



# PROFESSIONAL PROFILE



## Lathika Varanasi, PhD

### Senior Engineer I

#### EXPERIENCE SUMMARY

Dr. Varanasi holds a PhD in Environmental Engineering and has over five years of experience in engineering and consulting Senior Environmental Engineer at Roux (2024-Present); Project Manager at Civil and Environmental Consultants, Inc. (2023-2024); Project Engineer at Walden Environmental Engineering (2020-2022); and Project Engineer at JKMuir, LLC (2019-2020).

Additionally, Dr. Varanasi has over five years of combined research experience related to wastewater treatment and remediation, drinking water quality and soil remediation.

#### TECHNICAL SPECIALTIES

Dr. Varanasi’s range of experience includes design engineering, development of treatment processes, engineering research, technical data analysis, technical report and manuscript writing, development of project proposals and cost estimates, performing feasibility studies, development of bid documents, field sampling and assessments, and auditing in areas of wastewater quality and treatment, drinking water quality and treatment, energy efficiency and recovery, soil and groundwater remediation, stormwater management and solid waste management.

#### REPRESENTATIVE PROJECTS

- Developed treatment processes of a conventional activated sludge wastewater treatment plant, including the design of lift stations, aeration systems, tertiary filtration and disinfection systems.
- Conducted feasibility study on the capacity expansion of an existing wastewater treatment facility.
- Analyzed and developed engineering recommendations to enhance the performance of drinking water distribution systems.
- Designed pumping systems for wastewater treatment facilities, developed proposals and cost estimates for the upgradation of wastewater treatment systems.
- Conducted energy consumption evaluations for equipment and process systems of water and wastewater treatment facilities and associated Combined Heat and Power (CHP) systems.
- Developed energy conservation measures and provided recommendations for alternative low energy technologies for the upgrade of process operations and performances of water and wastewater treatment facilities.
- Sampled and analyzed industrial wastewater for VOCs, heavy metals and Non-Polar Materials, developed treatment solutions.
- Investigated transformation of dissolved organic matter (DOM) of secondary effluent wastewater in bench scale UV/Advanced Oxidation Processes (UV/AOPs).
- Established optimum pH and temperature conditions to achieve maximum degradation of dichloroacetamide (DCAM), a disinfection by-product.
- Established optimum pH conditions for the conversion of hexavalent chromium (toxic) present in wastewater and soil samples into trivalent chromium (benign) using sodium metabisulphite as a reducing agent.
- Conducted Phase I and Phase II environmental site assessments, implemented sub-slab depressurization systems for soil-vapor remediation, developed remedial work plans and remediation reports.

#### CONTACT INFORMATION

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#### EDUCATION

PhD, Environmental Engineering, Michigan Technological University  
MS, Environmental Engineering University of Massachusetts, Amherst

#### PROFESSIONAL LICENSES

Engineer in Training (Environmental)



- Designed drainage systems and catch basins for stormwater management, reviewed design drawings associated with erosion control and stormwater pollution prevention, conducted inspections of industrial facilities to ensure compliances with stormwater pollution prevention plans.
- Conducted audits of industrial facilities to ensure that treatment processes and solid waste management practices complied with environmental regulations.
- Conducted inspections of industrial facilities to assess solid management practices and developed comprehensive Risk Management Plans.

#### **PROFESSIONAL TRAININGS**

HAZWOPER 40

OSHA 10 Hour General Industry

#### **PUBLICATIONS**

Varanasi, L., Coscarelli, E., Khaksari, M., Mazzoleni, L. R., & Minakata, D. (2018). Transformations of dissolved organic matter induced by UV photolysis, Hydroxyl radicals, chlorine radicals, and sulfate radicals in aqueous-phase UV-Based advanced oxidation processes. *Water Research*, 135, 22-30.

#### **PRESENTATIONS**

“Risk Management Strategies for Water Treatment and Supply: What does your Water Safety Plan tell you?” Environment Health and Safety (EHS) Seminar, Galveston, TX, June 2024

“Transformation of Dissolved Organic Matter in UV-based Advanced Oxidation Processes,” 256th American Chemical Society (ACS) National Meeting, Boston, MA, August 2018

“Transformation of Dissolved Organic Matter in engineered ultraviolet (UV) photolysis and UV-based Advanced Oxidation Processes,” Association of Environmental Engineering and Science Professors (AEESP), University of Michigan, Ann Arbor, MI, June 2017.