

Opportunity Title: Data Analysis and Curation Support at EPA

Opportunity Reference Code: EPA-SSP-0012-24

Organization U.S. Environmental Protection Agency (EPA)

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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 The EPA Environmental Research and Business Support Program has an immediate opening for a Data Analysis and Curation Support position with the Office of Research and Development at the EPA's Research Triangle facility in Raleigh-Durham, 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.


The National Center for Computational Toxicology (NCCT) is responsible for developing computational tools and solutions for improving environmental risk assessments and regulatory decisions pertaining to chemical safety and sustainability. The NCCT 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.

The selected candidate shall 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. He/she will work with other members of NCCT's team to maintain these databases, quality control-entered data, and perform downstream analysis. He/she 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.

Database curation and analysis tasks shall include:



- Performing quality control of animal study data entered by


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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 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;
- Documenting code and database development efforts; and
- Organizing work files for sharing and transfer among team members.

The selected candidate may be asked to present work performed as a poster at a scientific conference.

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

Salary: Selected applicant will become temporary employee of ORAU and will receive an hourly wage of \$28.14 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 October 2017. The initial project is through May 14, 2018, followed by up to two (2) 12-month optional periods.

Working Conditions:

The selected applicant shall be supervised by a mentor who will provide day-to-day direction, as well as coach, advise, counsel and review his/her work. This position will involve work in an administrative setting and is not expected to involve exposure to hazardous elements.

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Qualifications Eligible applicants must:

- Be at least 18 years of age and

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- 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.

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

Required Knowledge, Skills, Work Experience, and Education







The applicant shall possess:

- Experience with chemistry, biology, and toxicology;
- Experience with a relational database that holds quantitative and qualitative toxicity data;
- Proficiency with Microsoft Office applications (i.e., Excel, Access, PowerPoint, Word, Outlook);
- Proficiency with descriptive statistics to provide data reports as well as reports on curation progress;
- Experience with R-language programming (or other scripting language, e.g. Python, SQL);
- Experience with MySQL database and MySQL workbench;
- Knowledge of bioinformatics, including genes, gene annotation, and annotation of in vitro assay data;
- Knowledge of the principles, theories and practices of biology, neurobiology, reproductive biology, and developmental biology to collect, curate, and manage in vivo toxicological data; and
- Knowledge of models used in EPA test guidelines, e.g., acute, chronic, multigenerational reproductive and developmental toxicity study designs.

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Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree received within the last 24 month(s).
- **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 )

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- **Mathematics and Statistics** (10 👁)
- **Physics** (16 👁)

Affirmation I certify that I am at least 18 years of age; 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; 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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