

Opportunity Title: EPA Antibiotic Laboratory Support

Opportunity Reference Code: EPA-SSP-0027-8

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-SSP-0027-8

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

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

Description Background:

The EPA Environmental Research and Business Support Program has an immediate opening for an EPA Antibiotic Laboratory Support with the Office of Research and Development at the EPA facility in Cincinnati, OH.

The Office of Research and Development at the EPA supports 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.

The Microbial Exposure Branch (MEB) of the Environmental Methods and Measurements Division (EMMD), National Exposure Research Laboratory (NERL), Office of Research and Development (ORD) at EPA works to understand and mitigate public health risks of pathogens in water. One team in EMMD is focused on understanding the risks associated with antibiotic resistant microbes (ARM) (e.g. bacteria and fungi), and mechanisms associated with conferring antibiotic resistance, in water systems.

The selected candidate shall assist the EMMD team with providing technical laboratory support for a research project focusing on ARMs in wastewater systems, including 1) identifying various antibiotic resistance genes and 2) elucidating the mechanisms involved in acquiring antibiotic resistance in bacteria.

Technical laboratory support responsibilities shall include assisting with:

- Preparing Quality Assurance Project Plan,
- Preparing materials (coolers, bottles, filters, etc.) to be shipped to sites for sample collection,
- Coordinating receipt and distribution of samples and associated documentation to the appropriate EPA laboratories
- Processing samples received, including elution of ultrafilters, followed by solvent extraction and membrane filtration of eluates,
- Preparing microbiological media and supplements for analysis of culturable bacteria,
- Analyzing ARM concentrations in processed samples,
- Analyzing antibiotic resistance using classical bacteriological/mycobiological/ virological culture techniques,
- Performing nucleic acid extraction of processed samples using a variety



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of commercial kits,

- Analyzing antibiotic resistance genes using molecular techniques such as but not limited to reverse transcription quantitative real-time PCR, quantitative real-time PCR, and droplet digital PCR,
- Preparing sequencing libraries for microbial (bacteria and viruses) analysis using 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, and
- Maintaining inventory of supplies and ordering supplies, as needed.

Communications-related responsibilities shall include:

- Participating as a member of a multi-disciplinary research team,
- Interacting with other members of the development team as well as EPA scientists, and
- Documenting experimental and sample collection efforts.

Selected candidate may be asked to present work performed as a poster at a scientific conference and/or to assist with writing a manuscript or report describing the research.

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

Salary: The selected applicant will become a full time temporary employee of ORAU and will receive an hourly wage of \$20.80 for hours worked.

Travel: Occasional overnight travel may be required.

Working Conditions: This position will involve work in a laboratory setting and may involve exposure to hazardous elements.

The selected candidate shall be supervised by a mentor who will provide day-to-day direction, as well as coach, advise and counsel the selected candidate, and review his/her work.

Expected Start Date: The position start date is November 2016. The selected applicant will be temporary employees of ORAU working as a contractor to EPA. The initial contract period is through May 14, 2017. EPA may elect to renew the contract for an additional three 12-month optional periods.

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Qualifications Eligible applicants must:

- Be at least 18 years of age **and**
- Have earned at least a Bachelor's degree in biology, microbiology, molecular biology, or a related field of study from an accredited university or college within the last 24 months **and**

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- 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.

Required Knowledge, Skills, Work Experience, and Education

Successful candidates will have:

- Demonstrated experience in culture techniques of antibiotic resistant microorganisms,
- Demonstrated experience in microbiological (or related) research,
- Demonstrated experience in molecular biology research, including experience with DNA/RNA extractions, PCR, RT-PCR and gel electrophoresis,
- Working knowledge of general laboratory techniques for assessing water quality parameters,
- Working knowledge of antibiotic resistance bacteria/genes,
- Proficiency with Microsoft Office applications (i.e., Excel, PowerPoint, Word, Outlook),
- Experience with general laboratory safety practices,
- Demonstrated leadership skills and have experience working in a multi-disciplinary team, and
- Strong communication skills (i.e., written, oral, telephone etiquette, presentation abilities).

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Bachelor's Degree or Master's Degree received within the last 24 month(s).
 - **Discipline(s):**
 - **Life Health and Medical Sciences** ([11](#) )

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, molecular biology, or a 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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