



Water Quality & Treatment Solutions, Inc.
An Environmental Engineering & Science Consulting Company

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EDUCATION:

Ph.D., Environmental Engineering, UCLA	2020
M.S., Environmental and Water Resources Engineering, UCLA	2015
B.S., Civil and Environmental Engineering, UCLA	2014



REGISTRATION:

Engineer in Training, California (2014). Registration Number 1561542.

TEACHING EXPERIENCE:

2020	Adjunct Faculty Civil Engineering and Environmental Science Department Loyola Marymount University <u>Engineering Economics and Decision Theory</u>
2014 – 2020	Technical Writing Instructor and Teaching Associate Engineering Department University of CA, Los Angeles <u>Engineering Ethics</u>

PROFESSIONAL EXPERIENCE:

Water Quality & Treatment Solutions, Inc.

Los Angeles, California
2020 - Present: Engineer

University of CA, Los Angeles

Los Angeles, California
2015 – 2020: Graduate Researcher

SUMMARY:

Dr. Whitener is an engineer with WQTS with a strong expertise in planning and conducting both bench and field efforts examining both emerging water contaminants as well as traditional water quality parameters. Since joining WQTS in 2020, Dr. Whitener has been involved with a number of projects including studies on the pre-treatment of manganese for a groundwater RO (reverse osmosis) plant, nitrate peaking events through GAC (granular activated carbon) treatment, the effect of pH on the corrosion of home plumbing, ozonation for taste and odor control concerns, and biologically active filtration. In the past, Dr. Whitener has also served as a monitoring database developer and has the expertise to create customized data analysis for complex datasets.

RECOGNITIONS & AWARDS:

- ❑ 1st Place Eco Innovators Award of Excellence – The Metropolitan Water District of Southern CA's World Water Forum – 2017 & 2018
- ❑ The William Joseph Steele Award for Best Grant Writing – The Metropolitan Water District of Southern CA's World Water Forum – 2018

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

- American Water Works Association (AWWA)
- American Chemical Society (ACS)

EXAMPLE PROJECTS:

Reverse Osmosis (RO) Pilot Testing Plan

WQTS is assisting a California water agency in planning a pilot study to investigate potential causes of the fouling of the Reverse Osmosis (RO) membranes at its groundwater desalination facility. Dr. Whitener analyzed historical data and is collaborating with District staff on the development of the testing plan.

Nitrate Peaking through Granular Activated Carbon (GAC) Filters

WQTS is working with a California water agency that uses a temporary Granular Activated Carbon (GAC) system to remove volatile organic chemicals from groundwater and has plans to construct a full-scale GAC treatment system. However, due to the presence of nitrate in the groundwater, the Agency is concerned about the potential peaking of nitrate above the MCL of 10 mg/L as N after short-term system shutdowns. WQTS conducted pilot-scale testing to evaluate nitrate peaking through different types of GAC material and after different periods of shutdowns. Dr. Whitener worked on the development of the pilot testing plan and analysis of the testing results.

Biologically Active Filtration (BAF) Monitoring Plan

WQTS is assisting a California water agency to evaluate the performance of its biologically active filters (BAF) and propose changes to the BAF monitoring plan as needed. Dr. Whitener has reviewed and analyzed past data, conducted a literature review of peer-reviewed reports, and is communicating recommendations for this project.

CONFERENCE PRESENTATIONS:

1. Whitener, V.A., Hung, W., and Jay, J.A. "Antibiotic Resistance Genes in Reclaimed Water for Irrigation in the Maneadero Valley, Mexico." In Proceedings of the ACS National Meeting Conference, San Diego, CA (2020).
2. Whitener, V.A., Jay, J.A. "A Comparative Analysis of the Fate of Antibiotic Resistance Genes in Parallel Secondary Wastewater Treatment Systems." In Proceedings of the Annual Water Microbiology Conference, Chapel Hill, NC (2019).

PEER REVIEWED JOURNAL ARTICLES:

1. Whitener, V.A., Cook, B., Spielbauer, I., Nguyen, P.K. and Jay, J.A., 2021. Impact of a college course on the sustainability of student diets in terms of the planetary boundaries for climate change and land, water, nitrogen and phosphorus use. *Frontiers in Sustainable Food Systems*, 5, p.227.
2. Sanchez, H.M.; Whitener, V.A.; Thulsiraj, V.; Amundson, A.; Collins, C.; Duran-Gonzalez, M.; Giragossian, E.; Hornstra, A.; Kamel, S.; Maben, A.; Reynolds, A.; Roswell, E.; Schmidt, B.; Sevigny, L.; Xiong, C.; Jay, J.A. Antibiotic Resistance of *Escherichia coli* Isolated from Conventional, No Antibiotics, and Humane Family Owned Retail Broiler Chicken Meat. *Animals* 2020, 10, 2217. <https://doi.org/10.3390/ani10122217>
3. Zimmer-Faust, A.G., Thulsiraj, V., Lee, C.M., Whitener, V., Rugh, M., Mendoza-Espinosa, Jay, J.A. "Multi-tiered approach utilizing microbial source tracking and human associated-IMS/ATP for surveillance of human fecal contamination in Baja California, Mexico," *Science of The Total Environment*, 640:475-484 (2018).