

**Opportunity Title:** Microbial Wastewater Research

**Opportunity Reference Code:** EPA-SSP-0008-17

**Organization** U.S. Environmental Protection Agency (EPA)

**Reference Code** EPA-SSP-0008-17

**How to Apply** Ready to send share your interest with EPA scientists?

Submit application and supporting documents by clicking on Apply Now button.

**Description** The EPA Environmental Research and Business Support Program has an immediate opening for a full-time Microbial Wastewater Research position with the EPA facility in Cincinnati, OH.

#### U.S. EPA Opportunity

The Environmental Futures Analysis Branch (EFAB) of the Systems Exposure Division (SED), National Exposure Research Laboratory (NERL), Office of Research and Development (ORD) at EPA works to understand and mitigate public health risks from microbes in water.

#### What the EPA project is about

This project team in SED is focused on characterizing the potential microbial risk associated with wastewater. The data obtained in this research will be used to assess potential adverse risk associated with direct and de facto reuse of industrial and municipal wastewater.


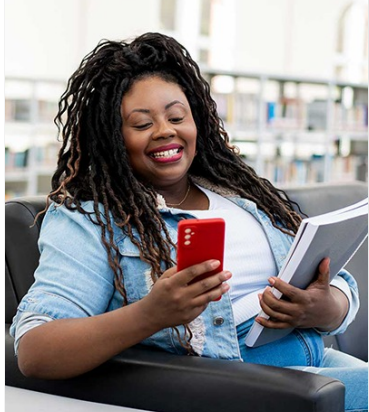
#### What you will be doing

As a team member, you will assist the SED team with providing technical laboratory support for a research project focusing on quantifying specific microbes and microbial genes in wastewater. In particular, municipal and industrial wastewater shall be collected, filtered, and analyzed using culture and molecular approaches to quantify specific pathogen, virulence, and antimicrobial resistance determinants.

#### Required skills

- Demonstrated proficiency in general laboratory safety practices;
- Demonstrated proficiency in bacteriological culture techniques, including aseptic techniques, media preparation and colony isolation;
- Demonstrated proficiency in molecular biology research, including experience with nucleic acid extraction, PCR, RT-PCR, gel electrophoresis and next generation sequencing (e.g., Illumina MiSeq);
- Working knowledge of wastewater systems and water reuse for potable and non-potable use scenarios;
- Demonstrated leadership skills, attention to detail, ability to work independently and have experience working in teams;
- Strong written, oral and electronic communications skills; and
- Proficiency with Microsoft Office applications (i.e., Excel, PowerPoint, Word, Outlook, OneNote), and the Internet.

#### Desired skills

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- Working knowledge of microbiological laboratory techniques for assessing water quality, such as membrane- and ultra-filtration of large volumes of water and analysis of fecal indicator bacteria.

#### **How you will apply your technical laboratory skills**

- Assist in preparation of Quality Assurance Project Plan and Standard Operating Procedures;
- Preparation of materials (coolers, bottles, filters, etc.) for sample collection;
- Documentation and receipt of samples, logging samples into appropriate databases (e.g., Laboratory Information Management System), and distribution of samples to on-site collaborators, and other duties as directed by mentor;
- Processing of samples received, including ultrafiltration and membrane filtration;
- Preparation of microbiological media and supplements for analysis of culturable microbes;
- 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);
- Preparation of 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.

**Location:** This job will be located at the EPA facility in Cincinnati, OH.

**Salary:** Selected applicant will receive an hourly wage of \$29.22 for hours worked.

**Travel:** Full time.

**Expected start date:** This full time position is expected to begin July 2019. The selected applicant will be a temporary employee of ORAU working as a contractor to EPA. The initial contract period is through May 14, 2020, with potential optional periods to follow.

**Working conditions:** The selected candidate shall be supervised by a mentor who will provide day-to-day direction...

The work will be in a laboratory setting and may involve exposure to hazardous elements.

**Questions:** EPAjobs@oraу.org do not contact EPA directly.

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**Program Information:** [www.orau.org/epa](http://www.orau.org/epa)

**Qualifications** **Qualifications:**

- Be at least 18 years of age and
- Have earned a Master's degree in biology, microbiology, molecular biology or a related field 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.

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
  - **Degree:** Master's Degree or Doctoral Degree received within the last 24 month(s).
  - **Discipline(s):**
    - **Environmental and Marine Sciences** ([1](#))
    - **Life Health and Medical Sciences** ([45](#))

**Affirmation** I certify that I am at least 18 years of age; a recent graduate with a Master's degree in biology, microbiology, molecular biology or a related field from an accredited university or college within the last 24 months; and not a current employee of EPA ORD or the spouse or child of an EPA ORD employee.

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