Opportunity Title: FDA Postdoctoral Fellowship in In Vitro Cardiotoxicology Models
Opportunity Reference Code: FDA-NCTR-2026-0014

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

Reference Code FDA-NCTR-2026-0014

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

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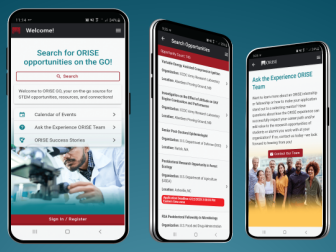
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Application Deadline 9/30/2026 3:00:00 PM Eastern Time Zone

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

FDA Office and Location: A research opportunity is available immediately with the Food and Drug Administration (FDA), The National Center for Toxicological Research (NCTR) located in Jefferson, Arkansas.

The National Center for Toxicological Research (NCTR), is the only FDA Center located outside the Washington D.C. metropolitan area. The one-million square foot research campus in Jefferson, Arkansas plays an important role in the missions of FDA and the Department of Health and Human Services to promote and protect public health.

Research Project: 6PPD, a widely used tire antioxidant, forms 6PPD-quinone (6PPDQ) upon atmospheric ozone exposure. Environmental and dietary exposure to these compounds has raised significant public and regulatory concerns regarding potential human health risks. Preliminary studies using cardiomyocytes indicate that familial history may contribute to sensitivity to these environmental compounds. However, these studies with cardiomyocytes are limited in that they do not capture the roles of immune cells in the health of the cardiovascular system. Thus, the proposed project will use a immuno-cardiac model to capture these interactions in cells derived from healthy donors and cells derived from donors with cardiovascular disease (CVD).

While 6PPD and 6PPDQ are linked to oxidative stress and inflammation—key drivers of CVD—their long-term, low-dose effects in humans remain unclear, particularly in individuals with preexisting cardiovascular (CV)

conditions. Conventional models fail to capture complex immune–cardiac interactions necessary for mechanistic insight and population-specific risk assessment. Using isogenic iPSC-derived immuno-cardiac NAMs to compare effects in healthy and HCM cells will advance our understanding of the cardiac safety profile of 6PPD and 6PPDQ while providing a human-relevant platform to investigate immune–cardiac crosstalk across diverse populations.

6PPD and 6PPDQ are high-priority contaminants of emerging concern due to environmental and dietary exposures. Using human-relevant NAM models incorporating cardiac and immune components to assess compound safety in healthy and disease-specific contexts will provide important, mechanism-based data for risk assessment. This supports FDA's mission to protect public health by advancing predictive, human-relevant models for chemical safety evaluation.

This research also aligns with NIEHS Division of Translational Toxicology (DTT) priorities to advance disease-focused environmental toxicology and identify populations with increased susceptibility. By integrating patient-derived HCM models and isogenic immuno-cardiac co-culture systems, this study addresses gene–environment interactions in vulnerable populations, filling knowledge gaps and supporting evidence-based regulatory decision-making.

Learning Objectives: You will gain experience in molecular biology techniques with an emphasis on in vitro models of cardiotoxicity and how to assess cell viability. You will also be provided the opportunity to present results at conferences and through peer-reviewed manuscripts. The experiences and skills gained allow you to become an independent researcher in future government, industry, or academic positions. In this fellowship, you will have opportunities to:

- Learn to optimize the co-culture system using flow cytometry, immunofluorescence, and microelectrode array (MEA) to characterize the cells.
- Learn to utilize real-time impedance and live-cell imaging to assess the effects of exposure on cells.
- Gain proficiency in the measurement of functional endpoints including beat rate, contractility, rhythm regularity, field potential duration, and arrhythmia susceptibility.
- Gain experience in the analysis of gene expression profiles and identification of affected pathways.
- Gain collaboration skills to formulate hypotheses, record experimental data, prepare reports, and interpret experimental results.
- Present research findings at local and national conferences and in journal publications.

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

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

Appointment Length: The appointment will initially be for one years, 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.

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

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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.

Point of Contact Ashley

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (2 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (29 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (51 👁)
  - **Mathematics and Statistics** (11 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (2 👁)
  - **Social and Behavioral Sciences** (29 👁)

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.