

CURRICULUM VITAE

Zhi (George) ZHOU, Ph.D., P.E.

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EDUCATION

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

LICENSURE AND CERTIFICATION

2010–present **Professional Engineer (Civil Engineer)**, California, U.S.
2010 **Certificate**, Accreditation Board for Engineering and Technology workshop on "Developing Sustainable Program Assessment Processes", MD-Professional Services, ABET, Inc.
2003–2006 **Certified Livestock Manager**, Illinois Department of Agriculture, IL, U.S.

PROFESSIONAL EXPERIENCE

06/2014–present **Assistant Professor**, School of Civil Engineering and Division of Environmental and Ecological Engineering, Purdue University, IN, U.S.
04/2017–present **Affiliated Faculty**, Center for the Environment, Purdue University, IN, U.S.
02/2017–present **Affiliated Faculty**, Purdue Policy Research Institute, Purdue University, IN, U.S.
06/2014–present **Affiliated Faculty**, Interdisciplinary Graduate Program of Ecological Sciences & Engineering, Purdue University, IN, U.S.
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, U.S.
2007–2010 **Consulting Engineer**, Carollo Engineers, Inc., Walnut Creek, CA, U.S.
Project Manager, "Monitoring Microconstituents in an Advanced Wastewater Treatment Facility and Modeling Discharge of Reclaimed Water to Surface Canals for Indirect Potable Use", U.S. WaterReuse Research Foundation, \$ 714,000;
Project Manager, "Low-cost Technologies for Small-scale Water Reclamation Plants", U.S. WaterReuse Research Foundation, \$190,000;
Project Engineer, "Trace Organic Compounds Removal during Wastewater Treatment - Categorizing Wastewater Treatment Processes by their Efficacy in Reduction of a Suite of Indicator TOxC", U.S. Water Environment Research Foundation, \$ 557,800;
Project Engineers for evaluating the performance of more than 30 models of UV disinfection systems from five major UV equipment manufacturers, \$ 980,000

- 2002–2007 **Research Assistant**, University of Illinois at Urbana-Champaign, IL, U.S.
 "Macrolide-lincosamide-streptogramin B Resistance in Soil amended with Swine Wastes", U.S. National Pork Board;
 "Antibiotic Resistance in Swine Waste and Swine Waste Treatment Systems", U.S. Department of Agriculture
- 10/2004–11/2004 **Visiting Student**, The French National Centre for Scientific Research, National Chemical Engineering Science Laboratory (Centre National de Recherche Scientifique, Groupe ENSIC, Laboratoire de Sciences de Génie Chimique), Nancy, France
- 2000–2002 **Research Assistant**, Nanjing University, China
 "Inter-Kingdom Protoplast Fusion of Genetically Engineered Microorganisms and Optimal Control for Wastewater Treatment", National Science Foundation of China;
 "Innovative Technology in Treatment of Organic Industrial Wastewater with Modified Clay", National Science Foundation of China
- 1998–1999 **Undergraduate Research Assistant**, Nanjing University, China
 "Monitoring the Toxicity and Mutagenesis of Pesticides with *Tetrahymena pyriformis*"
- 1998 **Intern**, National Environmental Protection Bureau, Nanjing, China
 "Adsorption of Nitrobenzene Wastewater by Polymer Resin"

RESEARCH GRANTS

(total amount of \$2,706,483 with my share of **\$1,756,428** (**\$1,745,758** as PIs and **\$10,670** as Co-PIs))

- 2017 **PI**, "Effects of viruses on the development of harmful algal blooms", United States Geological Survey Annual Base Grants (104b), **\$15,000**
- 2016 **PI**, "Development of electrochemical membranes to reduce biofouling for water purification", Purdue EEE Support for Exploratory Research, **\$10,000**
- 2015–2016 **PI**, "Microbial source tracking for Gunpowder Creek Watershed in Kentucky", Sanitation District No. 1 of Northern Kentucky and Boone County Conservation District, **\$10,000**
- 2015–2016 **PI**, "Artificial photosynthesis for efficient biofuel production with bioelectrocatalyzed reduction of CO₂", Purdue Research Foundation, **\$22,000**
- 2015 **Co-PI**, "Recovery of nutrients from animal and human wastes", Bio Town AG Inc., PI: Dr. Ernest Blatchley, **\$0**
- 2013–2016 **PI**, "Rapid and accurate quantification of antibiotic resistant bacteria and quantitative risk assessment for water security", Singapore Environment & Water Industry, Co-PIs: Dr. Li-Yang HSU, NUS; Dr. Barry KELLY, NUS; Dr. Xu LI, University of Nebraska-Lincoln, **\$965,952**
- 2013–2015 **PI**, "Development of electrochemical carbon nanotube filters to remove off-flavor compounds", Singapore Environment & Water Industry, Co-PIs: Dr. Chad VECITIS, Harvard University, Dr. Lanry YUNG, NUS, **\$368,228**
- 2013–2015 **Co-PI**, "Guidelines for engineered storage for direct potable reuse systems", U.S. WaterReuse Research Foundation, PI: Mr. Andrew Salvesson, Carollo Engineers, **\$8,590**
- 2012–2013 **Co-PI**, "Interaction of microbial consortia in anaerobic MBR treating high organic strength waste", General Electric, PI: Dr. How Yong NG, NUS, **\$2,080**
- 2011–2014 **PI**, "A new type of photosynthesis through electrode-driven anaerobic respiration", Singapore Ministry of Education, **\$139,280**

- 2010–2013 **PI**, "Photoelectrochemical water splitting for the production of value-added chemicals", Singapore, Peking and Oxford Research Enterprise, Co-PI: Dr. Siaw Kiang CHOU, NUS, **\$72,000**
- 2010–2013 **PI**, "Evaluation of MLS_B antimicrobial resistance at environmental samples", Singapore Ministry of Education, **\$143,298**
- 2010–2013 **Co-PI**, "Development of microbial fuel cell sensor for detection of used water toxicity", Singapore Public Utilities Board, PI: Dr. How Yong NG, NUS, **\$0**

HONORS AND AWARDS

- 2012 Excellence Award of the ESE Poster Symposium for Yuanyan DU (senior student), NUS
- 2012 Merit Award of the ESE Poster Symposium for Steve Chenghui LIN (senior student), NUS
- 2011 President's Graduate Fellowship for Xinzhu YI (Ph.D. student), NUS
- 2010 Certificate of Appreciation, Chinese American Environmental Professionals Association, Oakland, CA, U.S.
- 2007 Graduate College Conference Travel Award, University of Illinois at Urbana-Champaign
- 2007 Racheff Graduate Student Travel Fund Award, University of Illinois at Urbana-Champaign
- 2006 Racheff Graduate Student Travel Fund Award, University of Illinois at Urbana-Champaign
- 2005 Natural Science Progress Award (second class), Nanjing, China
- 2005 Racheff Graduate Student Travel Fund Award, University of Illinois at Urbana-Champaign
- 2004 American Society for Microbiology Travel Grant
- 2002 University Fellowship, University of Illinois at Urbana-Champaign
- 2002 John W. Page Fellowship, University of Illinois at Urbana-Champaign
- 2001 Excellence Fellowship, Nanjing University

JOURNAL PUBLICATIONS

1. 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.
2. Goyal, N., **Z. Zhou** and I. A. Karimi (2016). "Metabolic processes of *Methanococcus maripaludis* and potential applications." *Microbial Cell Factories* 15(1): 107.
3. Jame, S. A. and **Z. Zhou** (2016). "Electrochemical carbon nanotube filters for water and wastewater treatment." *Nanotechnology Reviews* 5(1): 41-50.
4. 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.
5. 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.
6. 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.

7. 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.
8. 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.
9. 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.
10. 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): 9071-9083.
11. 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.
12. 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): 1043-1054.
13. 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.
14. 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.
15. Nagarajan, S., S. K. Chou, S. Cao, C. Wu and **Z. Zhou** (2013). "An updated comprehensive techno-economic analysis of algae biodiesel." *Bioresource Technology* 145: 150-156.
16. 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): 10206-10213.
17. 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: 631-638.
18. **Zhou, Z.** (2012). "Enhancing engineering students' learning in an environmental microbiology course." *Journal of Microbiology & Biology Education* 13(2): 191-192.
19. **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.
20. Finney, B., R. Gearheart, A. Salveson, **Z. Zhou**, M. Burke and J. C. Ly (2009). "Water and wastewater treatment technologies appropriate (WAWTTAR), a planning tool for selecting wastewater treatment technologies." *Water Environment & Technology*(10): 51-54.
21. 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.
22. **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.
23. **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.

24. 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.
25. 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 ^{32}P in water column, *Microcystis aeruginosa* and sediments." *Chinese Journal of Applied Ecology* 14(11): 1967-1970.
26. 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.
27. 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.
28. 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.
29. Yang, L., L. Jiang, **Z. Zhou**, Y. Chen and X. Wang (2002). "The sedimentation capabilities of hexadecyltrimethylammonium-modified montmorillonites." *Chemosphere* 48(4): 461-466.
30. **Zhou, Z.** and L. Yang (2001). "Screening of phenol degrading yeast and its characteristics." *Journal of Nanjing University* 37(6): 724-729.

CONFERENCE PROCEEDINGS

1. 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.
2. Sun, T., N.-A. Nguyen, Z. Sun and **Z. Zhou** (2017). "Acetate production through microbial electrosynthesis as an intermediate for biofuels production " *2017 Undergraduate Research and Poster Symposium*, West Lafayette, IN.
3. 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.
4. Sol, P. and **Z. Zhou** (2017). "Performance and mechanisms of electrochemical carbon nanotube filtration to remove antibiotic resistant bacteria and antibiotic resistance genes." *2017 Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
5. Sol, P., 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.
6. 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.
7. 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.
8. 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.
9. He, H. and **Z. Zhou** (2017). "Efficient wastewater treatment in a carbon nanotube-based electro-Fenton system." *2017 Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
10. Chen, R., M. Wang, Z. Sun, P. Sol and **Z. Zhou** (2017). "Electrochemical treatment to remove chemical contaminants in landfill leachate." *2017 Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.

11. 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.
12. Padhiary, M., Z. Sun and **Z. Zhou** (2017). "Microbial electrosynthesis of biofuels using mixture culture in activated sludge." *2017 Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
13. 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.
14. Wu, S., Z. Sun and **Z. Zhou** (2017). "Improvement of lipid extraction in algal biodiesel production with sonication." *2017 Undergraduate Research and Poster Symposium*, West Lafayette, IN.
15. 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." *2017 Association of Environmental Engineering and Science Professors Research and Education Conference*, Ann Arbor, MI.
16. Wang, M., M. Scott, M. Jacobs and **Z. Zhou** (2016). "Microbial source tracking of fecal bacteria in surface waters in Gunpowder Creek watershed in Kentucky." *American Society for Microbiology 116th General Meeting*, Boston, MA.
17. 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.
18. Nguyen, N.-A., Z. Sun and **Z. Zhou** (2016). "Efficient biofuel production through microbial electrosynthesis." *2016 Undergraduate Research and Poster Symposium*, West Lafayette, IN.
19. 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 of the Materials Research Society of Singapore*, Singapore.
20. 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." *2015 AEESP Research and Education Conference*, New Haven, CT.
21. 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.
22. 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.
23. 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." *2015 AEESP Research and Education Conference*, New Haven, CT.
24. 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." *2015 AEESP Research and Education Conference*, New Haven, CT.
25. 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.
26. 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.

27. 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.
28. 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.
29. 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.
30. 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.
31. Liu, Y. and **Z. Zhou** (2013). "Development of a highly efficient photocatalytic fuel cell for simultaneous wastewater treatment and energy recovery of emerging contaminants." *2013 International Water Association Water Reuse Conference*, Windhoek, Namibia.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. Yi, X., W. Cheng, Q. Wei and **Z. Zhou** (2013). "Evaluation of antimicrobial resistance in urban environments in Singapore." *2013 Microbial Ecology and Water Engineering Conference*, Ann Arbor, MI.
39. 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.
40. 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.
41. 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 2012*, Singapore.
42. 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.
43. 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.

44. 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.
45. Yi, X., C. Lin, J. L. E. Ong and **Z. Zhou** (2012). "Environmental risk assessment of antimicrobial resistance in an urban environment." *21st KAIST-KU-NTU-NUS Symposium*, Kuala Lumpur, Malaysia.
46. 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 2012*, Singapore.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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 2011*, Singapore.
53. 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 2011*, Singapore.
54. **Zhou, Z.** and X. W. Wong (2011). "Low impact development techniques for sustainable environmental and water resources management." *4th ASCE-EWRI International Perspective on Water Resources & the Environment*, Singapore.
55. **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.
56. 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.
57. **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.
58. **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.
59. **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 Water Reuse Symposium*, Seattle, WA.

60. **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.
61. **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.
62. **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.
63. **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.
64. **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.
65. **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.
66. 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." *2009 Florida Water Resources Conference*, Palm Beach County, FL.
67. **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.
68. 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.
69. 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.
70. **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 WateReuse Symposium*, Dallas, TX.
71. **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)." *2008 California Section Annual Conference*, Newport Beach, CA.
72. 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." *2008 Florida Water Resources Conference*, Tampa, FL.
73. 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.
74. **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.

75. **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.
76. **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.
77. 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.
78. **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.
79. **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.
80. **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.
81. **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.
82. **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.
83. 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.
84. **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.

CONSULTING REPORTS

1. Salveson, A., **Z. Zhou**, B. Finney, M. Burke, and J.C. Ly (2010). "Low-cost technologies for small-scale water reclamation plants." *WateReuse Research Foundation*. Alexandria, VA, USA.
2. 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." *WateReuse Research Foundation*. Alexandria, VA, USA.

INVITED PRESENTATIONS

- 11/2016 "Water", Guest lecture in ENGR 103 (Global Engineering Practice & Design), Purdue University, IN, USA
- 10/2016 "Antibiotic Resistance in urban and Natural Environments", Department of Biological Sciences, Purdue University, Calumet, IN, USA

- 06/2016 "Antibiotic Resistance in Urban and Natural Environments", International Symposium of One Health: the Role of Microbe, Boston, MA, USA
- 03/2016 "Antibiotic Resistance", Environmental Science Club, Purdue University, West Lafayette, IN, USA
- 09/2014 "Antimicrobials and Antimicrobial Resistance in Natural and Urban Environments" in Purdue Water Community Brown Bag Lunch Seminar Series, West Lafayette, IN, USA
- 08/2013 "Renewable Methane Production from Carbon Dioxide and Water in a Microbial Electrosynthesis Cell" in technical session "Sustainable Energy from Biomass and Waste Water", 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 CO₂ to Biofuel without Biomass Processing", NUS Industry Liaison Office–Siemens Joint Seminar, Singapore
- 11/2011 "Microbial Conversion of CO₂ to Biofuel", Singapore Economic Development Board – NUS Meeting on CO₂ 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 SUPERVISED

(a total of 81 persons)

Visiting Professors Hosted (2)

- 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

Postdoc Research Fellows (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 (2)

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. Students as Main Supervisors (5)

2016–present Ejike Akobundu KEN-OPURUM, "Fate and Transport of Antibiotic Resistant Bacteria in Subsurface Environments", Purdue University
 2014–present Zhe SUN, "Enhanced Biofuel Production from Carbon Dioxide", Purdue University
 2014–present Mian WANG, "Development and Persistence of Antibiotic Resistance", Purdue University
 2012–2016 Mrutyunjay PADHIARY, "Electrosynthesis of Biofuels from Carbon Dioxide", NUS
 2010–2015 Xinzhu YI, "Evaluation of Antibiotic Resistance at Urban Environments", NUS

Ph.D. Students as Co-Supervisors (3)

2011–2016 Chen WU, "Molecular Microbiology for Improved Biofuel Production", NUS (as main supervisor till May 2014 and co-supervisor after June 2014)
 2011–2016 Nishu GOYAL, "Biochemical Conversion of Carbon Dioxide", NUS (main supervisor is Professor Iftekhhar A. KARIMI)
 2012–2014 Shivashkar SINGH, "Microfluidic Devices for Biofilm Studies", Oxford University (main supervisor is Dr. Nicholas HANKINS)

Ph.D. Student Incomplete (1)

2014–2016 Sadia JAME, "Development of Electrochemical Filters for Water Purification", Purdue University (as main supervisor until she transferred in 01/2016)

Master Students (6)

2016–present Ran CHEN, "Antibiotic Resistance in Environmental Samples", Purdue University
 2015–present Sol PARK, "DNA Removal in Carbon Nano-tube Filters", Purdue University
 2013–2014 Qing XIA, "Phenol Removal with Electrochemical Carbon Nanotube Filters Coupled with *in situ* Generated H₂O₂", 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

Graduate Independent Study Module Student (2)

2016–present Wei LIU, "Electrochemical Water Treatment", Purdue University
 2015–present Huanqi HE, "Electron-Fenton Treatment of Chemical Contaminants", Purdue University

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

- 2017 Benjamin M Stryker, "Electrochemical Removal of Metals using Carbon Nanotube Filters", Purdue University
- 2015 Nathaniel Kallmyer, "Resource Recovery and Reuse from Human Urine ", Purdue University (Co-supervised with Dr. Ernest Blatchley)

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 *in situ* Quantification of *Streptomyces*", NUS
- 2011–2012 Yuanyan DU, "Studies on 2-methylisoborneol and Geosmin Producing *Actinomycetes* in Water Catchment Area", NUS
- 2011–2012 Xieheng KONG, "Antimicrobial Resistance of *Streptomyces* 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 *Streptomyces* from Soil Samples", NUS
- 2010–2011 Agnes CHRISTINA, "Quantification of *Streptomyces* using Fluorescence *in situ* Hybridization", NUS

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

- 2016 Joshua HULGAN, "Efficient Production of Biofuels from Carbon Dioxide"
- 2016 Peter ZHU, "Efficient Production of Biofuels from Carbon Dioxide"

Undergraduate Research Assistants (6)

- 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
- 2011–2012 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 Streptomyces from Manure and Soil Samples", University of Illinois at Urbana-Champaign
- 2005–2006 Joanna KEPLER, "Streptomyces and the Production of Macrolide-lincosamide-streptogramin B Antimicrobials in Organic Swine Farm Manure", University of Illinois at Urbana-Champaign

Final Year Industry Project Students (5)

- 2013 Jess Junhan LOONG, "Testing of Linezolid Resistance with FISH probes", Republic Polytechnic, Singapore
- 2013 Xin Hui SOH, "Occurrence of Antibiotic Resistance Genes in Environmental Samples", Republic Polytechnic, Singapore
- 2013 Yan LI, "Microbial regrowth after Exposure to Erythromycin", Republic Polytechnic, Singapore
- 2013 Chang GAO, "Testing of PKS Primers with Conventional PCR", Republic Polytechnic, Singapore
- 2013 Abizer IMRAN, "Optimization of Hybridization Conditions for PKS Primers", Republic Polytechnic, Singapore

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

- 2012–2013 Xun Long KEW, "Development of a Grey Water Filtration System", NUS
- 2012–2013 Jason Hong Yang TAN, "Development of a Grey Water Filtration System", NUS
- 2012–2013 Miao HE, "Development of a Grey Water Filtration System", NUS
- 2012–2013 Minghui TEO, "Development of a Grey Water Filtration System", NUS

Undergraduate Research Opportunities Program (UROP) Student (1)

- 2011–2012 Shenyang CAO, "Cost Analysis of Algae-based Biofuel", NUS

Industrial Attachment Program Students (4)

- 2013 Elizabeth Ying Ping WONG, NUS
- 2013 Erik CHRISTIANTO, NUS
- 2013 Hoang Linh BUI, NUS
- 2013 Khittisun CHAEMDIKAWIWAT, NUS

Undergraduate Independent Study Module Students (15)

- 2017–present Benjamin M Stryker, "Electrochemical Water Treatment", Purdue University
- 2017–present Songhao WU, "Efficient Biofuel Production", Purdue University
- 2016–present Tianlong SUN, "Microbial Electrosynthesis for Biofuel Production", Purdue University
- 2016–2017 Jingfei DING, "Antibiotic Resistant Bacteria in the Environment", Purdue University
- 2015–2017 Luna NGUYEN, "Efficient Production of Biofuels from Carbon Dioxide", Purdue University
- 2015–2016 Mingyu ZHANG, "Development of CNT Electrochemical Filter for Water Purification", Purdue University
- 2015–2016 Leslie YOO, "Enhanced Biofuel Production from Carbon Dioxide", Purdue University

2014–2015	Emily TRAXLER, "Development and Persistence of Antibiotic Resistance", Purdue University
2014–2015	Neil PERRY, "Enhanced Biofuel Production from Carbon Dioxide", Purdue University
2014–2015	Haitian LIU, "Enhanced Biofuel Production from Carbon Dioxide", Purdue University
2014–2015	Ryan N LOVELESS, "Development of Graphene Electrochemical Filter for Water Purification", Purdue University
2014–2015	Yvonne SHI, "Development of Graphene Electrochemical Filter for Water Purification", Purdue University
2014–2015	Heyi WANG, "Development of Graphene Electrochemical Filter for Water Purification", Purdue University
2014–2015	Maithilee DAS, "Enhanced Biofuel Production from Carbon Dioxide", Purdue University
2011–2012	Zhe ZHANG, "Bioremediation in Marine Oil Spill", NUS

THESIS EXAMINATION AND DEFENSE COMMITTEE

(a total of 66 committees)

Ph.D. Dissertation Examination Committee / Oral Defense Committee (16)

2017	Raymond RedCorn
2014	Akm Khorshed ALAM
2014	Chang DING
2014	Yujia SHEN
2013	Nandar KYAW
2013	Siok Ling LOW
2013	Bijing CAI
2013	Yue MA
2012	Shruti PAVAGADHI
2012	Venketeswari PARIDA
2012	Thepsuparungsikul NICHANAN
2012	Xiaoying ZHU
2012	Caian FAN
2012	Betha RAGHU
2011	Thi Thai Yen DOAN
2011	Jing YU
2010	Rajesh Kumar BALASUBRAMANIAN

Ph.D. Oral Qualifying Examination Committee (27)

2014	Yang YU
2013	Fengxue XING
2013	Yu YAN
2013	Mohammad SHERAFATMAND
2013	Jothinathan LAKSHMI
2013	Behdad CHEHRENEGAR
2013	Wei Hong FAN
2013	Genevieve Gabrielle Rose V. VERGARA
2013	Yun WANG

2013 Mahsa FOOLAD
2012 Siyan ZHAO
2012 Amalraj Appavoo INITHA
2012 Krishnan PADMAJA
2012 Chenxi SUN
2012 Jinzhi LIM
2012 Xueqing SHI
2012 Kai Yin Melvin TAN
2011 Nan LI
2011 Yuen Sean LAM
2011 Pei XIONG
2011 Yu LING
2011 Yujia SHEN
2011 Vasanth NATARAJAN
2010 Akm Khorshed ALAM
2010 Yue MA
2010 Chang DING
2010 Bijing CAI

Ph.D. Comprehensive Qualifying Examination Committee (15)

2013 Yang YU
2013 Shamik CHOWDHURY
2013 Le WANG
2013 Tze Ying WONG
2012 Dandan ZHAO
2012 Fengxue XING
2012 Daphane TAN
2012 Genevieve Gabrielle Rose V. VERGARA
2012 Yu YAN
2011 Yun WANG
2011 Siyan ZHAO
2011 Yong Bin PHUA
2011 Govindaswamy BALAJI
2010 Yujia SHEN
2010 Pei XIONG

M.S. Thesis Examination Committee (8)

2014 Ling DING
2014 Zihan WANG
2012 Marc-Antoine METAIS
2011 Zi TAN
2011 Junyou ZHANG
2011 Pak Hang Martin FUNG
2011 Xue FENG
2010 Sowpati JAYAKER

TEACHING EXPERIENCE

- 2016–present **Co-Lecturer**, "Senior Design" (undergraduate), Purdue University
- 2016–present **Co-Lecturer**, "Direct Potabilization" (graduate), Purdue University
- 2015–present **Lecturer**, "Environmental Biotechnology" (graduate), Purdue University
- 2015–present **Lecturer**, "Wastewater Treatment Processes" (undergraduate), Purdue University
- 2014 **Lecturer**, "Water and Wastewater Treatment" (undergraduate), Purdue University
- 2012–2014 **Lecturer**, "Topics in Environmental Biotechnology" (graduate), NUS
- 2011–2014 **Lecturer**, "Wastewater Microbiology" (undergraduate), NUS
- 2010–2014 **Co-lecturer**, "Environmental Engineering Principles" (graduate), NUS
- 2010–2014 **Coordinator and Resource Person** on Biological Processes, "Design Project" (undergraduate), NUS
- 2010–2012 **Lecturer**, "Environmental Microbiological Principles" (undergraduate), NUS
- 2007 **Teaching Assistant**, "Engineering Risk and Uncertainty" (undergraduate), University of Illinois at Urbana-Champaign
- 2006 **Teaching Assistant**, "Environmental Engineering" (undergraduate), University of Illinois at Urbana-Champaign
- 2006 **Guest Lecturer**, "Biological Principles of Environmental Engineering Processes" (graduate), University of Illinois at Urbana-Champaign
- 2005 **Co-lecturer**, "Fluorescence *in situ* hybridization workshop", University of Illinois at Urbana-Champaign

SERVICE TO PROFESSION

- 2016–present **Project Advisory Board Member** for project "Mitigating the Risk of Antibiotic Resistance at Critical Control Points in the Beef Cattle Manure Management Systems", United States Department of Agriculture
- 2012–present **Academic Editor**, PLOS ONE, San Francisco, CA, U.S.
- 2016 **Graduate Research Fellowship Panelist**, United States National Science Foundation
- 2016 **Proposal Reviewer**, Indiana Water Resources Research 104B Grant
- 2016, 2015 **Proposal Reviewer**, Research Grants Council of Hong Kong
- 2015 **Proposal Review Panelist**, United States National Science Foundation
- 2014 **Reviewer**, AEESP Student Services Committee Academic Job Application Review
- 2013 **Proposal Reviewer**, New Eurasia Foundation, Ministry of Education and Science of the Russian Federation
- 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** to develop Guidelines for Treated Greywater Quality, Singapore Public Utilities Board
- 2008–2012 **Project Advisory Committee Member** for project "Microbial Ecology of Drinking Water Distribution Systems", U.S. Water Research Foundation (formerly AwwaRF)
- 2013 **Proposal Reviewer**, Singapore National Research Foundation
- 2012, 2014 **Judge**, Singapore Science & Engineering Fair, organized by 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 and Membership Chair**, Chinese American Environmental Professionals Association, Oakland, California, U.S.

DEPARTMENTAL/UNIVERSITY SERVICE

2016–present **Space/Facilities/Safety Committee Member**, Division of Environmental and Ecological Engineering, Purdue University

2017 **Internal Review Committee Member**, School of Civil Engineering, Purdue University

2015–2017 **Judge** for Office of Interdisciplinary Graduate Programs (OIGP) Spring Reception, Purdue University Graduate School, Purdue University

2015–2016 **Academics Committee Member**, Division of Environmental and Ecological Engineering, Purdue University

2014–2016 **Executive Committee Member**, Purdue Water Community, Purdue University

2016 **Graduate School Fellowship Reviewer**, Purdue University

2016 **Reviewer** for candidates from Environmental and Ecological Engineering, Future Faculty Member Workshop, Purdue University

2015 **Reviewer** for candidates for Civil Engineering, Future Faculty Member Workshop, Purdue University

2014–2015 **Engagement Committee Member**, Division of Environmental and Ecological Engineering, Purdue University

2014–2015 **Seminar Committee Member**, Division of Environmental and Ecological Engineering, Purdue University

2014–2015 **Environmental and Ecological Engineering Faculty Search Committee Member**, Purdue Water Committee, Purdue University

2013–2014 **Student Affairs/Alumni Committee Member**, Department of Civil and Environmental Engineering, NUS

2013–2014 **Board of Examiners Committee Member**, Department of Civil and Environmental Engineering, NUS

2011–2014 **Curriculum Committee Member**, Department of Civil and Environmental Engineering, NUS

2012–2013 **Engineering Accreditation Board Committee Member** for B. Eng. (Environmental) Accreditation, Department of Civil and Environmental Engineering, NUS

2012 **Chairperson** on 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** for M. Eng. Student Admission Committee, Department of Civil and Environmental Engineering, NUS

2011, 2013 **Interviewer** for Ph.D. Student Admission Committee, Department of Civil and Environmental Engineering, NUS

2011, 2012 **Interviewer** for Student Exchange Program Selection Committee, Department of Civil and Environmental Engineering, NUS

2011 **Moderator and Track Lead** for Energy Efficiency in Industrial Processes in NUS–Industry Energy Efficiency Workshop, Energy Studies Institute of NUS

2010 **Judge**, Environmental Science and Engineering Poster Symposium, NUS

2004–2006 **Volunteer**, Graduate student recruiting committee, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign

2003–2006 **President**, Gamma Alpha Graduate Society, Urbana, IL

JOURNAL REVIEWER

(a total of 59 times for 27 journals)

1. Applied Energy (2)
2. Applied Microbiology and Biotechnology (2)
3. Biochemical Engineering Journal (2)
4. Biotechnology for Biofuels (2)
5. Chemical Engineering Journal (1)
6. Critical Reviews in Environmental Science and Technology (1)
7. Desalination and Water Treatment (1)
8. Environmental Engineering Science (4)
9. Environment International (1)
10. Environmental Science & Technology (11)
11. Environmental Science & Technology Letters (1)
12. Environmental Science: Nano (1)
13. Environmental Science: Processes and Impacts (2)
14. Environmental Technology (2)
15. International Biodeterioration & Biodegradation (3)
16. International Journal of Chemical Engineering (1)
17. International Journal of Environmental Science and Technology (3)
18. Journal of Materials Chemistry A (1)
19. Journal of Medical Microbiology (1)
20. Microbial Cell Factories (1)
21. PLOS ONE (1)
22. Renewable Energy (1)
23. RSC Advances (4)
24. Science of the Total Environment (4)
25. Scientific Reports (2)
26. Waste and Biomass Valorization (1)
27. Water Research (3)

PROFESSIONAL MEMBERSHIPS

- 2016–present Communication Officer and News Letter Editor: The Overseas Chinese Society for Microbiology
- 2011–present Member, American Society of Civil Engineers
- 2011–present Member, International Water Association
- 2011–present Member, Association of Environmental Engineering and Science Professors
- 2004–present Member, American Society for Microbiology
- 2000–present Lifetime Member, Chinese Society of Microbiology
- 2012–2014 Member, BioEnergy Society of Singapore
- 2008–2010 Member, American Water Works Association
- 2007–2010 Member, Water Environment Federation