

Supporting Undergraduate Research Experiences in Environmental Health (SURE-EH)



The **Supporting Undergraduate Research Experiences in Environmental Health (SURE-EH)** program provides up to two years of hourly employment to UW undergraduates from traditionally underrepresented backgrounds to conduct research in areas relevant to the environmental health sciences and the mission of the [National Institute of Environmental Health Sciences](#).

Students accepted into the program will work alongside faculty and research staff in the School of Public Health's Department of Environmental and Occupational Health Science (DEOHS). Student researchers will be eligible for up to 2 years of funding: full-time (up to 40 hours) during summer and part-time (up to 15 hours) during the academic year.

We are currently looking for undergraduate students to work on the following research project:

Project # 1: Methods for enrichment and sequencing of antibiotic resistance genes in environmental samples

Description: Antimicrobial resistance (AMR) is one of the most pressing issues in global public health. AMR is most commonly studied through clinical isolates, yet many microorganisms are not culturable and non-pathogenic microorganisms carrying resistance also pose a threat. Metagenomic sequencing, or sequencing all DNA in a sample, is a promising tool for detection of antibiotic resistance genes (ARGs) but lacks sensitivity. We are seeking a motivated undergraduate to assist in the development of targeted sequencing laboratory methods for antibiotic resistance genes and develop pipelines to analyze targeted sequencing data. We aim to develop methods that are sensitive enough to detect low abundance resistance genes in complex environmental samples. The student will gain experience in PCR and long-read nanopore sequencing. In addition, they will have the opportunity to learn how to analyze sequencing data using python, R, and bash. The student will be mentored by Dr. Fuhrmeister with an emphasis on developing their own independent project.

Desired qualifications: Undergraduate coursework in microbiology. Coursework in computer science and experience in programming using bash and python a plus.

- Learn more about SURE-EH and eligibility requirements on our website: <http://deohs.washington.edu/funded-research-uw-undergraduates>
- Learn about our current open positions and gain access to the application here: <http://deohs.washington.edu/apply-sure-eh>

SURE-EH will be accepting applications to the program **between October 3 - October 13, 2022 at 11:00p.**

Questions? Please contact sure@uw.edu