

Opportunity Title: EPA CRISPR Training Internship
Opportunity Reference Code: EPA-ORD-CCTE-BCTD-2021-03

Organization U.S. Environmental Protection Agency (EPA)

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A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. All transcripts must be in English or include an official English translation. Click [here](#) for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations. Click [here](#) for detailed information about recommendations.

All documents must be in English or include an official English translation.

Application Deadline 8/9/2021 3:00:00 PM Eastern Time Zone

Description *Applications may be reviewed on a rolling-basis and this posting could close before the deadline. Click [here](#) for information about the selection process.

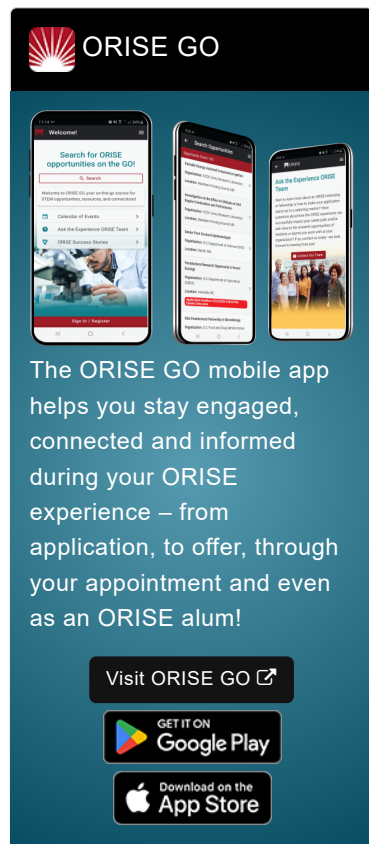
EPA Office/Lab and Location: A research opportunity is available at the Environmental Protection Agency (EPA), Office of Research and Development (ORD), Center for Computational Toxicology and Exposure (CCTE), Biomolecular & Computational Toxicology Division (BCTD) located in Research Triangle Park, North Carolina.

Research Project: This research project will develop and implement CRISPR methodology to genetically modify cell culture systems to mimic susceptibility factors that may augment the adverse effects of environmental chemical exposure. These data, which will include traditional toxicological and novel high-throughput phenotypic and single cell transcriptomic assessments, will be incorporated into a quantitative framework which will help predict the impact of these susceptibilities to environmental stressors that can help in later risk determinations.

The research participant will collaborate in developing methods for dosing of cell culture, and generating phenotypic data to gather the needed data to structure the computational model. Research activities may include:


- Hands-on participation in experimental research and data interpretation
- Reading and interpreting relevant scientific literature
- Active participation in meetings of the project team
- Preparing reports, presentations, and summaries of the data
- Presenting at professional meetings
- Authoring manuscripts for publication in peer-reviewed journals.


Learning Objectives: Under the guidance of a mentor, the participant will


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be involved in the following research activities:

- Developing methods to edit DNA/epigenome using CRISPR systems
- Generating, analyzing and integrating phenotypic and transcriptomic data
- Maintaining and exposing cell culture to environmental chemical stressors
- Synthesizing results for publication and presentation

Mentor(s): The mentor for this opportunity is Brian Chorley (chorley.brian@epa.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Summer 2021. All start dates are flexible and vary depending on numerous factors. Click [here](#) for detailed information about start dates.

Appointment Length: The appointment will initially be for one year and may be renewed up to three or four additional years upon EPA recommendation and subject to availability of funding.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. Click [here](#) for detailed information about full-time stipends.

EPA Security Clearance: Completion of a successful background investigation by the Office of Personnel Management (OPM) is required for an applicant to be on-boarded at EPA.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and EPA. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please see the [FAQ section](#) of our website. After reading, if you have additional questions about the application process please email ORISE.EPA.ORD@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a bachelor's degree in one of the relevant fields. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Lab course or work experience with general laboratory techniques associated with nucleic acid work (nucelase-free environment) and aseptic technique (cell culture)
- Experience with polymerase chain reaction (PCR) and next generation

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sequencing library prep

- Experience with bioinformatic methods and computer programming (R, Python)
- Proficiency with Microsoft Office applications (i.e., Excel, PowerPoint, Word, Outlook)
- Strong written, oral, and electronic communication skills

Eligibility

Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([5](#))
 - **Computer, Information, and Data Sciences** ([17](#))
 - **Earth and Geosciences** ([1](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Life Health and Medical Sciences** ([46](#))
 - **Mathematics and Statistics** ([10](#))
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).