

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-NSSC-0009-58

- How to Apply Click <u>HERE</u> to apply.
 - **Description** The EPA National Student Services Contract has an immediate opening for a full time Computational Toxicology QA and Data Support position with the Office of Research and Development at the EPA facility in Research Triangle Park, NC.

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 Computational Toxicology and Exposure (CCTE) supports ORD by providing solutions-driven research to rapidly evaluate the potential human health and environmental risks due to exposures to environmental stressors and ensure the integrity of the freshwater environment and its capacity to support human well-being. CCTE researchers are developing and applying cutting edge innovations in methods to rapidly evaluate chemical toxicity, transport, and exposure to people and environments. Within CCTE, the Scientific Computing & Data Curation Division (SCDCD) develops the knowledge and information architecture necessary for integrating, transforming, and managing large scale data streams related to assessing the risk of chemicals. SCDCD creates and manages online tools and ensures they are compatible with existing chemistry, toxicology, and other experimental data sources.

What experience and skills will you gain?

We have developed RESTful Public Application Programming Interface (APIs) application for the data generated by the Center for Computational Toxicology and Exposure (CCTE), enabling easy access to its diverse range of data. Our APIs are hosted on cloud.gov, designed explicitly for US federal government applications. Divided into three microservices— Chemical, Hazard, and Bioactivity—these APIs offer a range of functionalities. The Chemical microservice allows chemical searching, retrieval of chemical structure files in various formats, access to experimental and predictive chemical properties, and other associated chemical data. The Hazard microservice provides hazard data for requested chemicals, with endpoints to retrieve all hazard data, humanspecific data, or ecotoxicity data. Lastly, the Bioactivity microservice enables data retrieval using chemical or assay identifiers.

The team member will provide the Public API project's software development, data management, analysis, and QA support. Tasks under this position will include learning and acquiring domain knowledge of

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> toxicology and chemistry for data analysis; data wrangling and data analysis; database scripting; code development in Java and Spring framework; identification and correction of bugs as part of quality control activities; and development of automated tools/scripts for keep validating the data.

The duties of the SSC will include, but are not limited to:

- Understand existing manual data-related tasks and identify opportunities for automation;
- Propose tools and approaches to automate tasks, increasing efficiency and reducing manual effort;
- Create validation scripts for the APIs to ensure the accuracy and reliability of processed data;
- Develop performance tests to evaluate the responsiveness and scalability of the APIs;
- Adapt and expand skills to handle new data types as the project evolves;
- Collaborate with the team to contribute to the improvement and enhancement of the Public APIs;
- Stay up to date with industry trends and best practices in API development and automation;
- Provide timely and accurate updates on progress and completion of assigned tasks;
- Collaborate with team members to troubleshoot and resolve any technical issues that may arise; and
- Follow coding standards and documentation guidelines to maintain code quality and clarity.

Communications-related responsibilities will include:

- Collaborate effectively with team members to understand project goals, requirements, and tasks;
- Engage in regular communication channels, such as meetings and emails, to provide updates, share ideas, and seek feedback;
- Clearly document technical information, including API documentation, code comments, and project documentation;
- Adapt communication style to convey complex technical concepts to both technical and non-technical team members; and
- Maintain open and transparent communication, seeking clarification and guidance when needed, and actively contributing to discussions and problem-solving.

Required Knowledge, Skills, Work Experience, and Education

- Training or coursework in computer programming;
- Strong reading comprehension skills and experience logically interpreting pieces of information from a variety of data source types;
- Experience programming in the Java language; and
- · Experience with relational databases, such as MySQL and



PostGreSQL.

Desired Knowledge, Skills, Work Experience, and Education

• Domain knowledge of biology or toxicology processes.

Location: This job will be located EPA's facility in Research Triangle Park, NC.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of \$23.37 for hours worked.

Hours: Full-time.

Travel: Travel related to the position is not anticipated. Travel for training and presentations at national meetings may be possible.

Expected start date: The position is full time and expected to begin September 2023. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The contract renews each May through 2025.

For more information, contact <u>EPANSSC@orau.org</u>. Do not contact EPA directly.

Qualifications • Be at least 18 years of age and

- Have earned at least a Bachelors' degree in biology, chemistry, toxicology, statistics, mathematics, engineering, 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.

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

Eligibility Requirements

• Degree: Any degree .

- Discipline(s):

 - Computer, Information, and Data Sciences (1. .
 - Engineering $(1 \odot)$

Citizenship: LPR or U.S. Citizen

- Life Health and Medical Sciences (2.)
- Mathematics and Statistics (2. (2. (2))
- Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Bachelors' degree in biology, chemistry, toxicology, statistics, mathematics, engineering, or a related fieldfrom 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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