

**Opportunity Title:** FDA Next Generation Sequencing Technologies Fellowship

**Opportunity Reference Code:** FDA-CFSAN-2019-0032

**Organization** U.S. Food and Drug Administration (FDA)

**Reference Code** FDA-CFSAN-2019-0032

**How to Apply** A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- One educational or professional recommendation. Your application will be considered incomplete, and will not be reviewed until one recommendation is submitted.

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

If you have questions, send an email to [ORISE.FDA.CFSAN@fda.hhs.gov](mailto:ORISE.FDA.CFSAN@fda.hhs.gov). Please include the reference code for this opportunity in your email.

**Description** \*Applications will be reviewed on a rolling-basis.

Two research opportunities are currently available at the U.S. Food and Drug Administration (FDA), Center for Food Safety and Applied Nutrition (CFSAN), Office of Regulatory Science (ORS) located in College Park, Maryland.

*Salmonella* spp. are one of the leading causes of human gastroenteritis worldwide and pose a serious health concern. The wide spectrum of food commodities that are associated with foodborne outbreaks caused by *Salmonella* serovars highlights the adaptability of this pathogen to a variety of different food growing and processing environments. The goals of this project are to improve the ability to predict and apply key phenotypic and genotypic characteristics of recurring isolates from food industry and farms to ultimately assist in preventive controls. Initially they will be examined for their levels of tolerance or resistance to quaternary ammonium chloride compounds (Quats), chlorine, heavy metals, antibiotic drugs, heat, salts, and acid. Additional resistance traits may be characterized as needed. Organisms included in the study will include *Salmonella*, and other foodborne pathogens.

Under the guidance of a mentor, the participant will receive training in the following research activities:

- CFSAN and Division of Microbiology (DM) biosafety procedures for handling pathogenic bacterial cultures
- DM laboratory methods, including:
  - use of the Biolog Omnilog kinetic cell growth assay reader
  - generation and analysis of DNA sequence data from using Illumina next generation sequencing technologies
  - use of the Q-Pix Colony Picker and Re-arraying robot
- Development of functional assays to characterize the phenotypic changes associated with adaptive genotypic changes identified through whole genome sequence analysis
- Environmental sampling efforts of sample collection and analysis for the presence of *Salmonella*
- Contribute to data management on all above stated projects as well as other research related activities
- Follow experimental protocols and document findings in a laboratory notebook
- Communicate with supervisors on a daily basis



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- Collaborate with supervisors to prepare reports for communicating results to CFSAN, FDA, and the scientific community

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and FDA. The initial appointment is for one year, but may be renewed upon recommendation of FDA contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at FDA in the College Park, Maryland, area. Participants do not become employees of FDA, DOE or the program administrator, and there are no employment-related benefits.

Completion of a successful background investigation by the Office of Personnel Management is required for an applicant to be on-boarded at FDA. OPM can complete a background investigation only for individuals, including non-US Citizens, who have resided in the US for a total of three of the past five years.

FDA requires ORISE participants to read and sign their FDA Education and Training Agreement within 30 days of his/her start date, setting forth the conditions and expectations for his/her educational appointment at the agency. This agreement covers such topics as the following:



- Non-employee nature of the ORISE appointment;
- Prohibition on ORISE Fellows performing inherently governmental functions;
- Obligation of ORISE Fellows to convey all necessary rights to the FDA regarding intellectual property conceived or first reduced to practice during their fellowship;
- The fact that research materials and laboratory notebooks are the property of the FDA;
- ORISE fellow's obligation to protect and not to further disclose or use non-public information.

**Qualifications** The qualified candidate should have received a bachelor's, master's or doctoral degree in one of the relevant fields, or be currently pursuing one of the degrees and will reach completion by November 30, 2019. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Laboratory skills (pipetting, aseptic technique, DNA and/or RNA extraction, PCR, next generation sequencing techniques, bioinformatics tools)
- General laboratory operations and safety
- Experience with Linux and Microsoft Office Suite

**Eligibility Requirements**

- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or anticipated to be received by 11/30/2019 11:59:00 PM.
- **Discipline(s):**
  - **Environmental and Marine Sciences** ([1](#) )
  - **Life Health and Medical Sciences** ([45](#) )