

**Opportunity Title:** FDA Post-Baccalaureate Research Opportunity in Microbial Pathogenesis

**Opportunity Reference Code:** FDA-CBER-2024-0017

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

**Reference Code** FDA-CBER-2024-0017

**How to Apply** *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!

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@oraui.org](mailto:ORISE.FDA.CBER@oraui.org). Please include the reference code for this opportunity in your email.

**Application Deadline** 8/31/2024 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 in the Office of Vaccine Research and Review (OVRR) at the Center for Biologics Evaluation and Research (CBER), Food and Drug Administration (FDA) in Silver Spring, Maryland.

**Research Project:** A funded post-baccalaureate opportunity is immediately available in the laboratory of Dr. Travis Kochan at the United States Food and Drug Administration. The fellow will utilize molecular epidemiology, genomics, animal models, and molecular microbiology to define mechanisms of *Klebsiella pneumoniae* pathogenesis as potential targets for intervention including the development of vaccines and/or therapeutics.

This is a pioneering project that is focused on determining: 1) how *K. pneumoniae* evades detection by and/or modulates the host immune system, and 2) what factors contribute to pathogenesis, gastrointestinal colonization, or antimicrobial resistance. The results of these studies will help define the mechanisms high-risk clones utilize to cause disease and modulate immune cell function during distinct pulmonary insults. These data will provide insights into the immediate and lasting impacts of these networks on lung immunity and repair during infections, allergies, cancer and aging.

**Learning Objectives:**

- Acquire practical experience in molecular microbiology techniques such as cloning, transposon library creation, and next-generation sequencing.
- Enhance proficiency in computational skills through sequence analysis and mathematical modeling.
- Enhance both oral and written communication skills, with a focus on effectively conveying scientific concepts and findings.
- Develop proficiency in immunology-related techniques, including ELISA, Western Blot, and Flow Cytometry, to deepen understanding and application in research settings.



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**Anticipated Appointment Start Date:** June 1, 2024. 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.

**Citizenship Requirements:** This opportunity is available to U.S. citizens only.

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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.

#### **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 bachelor's degree in the one of the relevant fields. Degree must have been received within the past five years, unless pursuing.


#### **Preferred skills:**

- Tissue culture
- Molecular cloning
- Whole genome sequencing and analysis
- Transposon sequencing
- Experience working with rodents

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- Bioinformatics (Python, R)
- Strong written and oral communication skills

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Bachelor's Degree received within the last 60 months or currently pursuing.
  - **Discipline(s):**
    - **Life Health and Medical Sciences** ([51](#) )

**Affirmation** 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.)

I have read the FDA Ethics Requirements.