Opportunity Title: FDA Postdoc - Investigating Host–Pathogen Interactions to Develop Next-Generation Sequencing-Based Assays for Comprehensive Microbial Surveillance in Biologics
Opportunity Reference Code: FDA-CBER-2026-0059

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

Reference Code FDA-CBER-2026-0059

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click 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

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

If you have questions, send an email to ORISE.FDA.CBER@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 6/26/2026 3:00:00 PM Eastern Time Zone

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

FDA Office and Location: A research opportunity is currently available at the Center for Biologics Evaluation and Research (CBER), Food and Drug Administration (FDA). in White Oak, Maryland.

The Center for Biologics Evaluation and Research (CBER) is one Center within the Food and Drug Administration, an Agency within the United States Government's Department of Health and Human Services. CBER's mission is to protect and enhance the public health through the regulation of biological and related products including blood, vaccines, allergenics, tissues, and cellular and gene therapies.

Research Project: Microbial contamination of biologics, including cell and gene therapy products and xenoproducts, poses significant clinical risks. To overcome current diagnostic limitations, our laboratory integrates investigations of host–pathogen interactions with the development of next-generation sequencing (NGS)-based assays to create advanced tools for detecting pathogens and adventitious agents, thereby improving product safety. This project aims to establish a comprehensive surveillance platform that combines Illumina short-read and PacBio HiFi long-read sequencing with advanced machine learning approaches. The research will involve assay development, metagenomic (mNGS) sequencing, and bioinformatics analysis to advance regulatory science and enhance the safety of biologics.

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

1. Systematically evaluate and generate comparative insights into the

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performance of PacBio HiFi long-read sequencing versus Illumina short-read NGS to deepen your understanding of their respective strengths and limitations in detecting viral and microbial contaminants.
2. Advance your mechanistic understanding of host–pathogen interactions by investigating the molecular pathways that govern host defense responses and microbial persistence.
3. Learn to design, train, and iteratively refine machine learning models to learn distinguishing features of true microbial contaminants versus host-derived and process-related background signals in NGS datasets.
4. Gain experience in defining, benchmarking, and continuously optimizing key performance metrics—including sensitivity, specificity, and limit of detection—through systematic learning from well-characterized viral and microbial spike-in controls to improve the robustness of NGS-based assays

Mentor: The mentor for this opportunity is Sandip De (sandip.de@fda.hhs.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: May, 2026. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of FDA and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the Guidelines for Non-U.S. Citizens Details page of the program website for information about the valid immigration statuses that are acceptable for program participation.

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 participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. 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.

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FDA Ethics Requirements

If an ORISE Fellow, to include their spouse and minor children, reports what is identified as a Significantly Regulated Organization (SRO) or prohibited investment fund financial interest in any amount, or a relationship with an SRO, except for spousal employment with an SRO, and the individual will not voluntarily divest the financial interest or terminate the relationship, then the individual is not placed at FDA. For additional requirements, see FDA Ethics for Nonemployee Scientists.

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 be currently pursuing or have received a doctoral degree in the one of the relevant fields. Degree must have been received within the past five years, or be currently pursuing.

Candidates with a Ph.D. in molecular biology, microbiology, genomics, bioinformatics, or a related field, and with experience in NGS or related molecular techniques, are encouraged to apply.

Point of Contact

Ashley

Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (51 👁)

Affirmation

I am a U.S. citizen, or I have lived in the United States for at least 36 out of the past 60 months. (36 months do not have to be consecutive.)
and
I have read the FDA Ethics Requirements.