Opportunity Title: FDA Fellowship - New Approach Methods Development of Comprehensive in Vitro Assays to Measure Potency of Snake Antivenoms
Opportunity Reference Code: FDA-CBER-2026-0083

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

Reference Code FDA-CBER-2026-0083

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@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 10/9/2026 3:00:00 PM Eastern Time Zone

Description ***Applications will be reviewed on a rolling-basis, and this opportunity will remain open until filled.**

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

The ORISE Research Participation Program at the U.S. Food and Drug Administration is an educational and training program designed to provide college students, recent graduates, and university faculty opportunities to connect with the unique resources of the FDA. 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: You will join the primary research program to research and gain experience on replacement of animal testing, to determine the potency of licensed US snake antivenoms. Secondarily, the laboratory is evaluating the long-term stability of non-US antivenoms. Non-US antivenoms (“exotic” antivenoms) are used for treatment of non-US venomous snakes (cobras, kraits, mambas, etc.). Such species are held in zoos, research facilities, venom producing facilities, and by private individuals. Exotic antivenoms are also acquired by US military for treatment of personnel positioned in other nations. Since no US licensed company makes exotic antivenoms, they are imported from other countries where the snakes are indigenous, and such antivenoms are manufactured.

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For the primary project, the lab is developing in vitro methods to tests (in vitro) the activity of US antivenoms, to replace the currently used mouse lethality assay. You will be trained by PhD scientists in the laboratory. None of the research involves venomous snakes. You will be allowed to make creative modifications to the methods, based on research publications, and will be encouraged to design experiments and test hypotheses.

Learning Objectives: With the support of an assigned mentor, you will gain authentic hands-on research experience that allows you access to unique research opportunities, top scientists and engineers, and state-of the art facilities and equipment.

- Attain advanced and current knowledge of antivenom compositions and complexity and collaborate with the team to develop a panel of in vitro tests to measure potency of pit viper antivenoms, which consist of multiple toxic components with different actions.
- Learn about clinical effects of envenomation and their mechanisms and apply this learning to development of new in vitro methods to detect and measure venom components, and to optimizing antivenom potency assessment
- Acquire experience in venomics and ecological effects that cause variability in species-specific venoms
- Selection of venom-inhibiting peptides
- Learn new analytical methods including Surface Plasmon Resonance, confocal microscopy, patch-clamp testing to assess nerve function, analysis of protein families contained in antivenoms, flow cytometric methods.
- Learn an array of measures that can indicate quality of aged products. Aged products are occasionally used in humans when no in-date products are available for urgent treatment of envenomation
- Learn how to validate assays to assure reproducibility of test results, use of standards, and understanding of mechanisms of snake venom activity, and how to block their effects.
- Learn theory and techniques of Surface Plasmon Resonance (SPR) used to measure direct binding, binding inhibition, and binding kinetics to evaluate venom component protein affinity to target peptides or proteins.

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

Anticipated Appointment Start Date: Fall 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.

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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 and Lawful Permanent Residents (LPR) only.

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 have received a bachelor's, master's or doctoral degree in one of the relevant fields (e.g. Biology, Cellular Immunology, Bioengineering, Immunology, Herpetology, Hematology,

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Biochemistry), or be currently pursuing one of the degrees. Degree must have been received within the past five years, or be currently pursuing to receive by 9/30/2026.

Point of Contact Ashley

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or anticipated to be received by 9/30/2026 11:59:00 PM.
- **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.)

I have read the FDA Ethics Requirements.