

Sanaiya Islam

sanaiyai@usc.edu | [linkedin.com/in/sanaiya-islam](https://www.linkedin.com/in/sanaiya-islam)

EDUCATION

Doctor of Philosophy in Environmental Engineering <i>University of Southern California</i>	Exp. Dec. 2027 <i>Los Angeles, CA</i>
Master of Science in Environmental Engineering <i>University of Cincinnati</i>	Apr. 2020 <i>Cincinnati, OH</i>
Bachelor of Science in Footwear Engineering <i>University of Dhaka</i>	Nov. 2015 <i>Dhaka, Bangladesh</i>

RESEARCH EXPERIENCE

Graduate Student <i>Dept. of Civil and Environmental Engineering, University of Southern California</i>	Aug. 2023 – Present <i>Los Angeles, CA</i>
Laboratory Manager <i>Dept. of Civil and Environmental Engineering, University of California, Berkeley</i>	Feb. 2021 – June, 2023 <i>Berkeley, CA</i>
<ul style="list-style-type: none">I worked on developing ISCO methods for legacy contaminants remediation in superfund sites. I am developing a model to predict PAH oxidation using persulfate.I participated in the “SARS-CoV-2 variant tracking from wastewater” project in collaboration with CDPH. I developed qPCR assays for monitoring different variants of SARS-CoV-2 virus in wastewater.	
Junior Specialist <i>Dept. of Biomolecular Engineering, University of California, Santa Cruz</i>	Sep. 2019 – Jun. 2021 <i>Santa Cruz, CA</i>
I performed sequence alignments and signal-level analyses for DNA and RNA data, machine learning analyses on nanopore data, data management, and general data analysis pipelines.	
Chemistry Laboratory Analyst <i>Daibel Laboratories</i>	Nov. 2020 – Feb. 2021 <i>Santa Cruz, CA</i>
I developed experimental methods for the detection of pesticides and mycotoxins using triple quadrupole liquid chromatography equipped with mass spectrometry.	
Graduate Research Assistant <i>Dept. of Chemical and Environmental Engineering, University of Cincinnati</i>	Jan. 2017 – Mar. 2020 <i>Cincinnati, OH</i>
I completed master’s research project on “degradation of ternary mixture of trihalomethanes in a biotrickling filter seeded with biosurfactant and fungi”.	
Research Intern <i>Research and Development, Metropolitan Sewer District, City of Cincinnati</i>	Jan. 2019 – Jun. 2019 <i>Cincinnati, OH</i>
I contributed to a pilot research project on “disinfection of wastewater with a combination of chlorine and peracetic acid”.	
Teaching Assistant <i>Dept. of Chemical and Environmental Engineering, University of Cincinnati</i>	May 2017 – Dec. 2018 <i>Cincinnati, OH</i>
I was the teaching assistant to multiple graduate-level courses, including chemical principles of environmental systems and environmental instrumentation.	

CONFERENCE PRESENTATIONS AND PUBLICATIONS

- **Sanaiya Islam**, Amy A. Cuthbertson, Joaquin Bradley Silva, David L. Sedlak, “Oxidation Products of Polycyclic Aromatic Hydrocarbons with Thermally Activated Persulfate: Mobility and Reactivity with Biomolecules”, Manuscript in preparation.
- Burnor et al., “Wastewater for Public Health: Timely, sensitive, and reliable SARS-CoV-2 Omicron variant monitoring in California”, Manuscript in preparation.
- Technical session presentation on “SARS-CoV-2 variant tracking from wastewater” at the **Public Health and Water Conference: Wastewater Disease Surveillance Summit**, Cincinnati, OH, March 22-24, 2022.
- Platform presentation on “Dual disinfection of wastewater effluent with peracetic Acid (PAA) and sodium hypochlorite (NaOCl) in a sequential treatment: A full-scale pilot study” at the **92nd Water Environment Federation Technical Exhibition and Conference 2019**, Chicago, IL, Sept 21-25, 2019.
- Platform presentation on “Degradation of ternary mixture of trihalomethanes in a biotrickling filter seeded with biosurfactant and fungi” at the **Ninth International Conference on Environmental Science and Technology 2018**, Houston, TX, June 25-29, 2018.

SKILLS

Advanced Laboratory Equipment

Expert in gas chromatography equipped with FID, MS, TCD, liquid chromatography, ICP-MS, LC-MS QQQ, ion chromatography, atomic absorption spectroscopy, total organic carbon analyzer, UV-VIS spectroscopy; PCR, real-time PCR (qPCR), digital PCR (dPCR), DNA and RNA sample preparation and quality check, sequencing with equipment like Personal Genome Machine, minION, promethION.

Technical

Expert in ArcGIS 10.5, AutoCAD 2016, CHEMCAD 6.0, programming in Bash, R, Python, MATLAB. Proficient in bioinformatics tools like IGV, Samtools, minimap2.