

Opportunity Title: Microbiology Lab Support

Opportunity Reference Code: EPA-NSSC-0008-32-09-25-20NS

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply **Click to Apply:** <https://careers-orau.icims.com/jobs/1044/microbiology-lab-support/job>

Description The EPA National Student Services Contract has an immediate opening for a full time Microbiology Lab Support position with the Office of Research and Development at the EPA facility in Cincinnati, OH.

The Office of Research and Development at the EPA supports high-quality research to improve the scientific basis for decisions on national environmental issues and help EPA achieve its environmental goals. Research is conducted in a broad range of environmental areas by scientists in EPA laboratories and at universities across the country.

What the EPA project is about

The Center for Environmental Solutions and Emergency Response (CESER) plans, coordinates and conducts an applied, customer-driven, national research and development program to improve decision making by EPA, federal, state, tribal and local agencies, when faced with challenging environmental problems in the built environment. Within CESER, the Water Infrastructure Division (WID) conducts customer-driven research and support, providing scientific leadership on national-scale problems associated with water quality in the built infrastructure.

As part of their mission, CESER supports EPA's mission to protect human health and the environment by researching microbial contaminants in the environment. Antimicrobial resistance (AMR) is a complex issue that encompasses many different matrixes and disciplines. The role of environmental matrixes in harboring, exposure, and growth of AMR is not well understood. Research of AMR in the WID will help further the understanding of this complex issue and how it relates to the environment.

What experience and skills will you gain?

As a team member, you will assist WID/BCB staff with the duties required to support and maintain projects looking at antimicrobial/antibiotic resistance in a variety of environmental matrixes, including biosolids, surface water and wastewater. In particular wastewater, biosolids, and surface waters will be collected, filtered, and analyzed using culture and molecular approaches to quantify specific pathogen, virulence, and antimicrobial resistance determinants. These data will be used to assess potential adverse risk associated with direct and *de facto* reuse of industrial and municipal wastewater, as well as the abundance and risk of land application of biosolids with respect to antimicrobial resistance.

How you will apply your skills

Laboratory Work and Analysis Responsibilities

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- Assisting in preparation of Quality Assurance Project Plans and Standard Operating Procedures;
- Preparing materials (coolers, bottles, filters, etc.) for sample collection;
- Processing of samples received, including ultrafiltration and membrane filtration;
- Preparing microbiological media and supplements for analysis of culturable microorganisms;
- Analysis of culturable bacteria concentrations in processed samples, including single colony isolation and antimicrobial susceptibility testing;
- Nucleic acid extraction of processed samples using in-house developed protocols and/or commercially available kits;
- Analysis of specific virulence and antimicrobial resistance gene concentrations in processed samples using molecular techniques (i.e. qPCR, ddPCR);
- Preparing samples for a variety of molecular techniques and validated protocols, including DNase treatment, PCR, whole genome amplification, sample barcoding, product clean-up and normalization;
- Maintaining careful and accurate records in designated laboratory notebooks;
- Maintaining inventory of supplies and reagents; and
- Basic laboratory maintenance and etiquette.

Communications-related responsibilities

- Participating as a member of a multi-disciplinary research team;
- Interacting with other members of the development team as well as EPA scientists; and
- Assisting researchers in data organization, and developing products that will be presented at conferences.

Required Knowledge, Skills, Work Experience, and Education

- Basic knowledge of microbiological techniques, including aseptic techniques, media preparation and colony isolation;
- Basic knowledge of molecular biology research, including nucleic acid extraction, PCR, RT-PCR, gel electrophoresis;
- Demonstrated leadership skills, attention to detail, ability to work independently and have experience working in teams; and
- Experience with using Microsoft Office applications (i.e., Excel, PowerPoint, Word, Outlook, OneNote), and the Internet.

Location: This job will be located EPA's facility in Cincinnati, OH.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of \$22.19 for hours worked.

Hours: Full-time.

Travel: Occasional overnight travel may be required.

Expected start date: The position is full time and expected to begin September 2020. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The initial project is

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through May 14, 2021, with up to 4 additional option periods.

For more information, contact EPAjobs@ora.u.org. Do not contact EPA directly.

Qualifications Be at least 18 years of age **and**

- Have earned at least a Bachelor's degree in biology, microbiology, environmental science, molecular biology, or a closely related field of study from an accredited university or college within the last 24 months **and**
- Be a citizen of the United States of America or a Legal Permanent Resident.

EPA ORD employees, their spouses, and children are not eligible to participate in this program.

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Bachelor's Degree or Master's Degree received within the last 24 month(s).
 - **Overall GPA:** 2.00
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Environmental and Marine Sciences** ([13](#))
 - **Life Health and Medical Sciences** ([45](#))

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Bachelor's degree in biology, microbiology, environmental science, molecular biology, or a closely related field of study from an accredited university or college within the last 24 months; a citizen or a Legal Permanent Resident of the United States of America; and not a current employee of EPA ORD or the spouse or child of an EPA ORD employee.

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