Ph.D. Student Admission Committee	CEE, NUS
2011, 2012	Interviewer	Student Exchange Program Selection Committee	CEE, NUS
2011	Moderator / Track Lead	Energy Efficiency in Industrial Processes in NUS– Industry Energy Efficiency Workshop	Energy Studies Institute, NUS
2010	Judge	Environmental Science and Engineering Poster Symposium	CEE, NUS
2004–2006	Volunteer	Graduate student recruiting committee	CEE, NUS
2003–2006	President	Gamma Alpha Graduate Society	

SERVICE TO PROFESSION

2021–present	Editorial Board Member	International Biodeterioration & Biodegradation	
2012–present	Academic Editor	PLOS ONE	
2021	Panelist	Nazarbayev University Research Council, Faculty-Development Competitive Research Grants Program, Kazakhstan	

2021	Panelist	ECO-CBET, U.S. National Science Foundation
2021	Panelist	Oak Ridge Associated Universities (ORAU) Ralph E Powe Junior Faculty Enhancement Awards
2017–2020	Project Advisory Board Member	“Mitigating the Risk of Antibiotic Resistance at Critical Control Points in the Beef Cattle Manure Management Systems”, United States Department of Agriculture
2020	Proposal Reviewer	The Antibiotic Resistance Programme, The Netherlands Organisation of Health, Research and Development (ZonMw)
2019	Proposal Reviewer	German-Israeli Water Technology Cooperation Program, Israeli Ministry of Science and Technology (MOST)
2019	Panelist	“Protecting Drinking Water” by Dr. Joan Rose, Purdue Engineering Distinguished Lecture Series
2018, 2020	Proposal Reviewer	French National Research Agency / Research Grants Council of Hong Kong Joint Research Scheme (JRS)
2017, 2019	Panelist	Biological and Environmental Interactions of Nanoscale Materials program, U.S. National Science Foundation
2016–2021	Proposal Reviewer	Research Grants Council of Hong Kong
2016–2020	Panelist	Graduate Research Fellowships Program (GRFP), United States National Science Foundation
2016	Proposal Reviewer	Indiana Water Resources Research 104B Grant, United States Geological Survey
2015	Panelist	Environmental Engineering program, U.S. National Science Foundation
2014, 2019	Reviewer	Student Services Committee Academic Job Application Review, AEESP
2013	Judge	Applied Materials Clean Tech Competition, Center for Science Teaching and Learning
2012–2014	Honorary Auditor	BioEnergy Society of Singapore
2012–2013	Workgroup Member	Guidelines for Treated Greywater Quality, Singapore Public Utilities Board
2013, 2017	Proposal Reviewer	Ministry of Education and Science of the Russian Federation
2013	Proposal Reviewer	Singapore National Research Foundation
2012, 2014	Judge	Singapore Science & Engineering Fair, Singapore Ministry of Education, the Agency for Science, Technology & Research and the Science Centre Singapore
2010	Judge	Singapore Science Mentorship Program Youth Science Conference
2009–2010	Board Director / Membership Chair	Chinese American Environmental Professionals Association, Oakland, CA
2008–2012	Project Advisory Committee Member	“Microbial Ecology of Drinking Water Distribution Systems”, U.S. Water Research Foundation (formerly AwwaRF)

JOURNAL REVIEWER (200 manuscripts in 56 journals)

Journal	# of reviews
ACS Applied Materials & Interfaces	1
Applied Energy	3
Applied Microbiology and Biotechnology	3
Biochemical Engineering Journal	6
Biomass Conversion and Biorefinery	1
Bioresource Technology	11
Biotechnology for Biofuels	3
Bulletin of Environmental Contamination and Toxicology	2
Carbon	1
Chemical Engineering Journal	5
Chemosphere	1
Critical Reviews in Environmental Science and Technology	12
Desalination and Water Treatment	1
Environmental Chemistry	1
Environmental Engineering Science	8
Environment International	4
Environment Research	2
Environmental Science and Pollution Research	1
Environmental Science & Technology	23
Environmental Science & Technology Letters	2
Environmental Science: Nano	2
Environmental Science and Pollution Research	2
Environmental Science: Processes and Impacts	2
Environmental Science: Water Research & Technology	5
Environmental Technology	2
Frontiers in Microbiology	1
International Biodeterioration & Biodegradation	6
International Journal of Chemical Engineering	1
International Journal of Environmental Science and Technology	4
International Journal of Environmental Research and Public Health	1
Journal of Bacteriology	1
Journal of Cleaner Production	2
Journal of Environmental Engineering	6
Journal of Environmental Quality	4
Journal of Hazardous Materials	5
Journal of Materials Chemistry A	1
Journal of Medical Microbiology	1
Journal of Oceanology and Limnology	1
Molecules	1
Microbial Cell Factories	3
Nanoscale	2
PeerJ - Life & Environment	1
PLOS ONE	3
Process Safety and Environmental Protection	1
Renewable Energy	11

RSC Advances	6
Separation and Purification Technology	2
Science Advances	1
Science of the Total Environment	8
Scientific Reports	4
Smart Science	1
Soil Ecology Letters	1
Trends in Biotechnology	1
Waste and Biomass Valorization	2
Water Research	14
Water Science and Engineering	1

PROFESSIONAL MEMBERSHIPS

2011–present	Member	American Society of Civil Engineers (ASCE)
2011–present	Member	Association of Environmental Engineering and Science Professors (AEESP)
2004–present	Member	American Society for Microbiology (ASM)
2016–2018	Communication Officer	The Overseas Chinese Society for Microbiology (Sino-Micro)
2012–2014	Member	BioEnergy Society of Singapore (BESS)
2011–2016	Member	International Water Association (IWA)
2008–2010	Member	American Water Works Association (AWWA)
2007–2010	Board Director / Membership Chair	Chinese American Environmental Professionals Association (CAEPA)
2007–2010	Member	Water Environment Federation (WEF)