

Opportunity Title: Wastewater Research Assistant

Opportunity Reference Code: EPA-SSP-0008-17-02-17-20

Organization U.S. Environmental Protection Agency (EPA)

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

- Submit application and supporting documents by clicking on Apply Now button.
- *For more information, contact* EPAjobs@orau.org. Do not contact EPA directly.
- Check out our website at: <http://orau.org/epa/>

Description The EPA National Student Services Contract has an immediate opening for a full time Wastewater Research Assistant 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 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. One team in SED is focused on characterizing the potential microbial risk associated with wastewater.

What experience and skills will you gain?

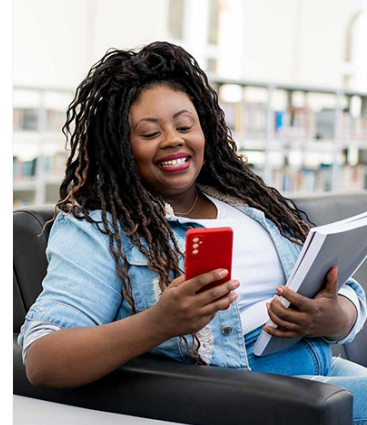
As a team member, you will assist the SED team with providing technical laboratory support for a research project focusing on quantifying specific microbes and microbial genes in wastewater. In particular, municipal and industrial wastewater will be collected, filtered, and analyzed using culture and molecular approaches to quantify specific pathogen, virulence, and antimicrobial resistance determinants. This data will be used to assess potential adverse risk associated with direct and *de facto* reuse of industrial and municipal wastewater.

Required Knowledge, Skills, Work Experience, and Education


- 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



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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 Knowledge, Skills, Work Experience, and Education

- 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.

Technical laboratory support responsibilities

- Assisting in preparation of Quality Assurance Project Plan and Standard Operating Procedures;
- Preparing of materials (coolers, bottles, filters, etc.) for sample collection;
- Documenting receipt of samples and associated documentation, 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;
- Preparing of microbiological media and supplements for analysis of culturable microbes;
- Analyzing culturable bacteria concentrations in processed samples, including single colony isolation and antimicrobial susceptibility testing;
- Performing nucleic acid extraction of processed samples using in-house developed protocols and/or commercially available kits;
- Analyzing 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
- Demonstrating basic laboratory maintenance and etiquette.

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

Salary: Selected applicant will become temporary employee of ORAU and will receive an hourly wage of \$29.22 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 March 2020. The initial project is through May 14, 2020, with potential optional periods.

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

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

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Master's Degree or Doctoral Degree received within the last 24 months or anticipated to be received by 2/28/2020 11:59:00 PM.
 - **Overall GPA:** 2.00
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **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 Master's degree in biology, microbiology, molecular biology or a closely related field of study field 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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