

TAO YAN

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University of Hawaii at Manoa
Dept. of Civil, Environmental and Construction
Engineering



EDUCATION AND TRAINING

- Ph.D. Civil Engineering, University of Minnesota (Twin Cities, Minnesota), 2004.
Dissertation: *Enhancement of Microbial Reductive Dechlorination of Polychlorinated Biphenyls (PCBs) in Sediment.*
- M.S. Environmental Engineering, Tsinghua University (Beijing, China), 2000.
Thesis: *Numerical Modeling of Groundwater Flow and Hydraulic Containment of Petroleum Contaminants in Zibo City.*
- B.S. Environmental Engineering, Wuhan University of Technology (Wuhan, China), 1997.

WORK EXPERIENCE

- 08/21-present Director (Aug. 2024 – present), Associate Director (Dec. 2022- Aug. 2024), Water Resources Research Center, University of Hawaii at Manoa, Honolulu, HI.
- 08/07 – present Assistant Professor (2007-2012), Associate Professor (2012-2017), and Professor (2017-present), Department of Civil and Environmental Engineering, University of Hawaii at Manoa, Honolulu, HI.
- 11/04 – 07/07 Postdoctoral Associate, BioTechnology Institute, University of Minnesota, Twin Cities, MN
- 09/00 – 10/04 Research Assistant, Department of Civil Engineering, University of Minnesota, Twin Cities, MN.
- 09/97 – 06/00 Research Assistant, Department of Environmental Science and Engineering, Tsinghua University, Beijing, China

RESEARCH INTERETS

The primary goal of my research is to strengthen and expand the roles that the discipline of environmental engineering plays in human health protection (i.e. environmental health engineering). I take a multi-disciplinary research approach that integrates diverse research tools and approaches in environmental microbiology, molecular microbial ecology, and genomics and metagenomics. I have made pioneering and foundational contributions to the emerging field of wastewater-based epidemiology that has become mainstream since COVID-19. Other major research interests include water reuse, and wastewater microbiome as bioresources.

PEER-REVIEWED JOURNAL ARTICLES

(*indicates corresponding author, underlined are students or postdoctoral fellows advised by **Tao Yan**,)

Under Review or In Preparation

76. Bo Li and **Tao Yan*** (2026). Determining the Role of Primer Dimers in COVID-19 qPCR False Positive Detection. **In Preparation.**

75. Min Ki Jeon and **Tao Yan*** (2026). Developing a Quantitative Approach for Tracking Influenza Viral Diversity in Wastewater based on Spiked Internal Standards. **In Preparation.**

74. Min Ki Jeon, Doris Yoong Wen Di, Bo Li, and **Tao Yan*** (2026). Development of a nested RT-PCR-PCR Assay followed by next generation sequencing to Detect SARS-CoV-2 Spike Protein Mutations in Wastewater. **In Preparation.**

73. Brian Allen, Min Ki Jeon, Sunny Jiang, **Tao Yan***. (2026) Somatic Coliphage as a Promising Fecal Viral Surrogate for Wastewater Treatment Performance Evaluation in Tropical Coastal Region. *Environmental Science: Water Research & Technology*. **Under Review.**

72. Shukla, Rishabh; Wang, Zhiyue*; Jeon, Min Ki; and **Tao Yan**. (2026) Iron as electron reservoir in two-zone biofilters for robust nitrogen removal. *ACS ES&T Engineering*. **Revision.**

71. Yangyang Zou, Min Ki Jeon, and **Tao Yan*** (2026). Characterizing JP-5 Biodegradation Potential in Hawaii Soil Microbiome: Phylogeny, Growth Kinetics, and Biosurfactant Production. *Bioremediation Journal*. (bioRxiv pre-print: <https://doi.org/10.1101/2025.11.21.689844>). **Under Review.**

70. Leila Khatib, Katherine Brenner, Brian Allen, Mel Johnson, Abeer Sohrab, Larissa Montas, Tamunobelesa Solomon, Rakshya Baral, Daniel Nwaubani, **Tao Yan**, Heather N Bischel, Ramesh Goel, Helena Solo-Gabriele, Samendra Sherchan, Diego Rosso, Katrine Liv Whiteson, and Sunny Jiang* (2026). Cross-Regional and Seasonal Investigation of Somatic and F-Specific Coliphage Log-Removal Credits in Six U.S. Wastewater Treatment Plants. *ACS ES&T Water*, **Accepted.**

69. Min Ki Jeon, Doris Yoong Wen Di, Maria Steadmon, Stella Maris Remigio, Pamela Obrien, Daniel Strange, Dayna Ornellas, Edward Desmond, and **Tao Yan*** (2026). Feasibility of Tampon-based Passive Wastewater Surveillance in a Low-Population Nursing Home. *Environmental Science & Technology*, **Under Review.**

Published

68. Yangyang Zou, Min Ki Jeon, Xin Wang, Mandy-Tanita Brinkmann, Kexin Rong, Xiaolong Geng, and **Tao Yan*** (2026). Assessing the Impact of the Lahaina Maui Wildfire on Chemical and Microbiological Quality of Coastal Beach Water. *Environmental Monitoring and Assessment* (2026) 198:72 (<https://doi.org/10.1007/s10661-025-14887-6>).

67. Edward Lopez, Xiaolong Geng*, Amir Haroon Hong Zhang, Yangyang Zou, **Tao Yan**, Henrietta Dulai, and Christopher Shuler (2025). Seasonal coastal groundwater dynamics in Lahaina beaches, Hawai'i: Implications for contaminant transport in a post-wildfire setting. *Marine Pollution Bulletin*. **220**: 118424. (<https://doi.org/10.1016/j.marpolbul.2025.118424>)
66. Zhu C, Wu L, Ning D, Tian R, Gao S, Zhang B, Zhao J, Zhang Y, Xiao N, Wang Y, Brown MR, *Global Water Microbiome Consortium* (Tu Q, Acevedo D, Agullo-Barcelo M, de Araujo JC, de Abreu Mac Conell EF, Boehnke K, Bond P, Bott CB, Bovio-Winkler P, Brewster RK, Bux F, Cabezas A, Cabrol L, Chen S, Etchebehere C, Ford A, Gómez JS, Griffin JS, Gu AZ, Habagil M, Hale L, Harmon M, Horn H, Hu Z, Johnson DR, Marcantini DG, Keucken A, Kumari S, Leal CD, Lee ZMP, Li Y, Li Z, Li M, Liu Y, Mendonça-Hagler LC, de Menezes FGR, Meyers AJ, Palmer A, Parameswaran P, Reginatto V, de los Reyes FL, Rossetti S, Sidhu J, Smith K, de Sousa OV, Stephens K, Sun C, Tooker NB, Van Nostrand JD, Wakelin S, Wang B, Weaver JE, West S, Woo S-G, Wu J-H, Wu L, Xi C, **Yan T**, Yang M, Young M, Zhang C, Zhang Q, Zhang W, Zheng W, Zhou H, Zhuang W), Ju F, Wells GF, Guo J, He Z, Nielsen PH, Wang A, Zhang Y, Chen T, He Q, Criddle CS, Wagner M, Tiedje JM, Curtis TP, Wen X, Yang Y, Alvarez-Cohen L, Stahl DA, Alvarez PJJ, Rittmann BE, & Zhou J. (2025) Global diversity and distribution of antibiotic resistance genes in human wastewater treatment systems. *Nature Communications* **16**, 4006. (<https://doi.org/10.1038/s41467-025-59019-3>)
65. Min Ki Jeon, and **Tao Yan*** (2025). Fluorescence Damping as Primary Interference Mechanism of Humic Acids on qPCR Quantification of SARS-CoV-2 in Wastewater Surveillance. *Journal of Hazardous Materials*. **492**, 138283.
64. Doris Yoong Wen Di, Prakit Saingam, Bo Li, Min Ki Jeon, and **Tao Yan *** (2024). Enriched Abundance of Diverse *Vibrio parahaemolyticus* in the Dead-End of the Ala Wai Canal: A Tropical Artificial Urban Estuary. *ACS ES&T Water*, **4(9)**, 4091-4098 (<https://doi.org/10.1021/acsestwater.4c00368>).
63. Mandy-Tanita Brinkmann, Catherine Kexin Rong, Yuefeng Xie, and **Tao Yan *** (2024) Formation Potential of Disinfection Byproducts during Chlorination of Petroleum Hydrocarbon-Contaminated Drinking Water, *Chemosphere*. **357**, 142057, (DOI: 10.1016/j.chemosphere.2024.142057).
- This article was the first to report the potential of forming disinfection byproducts when jet fuel is mixed with free chlorine. This was widely reported by the local news media (e.g. KITV, HPR, etc)
62. Bo Li, Xingnan Li, Prakit Saingam, and **Tao Yan*** (2023), Understanding Microbiological Quality of Drinking Water at the Point of Consumption with Citizen Science. *ACS ES&T Water*, **3(8)**, 2691–2699 (DOI: 10.1021/acsestwater.3c00184).
61. Doris Yoong Wen Di, Bo Li, Min Ki Jeon, and **Tao Yan*** (2023), Comparing Solid-Based Concentration Methods for Rapid and Efficient Recovery of SARS-CoV-2 for Wastewater Surveillance, *Journal of Virological Methods*, **320**, 114790 (DOI: 10.1016/j.jviromet.2023.114790).
60. Min Ki Jeon, Bo Li, Doris Yoong Wen Di, and **Tao Yan *** (2023). Prewhitening and normalization help detect a strong cross-correlation between daily wastewater SARS-CoV-2 RNA abundance and COVID-19 cases in a community. *Environmental Science: Water Research and Technology*, **9**, 1403-1412 (DOI: 10.1039/D2EW00951J).

59. Doris Yoong Wen Di, Guang Xiang Cao, Chuanqing Zhong, and Tao Yan * (2023). Diversity of *bla_{POM}* in Carbapenem-resistant Opportunistic Pathogenic *Pseudomonas otitidis* in Municipal Wastewater. *Journal of Water and Health*, **21(5)**, 560 (DOI: 10.2166/wh.2023.255).
58. Bo Li, Min Ki Jeon, Xu Li, and Tao Yan*, (2023) Differential impacts of salinity on antibiotic resistance genes during cattle manure stockpiling are linked to mobility potentials revealed by metagenomic sequencing. *Journal of Hazardous Materials*. **445**, 130590 (DOI: 10.1016/j.jhazmat.2022.130590).
57. Sunny C. Jiang, Heather N. Bischel, Ramesh Goel, Diego Rosso, Samendra Sherchan, Katrine L. Whiteson, **Tao Yan**, Helena M. Solo-Gabriele * (2022) Integrating Virus Monitoring Strategies for Safe Non-potable Water Reuse, *Water*, **14**, 1187 (<https://doi.org/10.3390/w14081187>).
56. Bo Li, Xu Li, Bing Wang, and Tao Yan*, (2022) A Metagenomic Approach for Characterizing Antibiotic Resistance Genes in Specific Bacterial Populations: Demonstration with *Escherichia coli* in Cattle Manure. *Applied and Environmental Microbiology*, 2022 **88(7)** e0255421. doi: 10.1128/aem.02554-21.
55. Anndee Huff, Christopher Gordon, Heather Hartmann, Stephen E. Bartell, Emmanuel Ansah, **Tao Yan**, Bo Li, Nfamara K Dampha, Paul L. Edmiston, Paige J. Novak, Heiko L. Schoenfuss*. (2022) Contaminants of Emerging Concern in the Lower Volta River, Ghana, West Africa: The Agriculture, Aquaculture, and Urban Development Nexus. *Environmental Toxicology and Chemistry*, **41(2)**, 369-381 (DOI: 10.1002/etc.5279).
54. Prakit Saingam, Doris Y. W. Di, and Tao Yan*, (2021) Diversity and Health Risk Potentials of *Enterococcus* Population in Tropical Coastal Water Impacted by Hurricane Lane. *Journal of Water and Health*, **19(6)**, 990 (DOI: 10.2166/wh.2021.209).
53. Lavane Kim*, Tao Yan, Russel Yost, and Guy Porter (2021). Sustainable and Low-Cost Soil Filter Column for Removing Pathogens from Swine Wastewater: The Role of Endogenous Soil Protozoa. *Water* **13**, 2472. (DOI: 10.3390/w13182472)
52. Bo Li, Xu Li, and Tao Yan* (2021). A Quantitative Metagenomic Sequencing Approach for High Throughput Gene Quantification and Demonstration with Environmental Antibiotic Resistance Genes. *Applied and Environmental Microbiology*, **87(16)**, e0087121. (DOI: 10.1128/AEM.00871-21).
51. Bo Li, Doris Yoong Wen Di, Prakrit Saingam, Min Ki Jeon, and Tao Yan* (2021) Fine-Scale Temporal Dynamics of SARS-CoV-2 RNA Abundance in Wastewater during A COVID-19 Lockdown. *Water Research*. **197**, e117093.
50. Bo Li, and Tao Yan* (2021). Next Generation Sequencing Reveals Limitation of qPCR Methods in Quantifying Emerging Antibiotic Resistance Genes (ARGs) in the Environment. *Applied Microbiology and Biotechnology*, **105(7)**, 2925-2936 (DOI: 10.1007/s00253-021-11202-4)
49. Prakit Saingam, Bo Li, Shihwu Sung, and Tao Yan* (2021). Immediate Impact of Hurricane Lane on Microbiological Coastal Water Quality in Hilo Bay, Hawaii. *Environmental Science & Technology*. **55(5)** 2960-2967 (<https://dx.doi.org/10.1021/acs.est.0c07082>).

48. Lavane Kim*, **Tao Yan**, and Van Toan Pham (2021). Inactivation of *Escherichia coli* Enhanced by Anaerobic Microbial Iron Reduction. *Environmental Science and Pollution Research*, 28(45): 63614–63622. (DOI: 10.1007/s11356-020-11209-w)
47. Doan, Viet Sang; Saingam, Prakrit; Yan, Tao; Shin, Sangwoo * (2020). A Trace Amount of Surfactants Enables Diffusiophoretic Swimming of Bacteria, *ACS Nano*, **14(10)**, 14219–14227 (DOI: 10.1021/acsnano.0c07502).
46. Prakit Saingam, Bo Li, and Tao Yan* (2020). Fecal indicator bacteria, direct pathogen detection, and microbial community analysis provide different microbiological water quality assessment of a tropical urban marine estuary. *Water Research*, **185**, e116280.
45. Bo Li, Zeng Chen, Fan Zhang, Yongqing Liu, and **Tao Yan*** (2020). Metagenomic Characterization Reveals Limited Abundance, Diversity, and Mobility Potential of Antibiotic Resistant Genes in Pristine Tibetan Plateau Soil. *FEMS Microbiology Ecology*, **96(10)** fiae172, (DOI: 10.1093/femsec/fiae172).
44. Sabrina Diemert, and Tao Yan* (2020). Municipal wastewater surveillance reveals high community prevalence of rarely reported *Salmonella* Derby strain. *Applied and Environmental Microbiology*, **86(17)** e00814-20 (DOI: 10.1128/AEM.00814-20)
43. Linwei Wu, Daning Liang [Qian Zhang and **Tao Yan** as a member of the Global Water Microbiome Consortium], and Jizhong Zhou* (2019). Global Diversity and Biogeography of Bacterial Communities in Wastewater Treatment Plants. *Nature Microbiology*. **4**,1183-1195 (DOI: 10.1038/s41564-019-0426-5).
42. Sabrina Diemert, and **Tao Yan*** (2019). Clinically Unreported Salmonellosis Outbreak Detected via Comparative Genomic Analysis of Municipal Wastewater *Salmonella* Isolates. *Applied and Environmental Microbiology*. **85 (10)** e00139-19. (DOI: 10.1128/AEM.00139-19).
41. Bo Li, Prakrit Saingam, Satoshi Ishii, and **Tao Yan *** (2019). Multiplex PCR coupled with Direct Amplicon Sequencing for Simultaneous Detection of Numerous Waterborne Pathogens. *Applied Microbiology and Biotechnology*. 103 (2), 953-961. (DOI: 10.1007/s00253-018-9498-z).
40. Prakit Saingam, Bo Li, and **Tao Yan*** (2018). Use of Amplicon Sequencing to Improve Sensitivity of PCR-Based Detection of Microbial Pathogens in Environmental Samples. *Journal of Microbiological Methods*, 149, 73-79. (DOI: 10.1016/j.mimet.2018.05.005).
39. **Tao Yan***, Pamela O'Brien, Jessica M. Shelton, Andrew C. Whelen, and Eulyn Pagaling (2018). Municipal Wastewater as a Microbial Surveillance Platform for Enteric Diseases: A Case Study for *Salmonella* and Salmonellosis. *Environmental Science & Technology*. 52 (8), 4869-4877. (DOI: 10.1021/acs.est.8b00163).
- This article was selected as a research highlight for its May 2018 issue by *Nature Sustainability* (<https://www.nature.com/articles/s41893-018-0074-4>).
38. Liang Chen, Hang Lang, Fei Liu*, Song Jin, and **Tao Yan**. (2017) Presence of Antibiotics in Shallow Groundwater in the Northern and Southwestern Regions of China. *Groundwater*. 56 (3), 451-457. (DOI: 10.1111/gwat.12596).
37. Jeonghwan Jang, Hor-Gil Hur, Michael J. Sadowsky, Muruleedhara N. Byappanahalli, **Tao Yan**, and Satoshi Ishii* (2017). Environmental *Escherichia coli*: ecology and public health implications—a review. *Journal of Applied Microbiology*. 123 (3). 570-581. (DOI: 10.1111/jam.13468).

36. Chuanqing Zhong, Matthew Nelson, Guangxiang Cao, Michael J. Sadowsky, and **Tao Yan*** (2017). Complete Genome Sequence of the Triclosan and Multidrug Resistant *Pseudomonas aeruginosa* strain B10W Isolated from Municipal Wastewater. *Genome Announcements*, 5 (3) e01489-1416. (DOI: 10.1128/genomeA.01489-16).
35. Hanna R Temme, Kipp Sande, **Tao Yan**, Paige J Novak* (2017). Rapid Enrichment of *Dehalococcoides*-like Bacteria by Partial Hydrophobic Separation. *Applied and Environmental Microbiology*, 83 (6) e02946-16. (DOI:10.1128/AEM.02946-16).
34. Eulyn Pagaling, Joao Gatica, Kun Yang, Eddie Cytryn, and **Tao Yan*** (2016). Phylogenetic Diversity of Ceftriaxone Resistance and the Presence of Extended Spectrum Beta-lactamase Genes in the Culturable Soil Resistome. *Journal of Global Antimicrobial Resistance*. 6, 128-135. (DOI: 10.1016/j.jgar.2016.05.002)
33. Xia He and **Tao Yan*** (2016). Impact of Microbial Activities and Hydraulic Retention Time on the Production and Profile of Long Chain Fatty Acids in Grease Interceptors: A Laboratory Study. *Environmental Science: Water Research and Technology*. 2, 474-482. (DOI: 10.1039/C6EW00013D).
32. Michael Cooney*, Ken Lewis, Keven Harris, Qian Zhang, and **Tao Yan*** (2016). Start Up Performance of Biochar Packed Bed Anaerobic Digesters. *Journal of Water Process Engineering*. 9, e7-e13. (DOI: 10.1016/j.jwpe.2014.12.004).
31. Joao Gatica#, Kun Yang#, Eulyn Pagaling, Edouard Jurkevitch, **Tao Yan**, and Eddie Cytryn* (2015). Resistance of undisturbed soil microbiomes to ceftriaxone indicates extended spectrum beta-lactamase activity. *Frontiers of Microbiology*. 6:1233. (DOI: 10.3389/fmicb.2015.01233)
30. Qian Zhang, Xia He and **Tao Yan*** (2015). Differential Decay of Wastewater Bacteria and Change of Microbial Communities in Beach Sand and Seawater Microcosms. *Environmental Science & Technology*. 49 (14), 8531–8540. (DOI: 10.1021/acs.est.5b01879)
- This article was reported widely by various public media outlets, including CBS news (<http://www.cbsnews.com/news/worst-place-for-bacteria-beach-sand-water/>), ABC news (<http://abcnews.go.com/Health/contaminated-sand-make-beachgoers-sick-study/story?id=32494886>), Daily Mail (<http://www.dailymail.co.uk/sciencetech/article-3163494/Beach-goers-beware-sand-sitting-covered-POO-Faecal-matter-common-shore-sea-study-reveals.html>), and Science Daily (<http://www.sciencedaily.com/releases/2015/07/150715122522.htm>).
29. Xia He, Qian Zhang, Michael J. Cooney and **Tao Yan*** (2015). Biodegradation of Fat, Oil and Grease (FOG) Deposits Under Various Redox Conditions Relevant to Sewer Environment. *Applied Microbiology and Biotechnology*. 99 (14), 6059-6068. (DOI: 10.1007/s00253-015-6457-9)
28. Xinru Zhang, Qian Zhang, **Tao Yan**, Zeyi Jiang, Xinxin Zhang, Yi Y. Zuo* (2015). Quantitatively Predicting Bacterial Adhesion Using Surface Free Energy Determined with a Spectrophotometric Method. *Environmental Science & Technology*. 49 (10), 6164-6171. (DOI: 10.1021/es5050425).

27. Qian Zhang, Xia He, and Tao Yan* (2015). Impact of Indigenous Microbiota of Subtidal Sand on Fecal Indicator Bacteria Decay in Beach Systems: A Microcosm Study. *Environmental Science: Water Research & Technology*. 1, 306-315.
26. Xinru Zhang, Qian Zhang, Tao Yan, Zeyi Jiang, Xinxin Zhang, and Yi Y. Zuo* (2014). Surface Free Energy Activated High-Throughput Cell Sorting. *Analytical Chemistry*. 86 (18), 9350-9355.
25. Eulyn Pagaling, Kun Yang, and Tao Yan* (2014). Pyrosequencing reveals correlations between extremely acidophilic bacterial communities with hydrogen sulphide concentrations, pH and inert polymer coatings at concrete sewer crown surfaces. *Journal of Applied Microbiology*. 117 (1), 50-64.
24. Mark J. Krzmarzick, Hanna R. Miller, Tao Yan, and Paige J. Novak* (2014). Novel Firmicutes group implicated in the dechlorination of two chlorinated xanthenes, analogues of natural organochlorines. *Applied and Environmental Microbiology*. 80 (3), 1210-1218.
23. Ryan J. Lopez, Scott Higgins, Eulyn Pagaling, Tao Yan, and Michael J. Cooney*. (2014). High Rate Anaerobic Digestion of Wastewater Separated From Grease Trap Waste. *Renewable Energy*. 62, 234-242.
22. Lavane Kim, Eulyn Pagaling, Yi Y. Zuo, and Tao Yan* (2014). Impact of Substratum Surface on Microbial Community Structure and Treatment Performance in Biological Aerated Filters. *Applied and Environmental Microbiology*. 80 (1), 177-183.
21. Kun Yang, Eulyn Pagaling, and Tao Yan*. (2014). Estimating the Prevalence of Potential Enteropathogenic *Escherichia coli* and Intimin Gene Diversity in a Human Community by Monitoring Sanitary Sewage. *Applied and Environmental Microbiology*. 80 (1) 119-127.
20. Scott R. Higgins, Ryan J. Lopez, Eulyn Pagaling, Tao Yan, Michael J. Cooney*. (2013). Towards a hybrid anaerobic digester-microbial fuel cell integrated energy recovery system: An overview of the development of an electrogenic biofilm. *Enzyme and Microbial Technology*. 52, 344-351.
19. Henglin Cui, Kun Yang, Eulyn Pagaling, and Tao Yan* (2013). Spatial and Temporal Variations of Enterococci Abundance and Its Relationship with Microbial Community in Hawai'i Beach Sand and Water. *Applied and Environmental Microbiology*. 79(12), 3601-3609.
18. Qian Zhang, and Tao Yan* (2012). Correlation of Intracellular Trehalose Concentration with Desiccation Resistance of Soil *Escherichia coli* Populations. *Applied and Environmental Microbiology*. 78 (20), 7407-7413.
17. Muruleedhara N. Byappanahalli, Tao Yan, Matthew J. Hamilton, Satoshi Ishii, Roger S. Fujioka, Richard L. Whitman, and Michael J. Sadowsky* (2012). The Population Structure of *Escherichia coli* Isolated from Subtropical and Temperate Soils. *Science of the Total Environment*. 417-418, 273-279
16. Jessica Shelton, Lavane Kim, Jiasong Fang, Chittaranjan Ray, and Tao Yan* (2011). Assessing the Severity of Rainfall Derived Infiltration and Inflow and Sewer Deterioration Based on the Flux Stability of Sewage Markers. *Environmental Science & Technology*. 45 (20), 8683-8690
15. Dustin K. Goto and Tao Yan* (2011). Effects of Land Uses on Fecal Indicator Bacteria in the Water and Soil of a Tropical Watershed. *Microbes and Environments*. 26 (3), 254-260

14. Wendi Zheng and **Tao Yan*** (2011). Impact of different land uses on polycyclic aromatic hydrocarbon contamination in coastal stream sediments. *Chemosphere*. 84, 376–382
13. Dustin K. Goto and **Tao Yan*** (2011). Genotypic Diversity of *Escherichia coli* in the Water and Soil of Tropical Watersheds in Hawaii. *Applied and Environmental Microbiology*. 77 (12) 3988-3997
12. Wendi Zheng, Joseph Lichwa, and **Tao Yan*** (2011). Impact of different land uses on polycyclic aromatic hydrocarbon contamination in coastal stream sediments. *Chemosphere* 84 (4), 376-382
11. Fan Feng, Dustin Goto, and **Tao Yan***. (2010) Effects of autochthonous microbial community on the die-off of fecal indicators in tropical beach sand. *FEMS Microbiology Ecology*. 74 (1), 214-225
10. Satoshi Ishii, **Tao Yan**, Hung Vu, Dennis L. Hansen, Randall E. Hicks, and Michael J. Sadowsky*. (2010) Factors Controlling the Long-term Survival and Growth of Naturalized *Escherichia coli* Populations in Temperate Field Soil. *Microbes and Environments*. 25 (1), 8-14
9. Ji-Young Ryu, Jiyoung Seo, Tatsuya Unno, Joong-Hoon Ahn, **Tao Yan**, Michael J. Sadowsky, and Hor-Gil Hur* (2010). Isoeugenol monooxygenase and its putative regulatory gene are located in the eugenol metabolic gene cluster in *Pseudomonas nitroreducens* Jin1. *Archives of Microbiology*. 192 (3), 201-209.
8. **Tao Yan** and M. J. Sadowsky*. (2007) Determining sources of fecal bacteria in waterways. *Environmental Monitoring and Assessment*. 129 (1~3), 97-106
7. **Tao Yan**, M. J. Hamilton, and M. J. Sadowsky*. (2007) High-throughput and quantitative procedure for determining sources of *Escherichia coli* in waterways using host-specific DNA marker genes. *Applied and Environmental Microbiology*. 73 (3), 890-896.
6. **Tao Yan**, T. M. LaPara, and P. J. Novak*. (2006) The Impact of Sediment Characteristics on PCB-Dechlorinating Cultures: Implications for Bioaugmentation. *Bioremediation Journal*. 10 (4), 143-151.
5. Ishii, S., **Tao Yan**, D. A. Shively, M. N. Byappanahalli, R. L. Whitman, and M. J. Sadowsky*. (2006) *Cladophora* (Chlorophyta) spp. harbor pathogenic bacteria in nearshore water of Lake Michigan. *Applied and Environmental Microbiology*. 72 (7), 4545-4553.
4. Hamilton, M. J., **Tao Yan**, and M. J. Sadowsky*. (2006) Development of Goose- and Duck-Specific DNA Markers to Determine Sources of *Escherichia coli* in Waterways. *Applied and Environmental Microbiology*. 72 (6), 4012-4019.
3. **Tao Yan.**, T. M. LaPara, and P. J. Novak*. (2006) The effect of varying levels of sodium bicarbonate on polychlorinated biphenyl dechlorination in Hudson River sediment cultures. *Environmental Microbiology*. 8 (7), 1288-1298.
2. **Tao Yan**, T. M. LaPara, and P. J. Novak*. (2006) The reductive dechlorination of 2,3,4,5-tetrachlorobiphenyl in three different sediment cultures: evidence for the involvement of phylogenetically similar *Dehalococcoides*-like bacterial populations. *FEMS Microbiology Ecology*. 55 (2), 248-261.

1. Rysavy, J. P., **Tao Yan**, and P. J. Novak*. (2005) Enhancement of anaerobic polychlorinated biphenyl dechlorinators from sediment with iron as hydrogen source. *Water Research*, 39 (4), 569-578.

BOOKS AND BOOK CHAPTERS

(*indicates corresponding author, underlined are students or postdoctoral fellows advised by Tao Yan,)

1. Bo Li and Tao Yan*, (2023) Metagenomic Next Generation Sequencing for Studying Antibiotic Resistance Genes in the Environment, *Advances in Applied Microbiology*, Published online first (<https://doi.org/10.1016/bs.aambs.2023.05.001>)

SELECTED PRESENTATIONS

(*indicates corresponding author, underlined are the presenter)

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- Min Ki Jeon, Doris Yoong Wen Di, Maria Steadmon, Stella Maris Remigio, Pamela Obrien, Daniel Strange, Dayna Ornellas, Edward Desmond, and **Tao Yan** * Tampon-Based Passive Wastewater Surveillance Enabled Monitoring in a Low-Population Nursing Home Microbes in Wastewater Symposium, Long Beach, California, Jan. 16, 2026.
- Brian Allen, and Tao Yan*, “Coliphage as Viral Surrogate for Treated Wastewater Quality”, 2025 UCOWR/NIWR Annual Water Resources Conference, June 2-5, 2025. Minneapolis MN (Poster Presentation).
- Tao Yan, and Xiaolong (Leo) Geng, “Lessons from the Lahaina fire and related NSF-sponsored research: Understanding the immediate and long-term impacts of Lahaina wildfire on chemical and microbiological quality of nearshore beach and coastal waters”, Invited lecture, California Institute of Technology, ESE200 Seminars, April 1, 2025.
- Xin Wang, Yangyang Zou, Min Ki Jeon, Xiaolong Geng, and Tao Yan *, “*Distribution and Temporal Evolution of PAHs in Coastal Waters Following the 2023 Maui Wildfires*”, Feb. 4-6, 2025. Pacific Water Conference. Honolulu, HI (Poster Presentation).
- Brian Allen, and Tao Yan *, “*Exploring Coliphage as an Indicator of Water Quality for Wastewater Reuse in Tropical Coastal Municipal Wastewater Treatment, Hawai‘i*”, Feb. 4-6, 2025. Pacific Water Conference. Honolulu, HI (Poster Presentation. First Place Award of \$300).
- Yangyang Zou, and Tao Yan *, “*Understand Microbial-Mediated Petroleum Hydrocarbons (JP-5) Degradation in Hawaiian Soil Environments*”, Feb. 4-6, 2025. Pacific Water Conference. Honolulu, HI (Poster Presentation).
- Carl Min Ki Jeon, Doris, Di, and Tao Yan *, “*Long-Term Surveillance of SARS-CoV-2 Spike Protein-Receptor Binding Domain Mutations at a Residential Sewershed in Honolulu, Hawai‘i*”, Feb. 4-6, 2025. Pacific Water Conference. Honolulu, HI (Poster Presentation).

- Erik Hoffnagle, and Tao Yan *, “*Detecting Inflow and Infiltration into Sewer Systems Using a Compact Floating Sensor Array*”, Feb. 4-6, 2025. Pacific Water Conference. Honolulu, HI (Poster Presentation).
- Han Wang, Brian Allen, and Tao Yan *, “*Understanding and Mitigating Hexavalent Chromium Risks in Maui Wildfire-Impacted Agricultural and Forest Soils*”, Feb. 4-6, 2025. Pacific Water Conference. Honolulu, HI (Poster Presentation).
- Mandy-Tanita Brinkmann, Yangyang Zou, Catherine Kexin Rong, Min Ki Jeon, and Tao Yan *, PWC. *Monitoring of PAHs and Heavy Metals in Nearby Beach Systems Following the Lahaina Fire*, Feb. 20-22, 2024. Pacific Water Conference, Honolulu, HI (Poster Presentation). (Mandy won HWEA poster award, and AWWA 3rd Place poster prize).
- Brian Allen, and Tao Yan*, “*Exploring Coliphage as an Indicator of Water Quality: Implications to Public Health and Wastewater Reuse*” Feb. 20-22, 2024. Pacific Water Conference, Honolulu, HI (Poster Presentation) (Brian won HWEA poster award, and AWWA 1st Place poster prize).
- Carl Min Ki Jeon, and Tao Yan*. “*Persistent Detection of SARS-CoV-2 RNA in a Small Sewershed in Honolulu County, Hawaii Following the Removal of Mask Mandate*”, Feb. 20-22, 2024. Pacific Water Conference, Honolulu, HI (Poster Presentation). (Carl won HWEA poster award, and AWWA 3rd Place poster prize).
- Brian Allen, and Tao Yan* “*Understanding the Escherichia coli Host Resistance Mechanisms to F+ Coliphages in Wastewater*”, Symposium on Microbes in Wastewater: Molecular Approaches in Pathogen & AMR Surveillance. Jan. 18-19, 2024. Poster presentation. Laguna Beach, CA.
- Min Ki Jeon, and Tao Yan* “*Consistent Detection of SARS-CoV-2 RNA from a Small Sewershed in Honolulu County, Hawaii, After Termination of Mask Mandate*”, Symposium on Microbes in Wastewater: Molecular Approaches in Pathogen & AMR Surveillance. Jan. 18-19, 2024. Poster presentation. Laguna Beach, CA.
- Tao Yan “*Understanding Antimicrobial Resistance in Wastewater Through Cultivation and Whole Genome Sequencing*”, Symposium on Microbes in Wastewater: Molecular Approaches in Pathogen & AMR Surveillance. Jan. 18-19, 2024. Invited oral presentation. Laguna Beach, CA.
- Mandy-Tanita Brinkmann, Bo Li, Tao Yan*, “*Metagenomic Characterization of Microbial Risks in Coastal Water after Hurricane Lane*”, April 22, 2023, American Society for Microbiology Hawaii Section Spring meeting, poster presentation.
- Brian Allen, Tao Yan*, “*Virus Detection in Treated Wastewater for Water Reuse*”, April 22, 2023, American Society for Microbiology Hawaii Section Spring meeting, poster presentation. Honolulu, Hawaii.
- Doris Di, Tao Yan*, “*Nested RT-PCR-PCR assay detecting SARS-CoV-2 spike protein mutations in wastewater*”, April 22, 2023, American Society for Microbiology Hawaii Section Spring meeting, oral presentation, Honolulu, Hawaii.
- Carl Min Ki Jeon, and Tao Yan*. “*Prewhitening and Normalization Help Detect a Strong Cross-Correlation Between Daily Wastewater SARS-CoV-2 RNA Abundance and COVID-19 Cases in a Community*”, April 22, 2023, American Society for Microbiology Hawaii

- Section Spring meeting, oral presentation (2nd place oral presentation award). Honolulu, Hawaii.
- Carl Min Ki Jeon, and Tao Yan*. "Prewhitening and normalization help detect a strong cross-correlation between daily wastewater SARS-CoV-2 RNA abundance and COVID-19 cases in a community", Feb. 7-9, 2023. Pacific Water Conference, Honolulu, HI (Poster Presentation).
 - Brian Allen, and Tao Yan*. "Virus Detection in Treated Wastewater for Water Reuse", Feb. 7-9, 2023. Pacific Water Conference, Honolulu, HI (Poster Presentation).
 - Mandy Tanita Brinkmann, Catherine Kexin Rong, and Tao Yan*. "Formation of Disinfection Byproducts (DBPs) via Chlorination of Fuel Contaminated Groundwater", Feb. 7-9, 2023. Pacific Water Conference, Honolulu, HI (Poster Presentation). (Ms. Brinkmann won the AWWA 1st Place Student Poster Award, and HWEA 1st Place Student Poster Award)
 - Tao Yan*. "Tracking COVID-19 Transmission Dynamics and Variant Development via Wastewater Surveillance", AWWA/HWEA/ASCE July joint meeting, July 21, 2022, Honolulu HI.
 - Carl Min Ki Jeon, and Tao Yan*. "Internal Standard-enabled Duplex RT-qPCR to Account for Variations in SARS-CoV-2 Quantification", June 27-30, 2022, AEESP Research and Education Conference, Washington University at St. Louis, St. Louis, Missouri.
 - Tao Yan*, Doris Di, Bo Li, & Min Ki Jeon, "Temporal Dynamics of SARS-CoV-2 Variants in Wastewater by Targeted S Gene Amplicon Sequencing", June 27-30, 2022, AEESP Research and Education Conference, Washington University at St. Louis, St. Louis, Missouri.
 - Tao Yan*, "Metagenomic Characterization of Bacterial Antibiotic Resistance Genes in the Environment", June 19-24, 2022. Gordon Research Conference, Microbiology of Built Environment. Waterville Valley, NH. (Invited talk)
 - Tao Yan*, "Biodegradation of Petroleum Hydrocarbons Controls Their Fate and Transport in Subsurface Environments", Feb. 18, 2022. Seminar at Water Resources Research Center, University of Hawaii at Manoa.
 - Connor Kagamida, Carl Min Ki Jeon, and Tao Yan*. "A Preliminary Study of *Staphylococcus aureus* in the beach sand and water at Pokai Bay", Feb. 1-3, 2022. Pacific Water Conference, <https://pheedloop.com/pwc2022/virtual> (Student Poster Presentation). (Mr. Kagamida won the AWWA 1st Place Student Poster Award. HWEA 2nd Place Student Poster Award).
 - Carl Min Ki Jeon, and Tao Yan*. "Daily Dynamics of SARS-CoV-2 RNA in Wastewater from Two Wastewater Treatment Plants in Honolulu during a COVID-19 Lockdown", Feb. 1-3, 2022. Pacific Water Conference (virtual). (Student Poster Presentation). (Mr. Jeon won the 1st place of Student Poster Presentation Award given by HWEA (Hawaii Water Environment Association) and 2nd place of Student Poster Presentation Award given by the Hawaii section of AWWA (American Water Works Association).
 - Tao Yan*, and Prakit Saingam, "Microbial Risks from *Vibrio parahaemolyticus* in a Tropical Urban Estuary in Honolulu, Hawaii" April 12-15, 2021. International Tropical Island Water Conference. Honolulu, Hawaii. (Oral presentation)
 - Prakit Saingam, and Tao Yan*. "Direct Detection of Pathogen for Recreational Water Quality Monitoring in Hawaii", Feb. 3-4, 2021. Pacific Water Conference (virtual conference) (Oral Presentation).

- Tao Yan*. “Wastewater Surveillance of Microbial Infectious Diseases --Lessons Learned from Salmonellosis and COVID-19”. Department of Civil and Environmental Engineering, UC Irvine, Jan. 15, 2021.
- Tao Yan*, “Besides Poop: Wastewater for Unbiased and Rapid Community Health Information”. Tropical Medicine, Medical Microbiology and Pharmacology, JABSOM, University of Hawaii. Nov. 4, 2020.
- Tao Yan*, “Assessing COVID-19 Transmission In Communities via Wastewater Monitoring” December 8, 2020. Hawaii Water Environment Association. (Webinar presentation)
- Tao Yan*. “Can Wastewater Surveillance Achieve Rapid and Comprehensive Detection Of Foodborne Disease Outbreaks?”, Jan. 28-30, 2020. American Society for Microbiology Biothreats Conference, Arlington, Virginia (poster Presentation).
- Sabrina Diemert, and Tao Yan*. “Determining diversity of community salmonellosis cases using municipal wastewater surveillance”, Aug. 25-29, 2019. American Chemical Society Conference, San Diego, CA (Oral Presentation).
- Bo Li, and Tao Yan*. “Effect of Salinity on the fate Antibiotic Resistant Genes (ARGs) in Cattle Manure Stockpiling”, Aug. 25-29, 2019. American Chemical Society Conference, San Diego, CA (Poster Presentation).
- Bo Li, and Tao Yan*. “Integration of Antimicrobial Resistant Bacterial Isolate Libraries and Metagenomics Sequencing for Quantitative Antimicrobial Resistance (AMR) Risk Assessment in Cattle Manure”, Aug. 25-29, 2019. American Chemical Society Conference, San Diego, CA (Poster Presentation).
- Prakit Saingam, and Tao Yan*. “Phylogenetic Diversity, Virulence Genes, and Antibiotic Resistance of *Vibrio parahaemolyticus* in a Tropical Urban Marine Estuary in Hawaii”, Aug. 25-29, 2019. American Chemical Society Conference, San Diego, CA (Poster Presentation).
- Tao Yan*, Xingnan Li, and Bo Li, “Drinking Water And Citizen Science: Between Perceived Concerns and Actual Microbiological Quality”, ACS 2019 Fall Meeting, San Diego, Aug. 25-29, 2019
- Tao Yan*, and Sabrina Diemert, “Using Municipal Wastewater to Monitor Community Microbial Infectious Diseases: Antimicrobial Resistance in *Salmonella*” ACS 2019 Fall Meeting, San Diego, Aug. 25-29, 2019.
- Tao Yan*. “Monitor Antibiotic Resistance in Community through Its Wastewater: A WGS Analysis of ARG in Wastewater *Salmonella* Isolates”, 5th International Symposium on The Environmental Dimension Of Antibiotic Resistance (EDAR). June 9–14, 2019 • Hong Kong, China
- Sabrina Diemert, and Tao Yan*. “Genomic Analyses of Municipal Wastewater *Salmonella* Suggest a Clinically Missed Outbreak in Honolulu”, Feb. 20-21, 2019. Pacific Water Conference, Honolulu, HI (Poster Presentation).
- Prakit Saingam, and Tao Yan*. “Distribution of Gastroenteritis Bacteria in Tropical Urban Estuary of Ala Wai and Correlation to Fecal Indicators”, Feb. 20-21, 2019. Pacific Water Conference, Honolulu, HI (Poster Presentation).

- Bo Li, and Tao Yan*. “Effect of Salinity on Antibiotic Resistant Genes (ARGs) in Cattle Manure during Stockpiling”, Feb. 20-21, 2019. Pacific Water Conference, Honolulu, HI (Poster Presentation).
- Tao Yan*, Pamela O’Brien, Jessica M. Shelton, Andrew C. Whelen, and Eulyn Pagaling. “Municipal Wastewater as a Microbial Surveillance Platform for Enteric Diseases: A Case Study for *Salmonella* and Salmonellosis”. ASM Microbe 2018, June 7-11, Atlanta, Georgia.
- Bo Li, and Tao Yan*. “Multiplex PCR coupled with Next Generation Sequencing for High Throughput Detection of Bacterial Pathogens”, Feb. 7-8, 2018. Pacific Water Conference, Feb. 7-8, 2018. Honolulu, HI (Poster Presentation).
- Prakit Saingam, and Tao Yan*. “Effects of sewage environment on the decay of fecal indicator bacteria (FIB)”, Feb. 7-8, 2018. Pacific Water Conference, Feb. 7-8, 2018. Honolulu, HI (Poster Presentation).
- Tao Yan*. “Expand the Role of Municipal Wastewater Systems in Public Health Protection”. Pacific Water Conference, Feb. 7-8, 2018. Honolulu, HI (Oral Presentation).
- Tao Yan*, Jessica Shelton, Eulyn Pagaling, Pamela O’Brien, and Christian Whelen, “Use Municipal Wastewater for Real-Time Detection of Infectious Diseases: A Case Study on *Salmonella* and Salmonellosis”. 2017 AEESP Research and Education Conference, June 20-22, 2017. Ann Arbor, MI. (Oral Presentation)
- Tao Yan*, Guangxiang Cao, and Chuanqing Zhong, “Colistin Resistance in *Enterobacter cloacae* strain DD9 from Municipal Wastewater and Its Horizontal Transfer Potential”. ASM Conference on Innovative Microbial Ecology for Mitigation of Antibiotic Resistance and Bacterial Diseases. March 22-25, 2017, Crystal City, VA. (Poster Presentation)
- Tao Yan*, Impact of stormwater runoff on Hawaii beach water quality and potential abatement strategies. Pacific Water Conference, Honolulu, HI. Feb 13 – 15, 2017. (Oral Presentation)
- Diemert, S. and Yan, T. “Investigation of ferrous iron-induced antibacterial mechanisms for potential low-cost water reclamation”. Pacific Water Conference, Honolulu, HI. Feb 13 – 15, 2017. (Poster Presentation)
- Lee, C. and Yan, T. “Impact of Urban Stormwater Runoffs on Oahu Beach Water Bacteriological Quality”. Pacific Water Conference, Honolulu, HI. Feb 13 – 15, 2017. (Poster Presentation)
- Saingam, P. and Yan, T. “The comparison of modified TTB-XLD-PCR method and EPA 1682 for *Salmonella* enumeration of biosolid samples”. Pacific Water Conference, Honolulu, HI. Feb 13 – 15, 2017. (Poster Presentation)
- Tao Yan, Assessing antimicrobial resistance burden in communities using municipal wastewater. The 2nd International Conference on Environmental Pollution and Health. June 13-15, 2016, Guangzhou, China (Oral presentation).
- Jessica Shelton, Eulyn Pagaling, Pamela O’Brien, Christian Whelen, and Tao Yan*. Use Municipal Wastewater to Assess Community Salmonellosis Disease Burden. The 2016 ASM Biodefense and Emerging Diseases Research Meeting, February 8-10, Arlington, VA. (Poster presentation)

- Tao Yan, Water Biological Quality in A Tropical Coastal Watershed: Land Uses and Microbial Ecology of Fecal Indicator Bacteria, International Workshop of Hydro-Biogeochemical Processes: Mechanisms, Coupling, and Impact, Oct. 27-31, 2015, Wuhan, China (Invited talk).
- Lavane Kim, and Tao Yan*. Enhancing Soil Microbial Iron Reduction for Efficient Bacterial Pathogen Removal in Reclaimed Water. 10th IWA International Conference on Water Reclamation and Reuse, July 5-9, 2015, Harbin, China. (Oral presentation)
- Qian Zhang, Xia He, and Tao Yan*. Apply Next-Gen Sequencing (NGS) in Studying Fecal Pollution of Coastal Water Environment: A Microcosm Study. The 2015 AEESP conference at Yale University. June 13-16, 2015. New Haven, Connecticut.
- Xia He and Tao Yan*. Do grease interceptors have negative effects on sanitary sewer overflow? 2015 Pacific Water Conference. February 3-5, 2015. Honolulu, Hawaii. (This poster received the 2nd place award in student research competition)
- Qian Zhang, Xia He, and Tao Yan*. Differential Decay of Wastewater Bacteria in Beach Sand and Seawater Microcosms and Corresponding Microbial Community Dynamics. 2015 Pacific Water Conference. February 3-5, 2015. Honolulu, Hawaii.
- Lavane Kim and Tao Yan*. Impact of Reducing Environments and Activities of Iron Reducers on Decay of *E. coli*. 2015 Pacific Water Conference. February 3-5, 2015. Honolulu, Hawaii.
- Tao Yan*, Eulyn Pagaling, and Kun Yang. Extremely Acidophilic Bacterial Communities at Severely Corroded Concrete Sewer Crown Surface. The 15th International Symposium on Microbial Ecology. 24-29 August, 2014. Seoul, South Korea. (Poster presentation)
- Tao Yan, Impact of Indigenous Sand Microbiota on Decay of Fecal Indicator Bacteria and pathogens. May 5-7, Oral presentation. 2014 Water Microbiology Conference. University of North Carolina.
- Xia He, Qian Zhang and Tao Yan*. Are Fat, Oil and Grease (FOG) Deposits Biodegradable in Sewer Lines? Poster Presentation, HWEA Conference, May 6-9, 2014, Hawaii.
- Tao Yan, Expanding the Role of Wastewater Infrastructure in Public Health Protection By Monitoring Bacterial Pathogens in Municipal Sewage. Division of Environmental Engineering. Hokkaido University, Japan. September 12, 213. (Invited talk).
- Tao Yan. Acidophilic Microbial Communities in highly corroded concrete sewer crown. National Institute of Advanced Industrial Science and Technology (AIST, Sapporo, Japan. Sept. 13, 213. (Invited talk).
- Tao Yan, Kun Yang, and Eulyn Pagaling, 2013. Expanding the Role of Wastewater Infrastructure in Public Health Protection By Monitoring Bacterial Pathogens in Municipal Sewage. The 2013 AEESP 50th anniversary conference. July 14-16. Golden, Colorado.
- Eulyn Pagaling, Kun Yang, and Tao Yan, 2013. Microbes Involved in Concrete Sewer Pipe Corrosion. Engineering Sustainability 2013. April 7-10. Pittsburg, PA.
- Eulyn Pagaling, Kun Yang, and Tao Yan. 2013. Microbes Involved in Concrete Sewer Pipe Corrosion. The 35th HWEA annual conference, February 4-6. Honolulu, Hawaii.

- M. N. Byappanahalli, T. Yan, M. J. Hamilton, S. Ishii, R. S. Fujioka, R. L. Whitman, M. B. Nevers, M. J. Sadowsky. 2012. Growth Potential, Population Structure, and Genetic Relatedness of *Escherichia coli* in Geographically Distinct Soil Environments. 112th General Meeting of the American Society for Microbiology. June 16-18, San Francisco, CA.
- T. Yan, Qian Zhang, D. K. Goto. 2012. Abundance, genetic diversity, desiccation and antibiotic resistance of *Escherichia coli* in a tropical watershed. The 8th International Conference on Sustainable Water Environment. July 17-19. Guilin, China.
- T. Yan, Qian Zhang. 2012. Soil *Escherichia coli* Populations Exhibit High Desiccation Resistance Conferred by Elevated Intracellular Trehalose Concentration. 2012 Land Grant and Sea Grant national Water Conference. May 20-24. Portland, Oregon.
- T. Yan, F. Feng, D. K. Goto, 2011. Fecal indicator bacteria in tropical beach sand in Hawaii. U.S. EPA Beach Conference. March 13-18, Miami, Florida.
- Lavane Kim, Tao Yan 2011, Electrically-conductive Surface as Better Supporting Material for Biological Aerated Filters in Wastewater Treatment. HWEA annual conference. Feb. 15-16, Honolulu, Hawaii.
- Qian Zhang, Tao Yan, 2011, Resistance Mechanisms of *Escherichia coli* to Desiccation Stresses in Tropical Soil. HWEA annual conference. Feb. 15-16, Honolulu, Hawaii.
- D. K. Goto, T. Yan. 2010. Abundance and Genetic Diversity of *Escherichia coli* in a Tropical Watershed. ISME 13. August 21-27, Seattle, Washington.
- Wendi Zheng, Tao Yan, 2010, PAH Contamination and Biodegradation Potential in Oahu Coastal Stream Sediment. HWEA annual conference. March 16-17. Honolulu, Hawaii.
- Fan Feng, Tao Yan, 2010, Comparison of Real-time PCR Efficiency and Reliability on enterococci in Water Samples by Using Different DNA Preparation Methods. HWEA annual conference. March 16-17. Honolulu, Hawaii.
- Feng, F., T. Yan. 2009. Impact of indigenous microbial community on the survival of fecal indicators in beach sand. USDA CSREES National Water Conference. Feb. 9~12, St. Louis, Missouri.
- Dustin Goto, Tao Yan. 2009. Photochemical Inactivation of *E. coli* in Manoa Stream Water, HWEA annual conference, Feb. 3~5. Honolulu Hawaii.
- Ishii, S., T. Yan, D. A. Shively, M. N. Byappanahalli, R. L. Whitman, and M. J. Sadowsky. 2006. Enteric bacterial pathogen associate with the green algae *Cladophora* in nearshore water of Lake Michigan. 11th International Symposium on Microbial Ecology (ISME-11), Vienna, Austria. Aug. 20-25
- M. J. Hamilton, T. Yan, M. J. Sadowsky, 2006 “Development and evaluation of goose- and duck-specific DNA markers to determine sources of *Escherichia coli* in waterways”, poster presentation at the 106th General Meeting of American Society for Microbiology, Orlando, FL.
- P. J. Novak, T. Yan, and T. M. LaPara. 2004 “Biostimulation of PCB-contaminated sediment”, platform presentation at the 228th ACS national meeting, Philadelphia, PA.

- T. M. LaPara, T. Yan, and P. J. Novak. 2004 “Analysis of the bacterial communities involved in the reductive dechlorination of polychlorinated biphenyls”, platform presentation at the 228th ACS national meeting, Philadelphia, PA.
- T. Yan, T. M. LaPara, and P. J. Novak. 2004 “Anaerobic PCB Dechlorination: bioaugmentation for more complete dechlorination”, poster presentation at the 104th General Meeting of American Society for Microbiology, New Orleans, LA.
- P. J. Novak, T. Yan, T. M. LaPara, and J. P. Rysavy. 2004 “PCB contamination: is bioremediation an answer”, platform presentation at the 9th Minnesota Water conference, Minneapolis, MN.
- T. Yan and P. J. Novak. 2003. “Stimulating polychlorinated biphenyl (PCB) dechlorination by controlling the availability of carbon sources and electron donors”, platform presentation at the 19th Annual International Conference on Soils, Sediments, and Water, Amherst, MA.
- T. Yan, T. M. LaPara, and P. J. Novak. 2003. “Assessing the microbial population dynamics of a marine sediment culture enriched on 2,3,4,5-tetrachlorobiphenyl”, poster presentation at the Frontiers in Assessment Methods for the Environment Symposium, Minneapolis, MN.
- J. P. Rysavy, T. Yan, and P. J. Novak. 2002. “Enhancing the biodegradation of polychlorinated biphenyls through elemental iron addition”, poster presentation at the Third International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA.

RESEARCH PROJECTS

Current or awarded (total budget: ~\$11.2 million)

USGS, G21AP10625, “Water Resources Research Act of 1984 of the State Water Resources Research Institute Program” Tao Yan (PI, starting 2024). 09/01/2021-08/31/2026.	\$1,087,470
USGS, G23AC00685, “Support of Hydrologic Investigations at PIWSC” Tao Yan (PI, starting 2025). 9/15/2023-9/14/2026.	\$471,088
NSF (Environmental Engineering), CBET-2027059 “RAPID: Determine Community Disease Burden of COVID-19 by Probing Wastewater Microbiome”, Tao Yan (PI). 05/01/2020-4/30/2026 (with NCE and GOALI INTERN supplement).	\$206,956
NSF, CBET-2345629 “RAPID: Understanding the Immediate and Long-Term Impacts of Maui Wildfires on Chemical and Microbiological Quality of Nearshore Beach and Coastal Waters”, Xiaolong Geng (PI), and Tao Yan (Co-PI, 50% efforts). 09/15/2023-08/31/2026.	\$200,000
USDA NIFA, 2024-68016-41536, “Understanding and Mitigating Cr (VI) Risks in Maui Wildfire-Impacted Agricultural and Forest Soils”, Tao Yan (PI). 11/01/2023-10/31/2026.	\$250,942

SERDP, RC25-C1-4886, "Development of eDNA-Based Microfluidic qPCR and Quantitative Metagenomic Approaches for Sensitive and High-Throughput Quantification of Non-Indigenous Marine Pathogens", Tao Yan (PI). 02/01/2025-01/31/2026.	\$249,457
UH Manoa, Provost's strategic initiative. Advancing Water Reuse for Agricultural Irrigation and Wildfire Mitigation Under the Changing Climate for Water-Stressed Leeward Coastal Rural Communities. Tao Yan (PI), and co-PIs: Winston Su, Koon-Hui Wang, Zhiyue Wang, and Xiaolong Geng. 7/1/2024-5/30/2026	\$296,250
NSF, "Convergence Accelerator Track K: Honu-Adaptive Decentralized Wastewater Infrastructure Solution for Island Communities", Daniel Yeh (PI), co-PIs (Zhiyue Wang, Stuart Coleman), and other senior personnel (Allan Smith, Robert Bair, Nora Nelson, Christina Comfort, Joyce Huang, Paul Young, and Tao Yan (2.5% efforts). 5/15/2025-4/14/2027.	\$5,000,000
NSF, "Hydrogeologic Controls on the Accumulation, Transport, and Discharge of Fecal Indicator Bacteria in Coastal Beaches", Xiaolong Geng (PI), Tao Yan (co-PI, 30%). 09/01/2025-08/31/2027.	\$549,960
EPA, "A Multistate Study to Establish a Risk Assessment Framework for the AMR in Surface Water Attributable to Municipal Wastewater and Biosolids" Xu Li (PI), and multiple co-PIs (including Tao Yan (12.5% effort)). \$2,375,000 (federal) + \$593,961 (matching), 07/1/2024-06/30/2027.	\$2,968,961

Pending

NSF, "Collaborative Research: FEC: AI-Enabled Environmental Surveillance of Microbial and Chemical Threats to Food Production Systems". Tao Yan (PI), Xu Li (Nebraska PI), co-PIs (Liuwan Zhu, Matthew Hille, Sasitharan Balasubramaniam), and Key Personnel (Xingnan Li, Lenore Pipes, Yong Li) 07/1/2027-12/31/2030.	\$4,000,000
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Completed (total budget: ~\$13.2 million)

NSF, "NSF Convergence Accelerator Track L: Towards Resilient, Equitable, Safe and Sustainable Water for Islands (RESSI-H2O)", Daniel Yeh (PI), co-PIs (Zhiyue Wang, Stuart Coleman, Stephen Gasteyer), and other senior personnel (Allan Smith, Robert Bair, Nora Nelson, Christina Comfort, Joyce Huang, Paul Young, and Tao Yan (9.9% efforts). 1/15/2024-12/14/2025.	\$650,000
Department of Energy, "Decarbonization of Water Resource Recovery Facilities through Nitrous Oxide Recovery from Anaerobic Digestion Effluent", Zhiyue Wang (PI), and Tao Yan (Co-PI, 37% efforts). 01/01/2024-10/10/2025 (terminated early)	\$1,755,056.
ONR, (via UH OIC), Patent2Products, Tao Yan (PI), 07/01/2023-06/30/2025 (Terminated early on 4/30/2025)	\$90,972
EPA, R840257, "A cross-region, cross-laboratory investigation of viral pathogens and surrogates in wastewater for non-potable reuse", PI: Sunny Jiang	\$1,240,000

- (UC Irvine), Co-PIs: Katrine Whiteson, Diego Rosso, Helena Solo-Gabriele, Samendra P. Sherchan, Heather N Bischel, Tao Yan (10% effort), Ramesh Goel. 8/01/2021-04/30/2025.
- DOD, ONR, N00014-23-1-2738, “Laying the Groundwork for Water Security Preparedness and Resilience in Hawaii and the USAPI Through Strong Partnerships, Robust Scientific Information, and Increased Analytical Capacity” Tao Yan (PI, starting 2025 admin + 5.5% research efforts), Co-Is (Aurora Ke'alahilani Kagawa-Viviani, Lloyd Hihara, Marek Kirs, Shiv Sharma, Eileen M Nalley, Henrietta Dulai, Christopher Shuler, Craig Nelson, Megan Donahue, Yin Phan Tsang, Kim Falinski). 09/01/2023-07/15/2025. \$2,500,000
- NSF (Environmental Sustainability), CBET-1855128 “RAPID: Molecular and Metagenomic Understanding of Coastal Water Quality and Health Risks After Hurricane Lane”, Tao Yan (PI). 11/01/18-4/30/2024 (with NCE and GOALI INTERN supplement). \$239,094
- USDA-NIFA, SARE SW20-911. “Instant Biofumigation Using Natural Products From Papaya Seed Waste for Sustainable Management of Soil-borne Plant Pathogens”. 05/01/20-10/30/2023. Wei-Wen Winston Su (PI), and co-Is: Koon-Hui Wang, Jari Sugano, Joshua Hanale Shoichi Silva, Jensen Uyeda, Stuart Nakamoto, and Tao Yan (Co-I, 4% effort). \$349,995
- USDA NIFA, 2017-68003-26497, “Mitigating the Risk of Antibiotic Resistance at Critical Control Points in the Beef Cattle Manure Management Systems”, PI: Xu Li (University of Nebraska), co-PIs: Shannon Bartelt-Hunt, Galen Erickson, Amy Schmidt, Bing Wang, and Tao Yan (20% effort). 07/01/2017-06/30/2023. \$1,200,000
- DOD, ONR, “Water Resources Research Center Laboratory Equipment Acquisition and Upgrade” Vassilis Syrmos (PI), Thomas Giambelluca (Co-I) (Tao Yan prepared the proposal and responsible for 75% of equipment purchases). 3/1/2022-02/28/2023. \$1,093,378
- University of Hawaii COVID Response. “Wastewater Monitoring of SARS-CoV-2 Viral RNA for UH Manoa Dormitories”, Tao Yan (PI), 11/15/2020-12/31/2022. \$352,847
- DOD, “Red Hill Underground Fuel Storage Facility Project”, 07/01/2020-06/30/2022. Vassilis Syrmos (PI), numerous co-I and key personnel (Tao Yan (KP, ~3% efforts) \$1,902,009
- NSF (Environmental Engineering), NSF-CBET-1507979, “Transform Municipal Wastewater Treatment Plants into Community Enteric Disease Information Networks”, Tao Yan (PI), Satoshi Ishii (co-I, University of Minnesota). 08/1/2015~01/31/2021 (with NCE and GOALI INTERN supplement). \$385,277
- City and County of Honolulu, “Wastewater Testing for SARS-CoV-2 RNA for the City and County of Honolulu”, Tao Yan (PI), 07/01/2020-12/31/2020 \$75,000
- NSF (Environmental Sustainability), NSF-CBET-1743816, “EAGER: PPER: Enable Crowdsourcing in Microbial Water Quality Monitoring in Water Distribution Networks”, Tao Yan (PI). 09/01/17-08/31/2020 (with NCE). \$99,994

Hawaii Community Foundation, 16CON-78926, “Identify Novel ESBLs and Determine Their Horizontal Gene Transfer Potentials in Soil Resistome”, Tao Yan (PI), 06/01/2016-12/31/2017.	\$49,956
NSF, IIP-1449854, “I-Corps: Develop chemical markers for rapid and system-level sewer deterioration condition assessment”, Tao Yan (PI), 08/01/2014-01/31/2016.	\$50,000
US EPA (STAR Early Career Award), R834871, “Rapid Detection of Sewer Pipeline Problems Using Bacterial DNA Markers and qPCR Technology”, Tao Yan (PI), 02/01/2011-1/31/2016.	\$299,889
U.S. Vietnam Education Foundation Fellowship for Graduate Students. Tao Yan (PI), 06/01/2012-05/30/2015.	\$56,000
Hawaii Department of Health. 111-093, “Survival of Fecal Indicator Bacteria and Waterborne Pathogens in Hawaii Beach Sand”, Tao Yan (PI), 03/01/2011-2/28/2014.	\$150,000
United States-Israel Bi-national Science Foundation, 2009276, “Effect of Residual Antibiotic Amendment on Molecular Evolution of Antibiotic Resistance in Indigenous Soil Microbial Communities”, Tao Yan (U.S. PI) and Eddie Cytryn (Israel PI), 12/01/2010~11/30/2013.	\$120,000
USDA T-STAR, 2010-34135-21376, “Improving MSL removal of bacterial pathogens from swine wastewater”, Russ Yost (PI), Tao Yan (co-PI, 33.4% effort), 09/01/2010-08/31/2012.	\$130,500
USDA NRI, 2009-35102-05212, “Survival of <i>Escherichia coli</i> on Soil Particle Surface in Opaepala Watershed of Oahu, Hawaii”, Tao Yan (PI), 1/1/2009 ~ 12/30/2011.	\$110,309
NSF (Environmental Sustainability), CBET-0964260, “EAGER: Understand the concentration dynamics of fecal-specific chemical and bacterial markers in a tropical residential sewershed”, Tao Yan (PI) and Chittaranjan Ray (co-PI), 01/01/2010~12/30/2011	\$72,980
UH Sea Grant College Program, “A novel upflow geofilter system for the cost-efficient removal of fecal bacteria from stream water”, Tao Yan (PI), 06/01/2010-06/31/2011.	\$10,000
Water Environment Research Foundation, PATH6R09, “Concentration Dynamics of Fecal Indicators in Hawaiian Coastal and Inland Sand, Soil, and Water during Rainfall Events”, Tao Yan (PI), 6/15/2009 - 12/15/2010.	\$144,554
Hawaii Water Resource Research Center, “Determination of the Relationship between Biodiversity and Trophic Status of Wahiawa Reservoir”, Tao Yan (PI), Clark Liu (co-PI), 3/1/2008 - 2/28/2009	\$20,000

HONORS AND AWARDS

2012 Corporate Research Incentive Program Award for Faculty, College of Engineering, University of Hawaii

- 2010 EPA STAR Early Career Award (research grant)
 2008 ASCE ExCEED (Excellence in Civil Engineering Education) Fellow
 2003 Sommerfeld Fellowship in Civil Engineering, University of Minnesota, MN
 2002 Graduate Fellowship, Hudson River Foundation, NY
 1998, 1999 JinYuan Fellowship, Tsinghua University, China
 1994, 1995 Honors of Excellent Student, Wuhan University of Technology, China

COURSES TAUGHT

(abbreviation: S08 = Spring 2008, F07 = Fall 2007)

- CEE 696 Environmental Genomics - S19, S24.
- CEE 643 Hazardous Waste Remediation – F23.
- CEE 636 Environmental Microbiology –S23, S21, S17, S15, S13, F11, S10, S09, F07
- CEE 635 Environmental Chemistry – S22, S18, S16, S14, S12, F09, F08
- CEE 634 Biological Processes – F12, F10,
- CEE 432 Water and Wastewater Treatment Design – S09, S08
- CEE 431 Water and Wastewater Engineering – F09
- CEE 330 Environmental Engineering – F22, F21, F19, F18, F17, F16, F15, F14, S11

RESEARCH REPORTS

(* indicators corresponding author)

1. Tsu-Chuan Lee, Clark C.K. Liu, and Tao Yan* (2009) Determination of the Relationship between Biodiversity and Trophic Status of Wahiawa Reservoir. Hawaii WRRC project report.
2. Tao Yan*, Dustin K. Goto, and Fan Feng (2010), Concentration Dynamics of Fecal Indicator Bacteria in Hawaiian Coastal and Inland Sand, Soil, and Water during Rainfall Events. WERF Research report PATH6R09, 77 pages.

SUPERVISION OF STUDENTS AND POST-DOCTORAL RESEARCHERS

(CEE: Civil and Environmental Engineering, MBBE: Molecular Bioscience and Bioengineering)

Current Graduate Students and Postdoctoral fellows supervised

Postdoctoral fellow

- Dr. Yangyang Zou Jan. 2024 – present
 Dr. Min Ki (Carl) Jeon Jan. 2025 - present

PhD students

- Brian Allen Jan. 2022 – present.
 Mandy-Tanita Brinkmann Aug. 2022 – present.

Toru Kumagai	Jan. 2023 – present.
Xin Wang	Aug. 2024 – present.
Erik Hoffnagle	Aug. 2024 - present

Students graduated and Postdoctoral fellows supervised**CEE PhD students advised to graduation**

Dr. Min Ki (Carl) Jeon(Aug. 2020 – Dec. 2024). Dissertation title: “Enhancing Wastewater Surveillance Through the Development of Novel Detection Assays for Variants of SARs-CoV-2 And Influenza Viruses”. Current employment: postdoctoral fellow, University of Hawaii at Manoa.

Dr. Prakrit Saingam (Jan. 2016 – December 2020). Dissertation title: “*Diversity of Fecal Pathogens in Hawaii’s Coastal Waters and Detection with Improved Performance By Next Generation Sequencing*”. Current employment: postdoctoral fellow, University of Washington.

Dr. Sabrina Diemert (Aug. 2016-Aug. 2020). Dissertation title: “*Genomic Characterization of Salmonella in Municipal Wastewater for Community Enteric Disease Monitoring*”. Current employment: British Columbia Ministry of Health, Canada.

Dr. Bo Li (Aug. 2016-May 2020). Dissertation title: “*Molecular and Metagenomic Characterization of Bacterial Pathogens and Antibiotic Resistance Genes in Complex Environments*”. Current employment: Associate Professor, Guangdong University of Technology, China.

Dr. Qian Zhang (Aug. 2010 – March 2015). Dissertation title: “*Source and Fate of Fecal Indicator Bacteria in Tropical Soil, Sand, and Seawater Environments*”. Current employment: Associate Professor, Xiamen University, China.

Dr. Lavane Kim (Jan. 2011 – July 2015). Dissertation title: “*Low Cost Soil-Based Filtration for Water Reclamation*”. Current employment: Associate Professor, Can Tho University, Vietnam.

CEE MS students advised to graduation

Dustin K. Goto (Jan. 2008-May 2010). Thesis title: “*Concentration Dynamics and Genotypic Diversity of Fecal Indicators in the Manoa Stream Watershed*”. Current employment: AECOM, Honolulu.

Wendi Zheng (Aug. 2008-Aug. 2010). Thesis title: “*PAH contamination and biodegradation potential in coastal area stream sediments of Oahu Island, Hawaii*”. Current employment: PCS LLC. Hawaii

Fan Feng (Jan. 2008-Nov. 2010). Thesis title: “*Partition and survival of fecal indicators between sand and water of beaches in Hawaii*”. Current employment: AECOM, Hawaii.

Jessica Shelton (Jan. 2010-Sept. 2011). Thesis title: “*Identification of Sewage Markers for the Quantification of Rainfall Derived Infiltration and Inflow*”. Current employment: AECOM, Hawaii.

Lavane Kim (Jan. 2009-Dec. 2010). Thesis title: “*Electrically-Conductive Surface as Better Supporting Material for Biological Aerated Filter in Wastewater Treatment*”. Current employment: a PhD student at UH Manoa

Cindy Lee (Jan. 2009-May 2012). Thesis title: “*Chlordane and dieldrin contamination and biodegradation in Ala Wai Canal sediment*”. Currently a PhD student in UH Manoa CEE.

Jennifer Steadman-Murphy (Nov. 2011-June 2012) (Plan B). Research Report title: “*Concept design for a package bioremediation unit to address POL soil contamination at remote military operations bases*”. Current employment: U.S. Navy.

Alejandra Ferrufino (Jan. 2013-June 2014). Thesis title: “*Impact of Water Eutrophication on Bacterial Pathogen Occurrence and Survival*”. Current employment: McCormick Taylor in Baltimore.

Zi Wang (Sept. 2013-Dec. 2016). (Plan B). Research Report title: “*Potential Plasmid-Mediated Cross-Resistance Between Triclosan And Antibiotics In Bacteria From Municipal Wastewater*”. Current employment: Control Point Surveying, Honolulu.

Dane Sobol (August. 2020 – May 2021). (Plan B). Research Report title: “*Assessing Microbial Bioclogging Capability in Soil with a focus on Leuconostoc mesenteroides*”. Current employment: NAVFAC, Honolulu.

Connor Kagamida (MS Plan B, April 21, 2022). Title: “*A Preliminary Study of Staphylococcus aureus in the beach sand and water at Pokai Bay*”. Current employment: R. M. Towill, Honolulu.

Jacen Cruz B. Ancheta (MS Plan B, May 10, 2023). Title: “*Analytical Detection and Treatment Methods of Per- and Polyfluoroalkyl Substances in Municipal Wastewater*”. Current employment: R. M. Towill, Honolulu.

Trevor Yatomi (MS Plan B, May 11, 2023). Title: “*Performance Evaluation of a Vermiculture-type On-Site Wastewater Treatment System*”. Current employment: R. M. Towill, Honolulu. (as substitute advisor for the retired Dr. Roger Babcock)

Korey Miyakawa (MS Plan B, December 1, 2023). Title: “*Rapid Detection and Treatment Methods for Legionella pneumophila in Drinking Water and Distribution Systems*”.

Postdoctoral fellows advised

Dr. Henglin Cui, Aug. 2011 – Aug. 2012. Research topic: “*Enterococci and bacterial pathogens in beach sand*”. Current position: Professor, School of Food and Biological Engineering, Jiangsu University, China.

Dr. Kun Yang, July 2011-May 2013. Research topic: “*Effects of residual antibiotics in irrigation water on soil microbiome and resistome*”, Current position: Associate professor, College of Chemical Engineering, Sichuan University, China.

Dr. Eulyn Pagaling, Aug. 2011 – May 2014. Research topic: “*Microbial communities associated with sewer pipeline problems and identification of DNA markers for qPCR detection*”. Current position: Research Scientist, The James Hutton Institute, UK.

Dr. Xia He, May 2013 – April 2015. Research topic: “*Microbial processes in the formation and degradation of FOG deposits in sewer pipelines*”. Current position: Professor, College of Environmental Science and Technology, Guilin University of Technology. China

Dr. Xingnan Li, Oct. 2017 – Oct. 2018 (50% appointment). Research topic: “*Enable Crowdsourcing in Microbial Water Quality Monitoring in Water Distribution Networks*”. Current position: Assistant Professor, UH Cancer Center.

Dr. Bo Li, June 2020 – July 2021. Research topic: “*Detection of SARS-CoV-2 viral RNA in wastewater*”. Current position: Associate Professor, Guangdong University of Technology.

Dr. Doris Di, Jan. 2020 – May 2023. Research topic: “*Detection of SARS-CoV-2 in wastewater and bacterial pathogens in environmental water*”. Current position: Research associate, Hawaii Department of Health.

Dr. Han Wang, Aug. 2024 – Nov. 2025. Research topic: “*Wildfire-caused Cr(VI) contamination and bioremediation*”. Current position: Postdoctoral fellow, University of Minnesota.

AWARDS RECEIVED BY STUDENTS SUPERVISED

2023 Brian Allen received the Hawaii Water Resources Research Center L. Stephen Lau Scholarship (\$1500).

2023 Brian Allen received the Pono Scholarship from the Hawaii Water Environment Association (HWEA) (\$2000).

2022 PhD student Min Ki Jeon received an AEESP travel award (\$500) to attend the AEESP Research and Education conference at Washington University in St. Louis.

2021 MS student Connor Kagamida received an American Council of Engineering Companies (ACEC) 2021 College of Fellows Scholarship (\$3,000).

2020 PhD student Prakrit Saingam received the 2020 L. Stephen Lau Water Research Endowed Scholarship (\$1,500).

2019 PhD student Bo Li won the University of Hawaii GSO travel grant.

2019 PhD student Bo Li won the E. E. Black Scholarship (\$1,000) from University of Hawaii.

2018 PhD student Sabrina Diemert received a 2018 Engineers Canada-Manulife Scholarship (\$12,500).

2018 PhD student Bo Li won the E. E. Black Scholarship (\$1,000) from University of Hawaii.

2017 PhD student Sabrina Diemert won the University of Hawaii at Manoa, College of Engineering's 2017 Outstanding Teaching Assistant award (\$1,000).

2017 PhD student Sabrina Diemert won the E. E. Black Scholarship (\$1,000) from University of Hawaii.

2017 PhD student Sabrina Diemert won the 1st place award in AWWA Hawaii's student research poster competition and the 3rd place award for HWEA student research poster completion at the 2017 Pacific Water conference.

- 2016 PhD student Sabrina Diemert was awarded a National Science and Engineering Research Council of Canada (NSERC) Postgraduate scholarship, doctorate program (PGS-D) for 3 years (CAD \$21,000 per year).
- 2016 Undergraduate student Chad Morrow won the First Place at Engineering Banquet Poster presentation competition.
- 2016 Undergraduate student Chad Morrow won the First Place oral presentation award at the 2016 CTAHR/CoE Student Research Symposium.
- 2016 Undergraduate student Chad Morrow was a University of Hawaii UROP project recipient (\$5,000).
- 2015 Undergraduate student Chad Morrow was a UHM College of Engineering Undergraduate research project recipient (\$2,000).
- 2015 Dr. Xia He and PhD student Qian Zhang won HWEA student research poster competition 2nd and 3rd place prizes.
- 2014 Postdoctoral associate Dr. Xia He and PhD student Qian Zhang won HWEA student research poster competition 1st place and 3rd place prizes.
- 2014 PhD student Qian Zhang was awarded the Dai Ho Chun Fellowship by the Graduate Division of the University of Hawaii at Manoa.
- 2013 PhD students Lavane Kim and Qian Zhang received travel award to attend the 2nd Annual Student Water Research Conference at the Oklahoma State University (Stillwater, OK).
- 2013 PhD student Qian Zhang was awarded an Outstanding Graduate Student Poster Presentation award at the 2nd Annual Student Water Research Conference sponsored by the Buchanan Family Trust and NSF at the Oklahoma State University (Stillwater, OK).
- 2012 PhD student Qian Zhang was awarded the E. E. Black Scholarship by the University of Hawaii at Manoa.
- 2012 PhD student Lavane Kim awarded a two-year VEF fellowship from the U.S. VEF foundation to continue his PhD study.
- 2011 PhD students Lavane Kim and Qian Zhang won the first-place and second-place prizes in student research poster competition at the 2011 Hawaii Water Environmental Association conference.
- 2010 MS students Dustin Goto and Wendi Zheng won the first-place and third-place prizes in student research poster competition at the 2010 Hawaii Water Environmental Association conference.
- 2009 MS students Fan Feng and Dustin Goto win the first-place and second-place prizes in student poster competition at the 2009 Hawaii Water Environment Association Conference.
- 2009 MS student Dustin Goto was awarded a NSF EAPSI Fellowship to conduct summer research in GIST of South Korea.
- 2008 MS student Dustin Goto won a PACE Summer Fellowship from the Pacific Asian Center for Entrepreneurship (PACE) at the University of Hawaii.

STUDENT THESIS COMMITTEE MEMBER

Rong Yuan (CEE, MS Plan A), November 24, 2008, Thesis: “*Fluid flow passing through a swarm of aggregates formed in diffusion-limited-cluster-aggregation (DLCA) regime*”.

He Xu (CEE, MS Plan A), July 26, 2010, Thesis: “*Analysis and comparison of the bacterial community in membrane bioreactors and other treatment systems*”.

Krispin Fernandes (CEE, PhD), May 5, 2010, Thesis: “*Linear systems modeling of rainfall-runoff and sediment transport processes for Hawaii watershed*”.

John Dai (CEE, PhD), October 19, 2011, Thesis: “*Analytical rinsing formulation for estimating the effective dispersion coefficient of Hawaii basal aquifers*”.

Yong Shi (CEE, MS), May 5, 2011, Thesis: “*Knudsen flow through membrane pores: integral equation theory and Monte Carlo simulations*”.

Qihui Fan (ME, MS Plan A), June 2, 2011, thesis: “*Biophysicochemical characterization of interaction between pulmonary surfactants and nanoparticles*”.

Gayatri Vithanage (Microbiology, PhD), December 15, 2010. Title: “*The prevalence and public health significance of human pathogenic Vibrio species (V. cholera, V. vulnificus, V. parahaemolyticus, V. alginolyticus) in Hawaii’s diverse tropical coastal water environments*”.

Xiaoxiao Zhang (EE, PhD). June 1, 2011. Title: “*Inertial focusing microfluidics: single cell encapsulation, particle dynamics study, and rapid prototyping technique*”.

Arvind Mohanram (MBBE, PhD). March 28, 2011. Title: “*Transport of Cryptosporidium parvum oocysts through disparate agricultural soils*”.

Pradeep Munasinghe (MBBE, PhD). November 21, 2012. Title: “*Mass Transfer Evaluation and Analytical Modeling Using Composite Hollow Fiber Membrane for Syngas Fermentation to Biofuels*”.

Saoharit Nitayavardhana (MBBE, PhD). November 29, 2012. Title: “*Protein-rich Fungal Biomass Production on Sugacane Vinasse for Animal Feed Applications with Concomitant Water Reclamation*”

Seerwan Abdullah (MBBE, PhD). November 14, 2012. Title: “*Alternative Processing Techniques for Pasteurization of Foods: Microwave, Ohmic Heating, and Ultraviolet Light*”.

Zachary Payne (CEE, MS). April 16, 2013. Title: “*Pilot-Scale in-situ Bioremediation of HMX and RDX in Soil Pore Water in Hawaii*”.

Matteo D’Alessio (CEE, PhD). January 31, 2014. Title: “*Environmental Fate and Transport of Selected Pharmaceutically Active Compounds During Natural Filtration*”.

Yanling Li (CEE, PhD). May 25, 2014. Title: “*Hydrologic Performance Analyses, Modeling, and Design Tool Development for Green Roof Systems*”.

YuJia Li (Microbiology, PhD). April 30, 2014. Title: “*Functional Analysis of Dengue Virus Nonstructural Protein 1*”.

Natthakan Rungraeng (MBBE, PhD). November 24, 2014. Title: “*Prevention of Microbial and Biofouling Attachments in Food Processing Applications Using Nanoengineered Surfaces*”.

Kristen Au (CEE, MS, Plan B). November, 26, 2014. Title: “*Wastewater Recycling and Reuse for Irrigation Purposes at the University of Hawaii at Manoa*”.

Qihui Fan (ME, PhD, March 30, 2015). Title: “Single-Cell Poration and Lysis By Microsecond-Laser-Pulse Induced Microbubbles”.

Korey Tsubota (CEE, MS, Plan B, August 12, 2016). Title: “*Evaluation Of Several Granular Activated Carbons (GACs) For Adsorption Of 1,2,3-1 Trichloropropane (TCP) to Meet a MCL of 5 ppt*”.

Hope Mariska (CEE, MS, Plan B, May 3, 2017). Title: “*Petroleum Remediation Feasibility Selection Tool for Tropical Island Environments*”.

Eduardo Esgaib Vaz Guimaraes (CEE, MS, Plan A) (December 7, 2017). Title: “*Rapid Response: Application of A Qpcr-Based Test For Enterococci and Human-Associated Bacteroides As A Rapid Beach Management Tool In Hawaii*”.

Misheel Batsaikhan (MBBE, MS, Plan A) (December 4, 2017). “*Protein-rich Fungal Biomass Cultivation on Agro-industrial Wastes/Residues for Aquaculture Feed Production with Simultaneous Organics Removal*”

Sheldon M. Milan (CEE, MS, Plan B), April 27, 2018. Title: “*Bench-scale Carbon Diversion of Raw Wastewater Using Biosorption/Flotation*”.

Adrienne Fung (CEE, MS, Plan B, April 18, 2019). Title: “*Development and Application of Method to Predict Groundwater Infiltration in Coastal Sanitary Sewer Systems Affected by Sea Level Rise*”.

Fernanda Rocha de Oliveira (MBBE, PhD, October 3, 2019). Title: “*High rate anaerobic treatment of sulfate-laden industrial wastewater with simultaneous removal of hydrogen sulfide using biochar*”.

Bing Hu (CEE, PhD, August 7, 2020). Title: “*Effects of Thermal Hydrolysis Temperature on Degradation Product Speciation, Methane Potential and Rheology*”

Theodore Uekawa (CEE, MS plan B, May 4, 2021). Title: “*Effects of Waste Activated Sludge Extracellular Polymeric Substances (EPS) Composition on Biosorption for Primary Carbon Diversion*”.

Sydney Le Cras (CEE, MS plan B, May 5, 2021). “*Scalable Pretreatment Methods and Biomethane Production of Select Single-Use Biodegradable Food Containers - PLA and Fiber Based*”.

Renisha Karki (MBBE, MS, July 26, 2021). “*Anaerobic co-digestion of Coffee Pulp and Cattle Manure: Evaluation of process stability*”.

Noelle Atieno Mware (CEE, PhD, University of Nebraska-Lincoln, Nov. 24, 2021). “*Mitigation Strategies for Antimicrobial Resistance And Nutrients At Critical Control Points In Livestock Manure Management Systems*”.

Jisu Lee (PhD, School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, Nov. 25, 2021). Title: “*Novel Fungal Biosorption of Uranium Phosphate and Lead Iodide Minerals to the Newly Isolated Cladosporium sp. strain F1*”.

Danielle Restelli (MS, Plan A, May 2, 2022). Title: “*Novel Hybrid Constructed Wetland Denitrifying Biofilter Pro-vides low-cost, Tertiary Residential Wastewater Treatment*”.

Kanoelani Yadao (MS, Plan B, May 5, 2022). Title: “*Sustainable Waste Management for Hawaii’s Correctional Facilities: Barriers to Implementation*”.

Yijie Wang (CEE, PhD, May 6, 2022). Title: “*Sandy Soil Stabilization by Microbial Induced Calcite Precipitation (Micp) Using Bio-Stimulation Method*”.

Hanseob Shin (PhD, School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology, May 9, 2022). Title: “*Long Term Monitoring for Fluctuation of Antibiotic Resistance Genes and Bacteria in Rivers and Wastewater Treatment Plants, South Korea*”.

Nykell Hunter (MS, Plan A, Nov. 14, 2022). Title: “*Indicators for Benthic Habitat Health for the Coastal Road Erosion Susceptibility Index (CRESI) on Oahu, Hawaii, USA*”.

Noah Szenderski (MS, Plan B, Dec. 9, 2022). Title: “*COVANTA H-POWER MSWI Ash Utilization and Treatments for the island of O’ahu*”.

Wachiranon Chuenchart (CEE, PhD, December 8, 2023). Title: “*Evaluation of Food Waste and Sewage Sludge Anaerobic Co-digestion: Kinetic Modeling, Meta-analysis, and Long-term Operation with Micro-aeration*”.

Jonathan S. Hargraves (CEE, MS, December 13, 2023). Title: “*Leaching Behavior of Selected Metals in Alkali-Activated Concrete Made with Industrial Waste*”.

Joslyn Hugger (CEE, MS, April 3, 2024). Title: “*Assessment of The Impact of Nutrient Loading On the Survival Dynamics of Staphylococcus Aureus In Beach Sand*”.

Dongyoung Lee (MBBE, PhD, October 25, 2024). Title: “*Design, Application, And Stability of Supercooled States in Food Preserved Using Engineered Electric and Magnetic Fields*”.

Tiow Ping Wong (CEE, PhD, Nov. 6, 2025). Title: “*Carbon Diversion For Energy Efficiency Via Biosorption In The High Rate Biological Contactor – Activated Sludge Process*”.

Ty Shitanaka (MBBE, PhD, Dec. 5, 2025). Title: “*Elucidating the Effect of CO₂-Nanobubbles on the Growth and Carbon Uptake of the Indigenous Hawaiian Macroalgae, ULVA*”.

Heather Madsen (CECE, MS, Dec. 8, 2025). Title: *Monitoring Disinfection in Onsite Wastewater Treatment Systems with a Combination of Online Sensors and Water Sample Analysis for Early Treatment Failure Detection*”.

Visiting scholars

Ms. Yeping Ma	Feb. 2011 – July. 2011	From Tsinghua University
Dr. Chuanqing Zhong	Oct. 2015 – Oct. 2016	From Shandong Jianzhu University
Dr. Guangxiang Cao	Apr. 2016 – Nov. 2016	From Shandong Academy of Medical Sciences, China
Ms. Yao Zhou	Dec. 2016 – June 2017	From Jiangsu University, China
Dr. Meiyang Xing	Oct. 2016 – Dec. 2017	From Tongji University, China
Dr. Youri Yang,	January – February 2023.	From Kangwon National University, Republic of Korea.

Undergraduate

Kahalealii Muhlestein (CEE BS student, Spring 2009)
 Ross Nakahara (CEE BS student, Spring 2010)
 Chad Morrow (CEE BS student, Sept. 2015 – May 2017)

Others

Kelu Zhang Aug. 2007-Jan. 2009, transferred to other group
 Tsu-chuan Lee (MBBE PhD student, temporally advised in 2008~2009 for his major advisor Dr. Clark Liu)

High school students as research interns

Ross Nakahara (Summer 2008); Shawntrelle Sookla (Summer 2009); Kevin Furuike (summer 2012); Espir Jon Ingasalo (summer 2012); Codie Matute (summer 2012); Corie Yoshida (summer 2012); Chonsa Schmidt (summer 2013).; Charlyn Manuyag (summer 2013).; Kristan Daenos (summer 2013); Joshua Hu (Summer 2016); Lyndsey Tagawa (Summer 2016); Jared Inoye (summer 2017); Caitlyn Smith (summer 2017); Camille Apuya (Fall 2017); Megan Aragon (Fall 2017); Kristin Lau (Summer 2019); Melinda Mains (Summer 2019); Misa Muranaka (Summer 2020); Irwin Siwarat Khanal (Fall 2019, Summer 2020, Fall 2020); Lixin Katie Yan (Summer 2021, Summer 2022); Charlie Yan (summer 2024, summer 2025).

UNIVERSITY, COLLEGE, AND DEPARTMENT SERVICES (academic years)

University of Hawaii at Manoa, Tenure and Promotion Review Committee (2017, 2022).

University of Hawaii at Manoa Faculty Senate, Committee on Research (2016, 2017).

University of Hawaii at Manoa Faculty Senate, Committee on Student Affairs (2015).

University of Hawaii at Manoa Faculty Senate, Committee on Athletics (2018).

College of Engineering Research Advisory Committee (2014, 2015).

College of Engineering Associate Dean Search Committee (2019, 2023).

College of Engineering Faculty Senate Executive Committee (2013, 2014, 2015, 2016).

Faculty host at College of Engineering's Engineering Day (2007, 2011, 2012).

Faculty host at College of Engineering's Open House (2008, 2010).

College of Engineering Laboratory Safety Committee (2012, 2018).

Advisor and host for UH College of Engineering's Summer High School Internship Program (2008, 2009, 2012, 2013, 2016, 2017).

WRRC Faculty Search Committees (2022 Env Engr. search chair, 2023 Env. Chemist search committee member)

CEE departmental Assessment Committee (2016)

CEE departmental Personnel Committee (2015, 2017, 2018, 2020, 2021, 2022-IS, 2023, 2023-IS chair)

CEE departmental Election Committee (2008, 2009, 2017, 2018).

CEE departmental Curriculum Committee (2009, 2010, 2015).

CEE departmental Equipment Committee (2008, 2009, 2015, 2016, 2019 chair, 2020, 2021, 2022, 2023).

CEE departmental K-12 Outreach Committee (2010).

CEE departmental Events Planning Committee (2011, 2012 chair).

CEE departmental Graduate Program Committee (2011, 2012, 2017).

CEE departmental Scholarship Committee (2013, 2014)
CEE departmental Faculty Search Committee (2012, 2022, Env Engr search chair, 2023 Env. Engr search chair).
CEE undergraduate academic advisor (2007 - 2024).
CEE PhD qualifying exam proctor (2010).

PANEL

Alaska-INBRE (2022).
Genome Canada (2019, 2024)
MIT Sea Grant program, research proposal review panel (2011)
NIH, NIEHS Superfund Hazardous Substance and Training Research (2019, 2021), NIDA (2020), NIEHS CCHRC P20 (2024).
NSF Environmental Engineering (2008), Environmental Sustainability (2010, 2014, 2017, 2018), Engineering Research Center (2020), NSF SBIR (2020), Graduate Research Fellowship Program (2014, 2015), Smart and Connected Communities (2018, 2020), Cyber-Physical Systems (2018), Environmental Biology *ad hoc* reviewer (2023), NSF Environmental Engineering CAREER panel (2023).
National Science Foundation of China, ad hoc research proposal review panel (2015)

ORAU: Pennsylvania Department of Health (2023); Ralph E Powe Junior Faculty Enhancement Awards Panel (2024).
Singapore Office of Education Research (2016)
Singapore National Research Foundation (2017).
USDA Workshop on Pathogens in Rural and Agricultural Water and Watersheds, Invited Panelist (2010)
Research Grants Council of Hong Kong, research proposal reviewer panel (2008, 2011, 2013, 2014, 2021)
US Army Medical Research and Materiel Command, research proposal reviewer panel (2008)
USEPA: STAR (2018), SBIR panel (2019), P3Q2 (2022, 2023).
USGS WRRIP 104G (2023).

REVIEWER FOR JOURNALS

Environmental Microbiology, Environmental Science and Technology, Applied and Environmental Microbiology, Chemosphere, Archives of Microbiology, Bioscience, Biotechnology, and Biochemistry, the Journal of Agricultural Science, Journal of Environmental Engineering, Microbes and Environments, Applied Microbiology and Biotechnology, Journal of Hydrology, Journal of Water and Health, and Environmental Sciences: Water Research and Technology.

PROFESSIONAL ACTIVITIES

International Water Association, Member (2025-present)

Journal of Hazardous Materials, Editor (2024-present)

American Society of Civil Engineers, member (2008-present)

American Society for Microbiology (ASM), Member (2007-present)

Water Environment Federation (WEF), Member (2010-present)

National Institutes of Water Resources, Delegate (2022-present), Board member (2024-2025)

Applied Biological Chemistry, Editorial board (2010-2017)

International Society for Microbial Ecology (ISME), member (various years)

Association of Environmental Engineering and Science Professors (AEESP), Member (various years)

Chinese-American Professors in Environmental Engineering and Science (CAPEES), Board of Directors (2013-2014)