



# Alison Leslie Ling

**Graduate Institution:** University of Colorado at Boulder

**Graduate Discipline:** Environmental Engineering

**Hometown:** Minneapolis, MN

**Relevant SC Research:** Biological and Environmental Research

## Research Interest:

I am interested in applying emerging methods in the fields of microbiology and molecular biology to furthering knowledge and optimizing processes in engineered biological systems. Specific interests include biofiltration in drinking water treatment, biological nutrient removal in wastewater treatment, and subsurface bioremediation of chemical contaminants. My thesis research focuses on microbially-induced concrete corrosion of wastewater infrastructure, which cost utilities around the world tens of billions of dollars yearly. I am conducting a regional survey of corrosion microbiology to assess how geographical and environmental variables affect the extent of corrosion and the microbial community present. This work will enable wastewater utilities to better assess where and when corrosion will happen. I am also developing and testing a metals-based toxicity mechanism to remediate and prevent corrosion in extreme environments. The product could lead to an inexpensive method for inhibiting corrosion that directly targets the microbial communities responsible.

## About Me:

I aspire to work as an environmental engineering consultant for biological

wastewater treatment and subsurface remediation, where I aim to promote the development and implementation of molecular methods for assessing engineering and environmental systems. Biological methods used in engineering fields are decades behind those used in science laboratories. Updating them could enable more accurate and up-to-date monitoring within engineering systems. In my free time, I enjoy running, road biking, baking, reading about history, and playing competitive Ultimate.



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