María Catalina Sevillano Rivera, PhD, EIT

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Environmental Engineer with 5 + years of research experience in metagenomic sequencing analyses to generate insights about microbial populations in drinking water systems. Seeking to apply bioinformatics and data analysis skills to other 'omic data sets in an industry setting.

RESEARCH EXPERIENCE

Northeastern University	*Jan 2016-Aug 2021*
Research Assistant / Teaching Assistant	**Boston, MA**

- Processed and analyzed metagenomic data from DNA sequencing of drinking water microbiomes. Performed QC, *de novo* assembly, binning, and annotation. Used multivariate statistical analyses to contextualize results.
- Developed Rmarkdown documents and shiny apps to share results and exploratory analyses internally.
- Consistently and successfully executed laboratory work with molecular biology tools, such as DNA extraction, PCR, qPCR and analytical tools such as TOC analyzer. Gained familiarity with flow cytometry staining and cell counts.
- Supervised and trained students in experimental design and general lab work practices.
- Presented scientific information at national and international conferences. Collaborated with researchers in Europe and USA to publish high quality research articles. Worked effectively even when met with cultural or geographic issues.
- Designed several sampling campaigns and addressed all related logistical challenges. This included material and expense budgeting, travel scheduling, and coordination of sampling participants.

Massachusetts Institute of Technology	*Jun 2011-Aug 2011*
Summer Research Intern	**Cambridge, MA**

- Responsible for continuous upkeep of bacterial cultures of several strains of *Vibrio spp.* Recorded their respective growth curves, and performed culture staining for microscope visualization.

University of Puerto Rico	*Aug 2010-May 2011*
Undergraduate Researcher	**Mayagüez, PR**

- Performed enrichment and isolation of phthalate degraders from landfill leachate and monitored several biological and chemical parameters.

University of Michigan	*Jun 2010-Aug 2010*
Summer Research Intern	**Ann Arbor, MI**

- Collected samples from a full-scale drinking water treatment plant and distribution system. Concentrated biomass of drinking water samples through filtration methods, performed DNA extraction, and HPC.

RELEVANT WORKSHOPS

IDWT	*Aug 2018*
Institute in Drinking Water Treatment	**Northampton, MA**

EDAMAME	*Aug 2017*
Explorations in Data Analysis for Metagenomic Advances in Microbial Ecology	**Hickory Corners, MI**

SKILLS

Programming: Proficient with R (tidyverse, shiny), familiar with Bash, git, mySQL, and Python |
Languages: Fully Bilingual (Spanish and English)

EDUCATION

Northeastern University	*Sep 2021*
Doctor of Philosophy in Civil Engineering	**Boston, MA**

Technical University of Madrid	*Mar 2014*
Master in Environmental Engineering	**Madrid, Spain**

University of Puerto Rico	*Jun 2012*
Bachelor of Science in Civil Engineering	**Mayagüez, PR**