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Opportunity Title: Toxicology Database Developer
Opportunity Reference Code: EPA-NSSC-0009-17

Organization U.S. Environmental Protection Agency (EPA)

Reference Code EPA-NSSC-0009-17

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: https://www.orau.org/epa/jobs.html

Description The EPA National Student Services Contract has an immediate opening for a full time Toxicology Database Developer 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 Biomolecular and Computational Toxicology Division (BCTD) performs research to develop and advance laboratory experimental and computational approaches to rapidly evaluate and characterize the potential human toxicity of chemicals.

The Toxicity Forecaster database (ToxCast's invitrodb) and Toxicity Reference Database (ToxRefDB) research projects aim to store and analyze high-throughput screening bioactivity data and legacy in vivo toxicology data, respectively. These projects intersect as data in ToxRefDB is often a critical source of reference data for validation of assay data collected and stored in invitrodb. Supporting these interrelated efforts involves various curation, database development, and data analysis tasks.

What experience and skills will you gain?

As a team member you will provide data management, data curation, and data analysis support to the ToxCast and ToxRefDB projects. This is a combination of R-programming, limited MySQL database management, file management, data curation and study data extraction, quality control, as well as performing qualitative and quantitative data analysis. You will work with other members of NCCT's team to maintain these databases, quality

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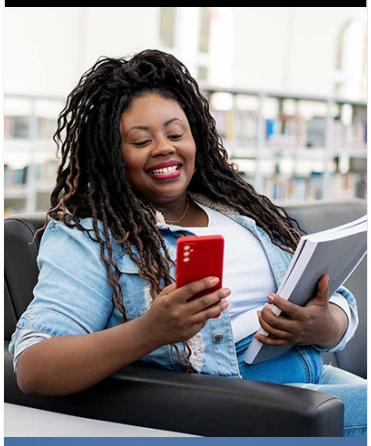

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control-entered data, and perform downstream analysis. You will be a member of a multi-disciplinary research team and will be trained to support the development, maintenance, and analysis of ToxRefDB and ToxCast's invitrodb.

How you will apply your skills

Database curation and analysis tasks

• Quality controlling animal study data entered by third party, primary animal study data extraction, and loading of data already in a computable format;
• Running automated data quality tests;
• Curating databases;
• Developing analysis tools for exploring and visualizing ToxCast and ToxRefDB data;
• Developing scripts to provide reports on the data and data quality;
• Developing analysis methods for performing dose response modeling; and
• Developing models that explore the relationship between in vivo, in vitro, and in silico datasets.

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;
• Documenting code and database development efforts;
• Organizing work files for sharing and transfer among team members; and
• May be asked to present work performed as a poster at a scientific conference.

Required Knowledge, Skills, Work Experience, and Education

• Experience with chemistry, biology, and toxicology;
• Proficiency with Microsoft Office applications (i.e., Excel, Access, PowerPoint, Word, Outlook);
• Experience with descriptive statistics to provide data reports as well as reports on curation progress; and
• Experience with R-language programming (or other scripting language, e.g. Python, SQL).

Desired Knowledge, Skills, Work Experience, and Education

• Experience with MySQL database and MySQL workbench is desired but not required;
• Knowledge of bioinformatics, including genes, gene annotation, and annotation of in vitro assay data is desired but not required; and
• Knowledge of the principles, theories and practices of biology, neurobiology, reproductive biology, and developmental biology to collect, curate, and manage in vivo toxicological data is desired but not

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required.

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 $29.57 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 June 2020. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The initial project is through May 14, 2021, with up to 4 potential optional periods.

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

Qualifications

- Be at least 18 years of age **and**
- Have earned at least a Master's degree in biology, toxicology, chemistry, bioinformatics, statistics, computational biology, math, physics, information science, or a 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.

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 5/31/2020 11:59:00 PM.
- **Overall GPA:** 2.00
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Physics** (16 👁)

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Master's degree in biology, toxicology, chemistry, bioinformatics, statistics, computational biology, math, physics, information science, 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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