Opportunity Title: USDA-ARS Facilitating the Transition to a Global Cattle Pangenome Reference Through Workflow Distribution
Opportunity Reference Code: USDA-ARS-HQPD-2026-0218

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-HQPD-2026-0218

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

A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted.
  Click here for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

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

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!"

Application Deadline 7/17/2026 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis.**

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Beltsville, Maryland.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: The current cattle reference genome is insufficient to represent the genetic diversity of cattle. Pangenome studies have identified large amounts of genomic sequence absent from the current cattle reference. Much of this sequence is contained within structural variants (SVs), which represent a class of variation that can encompass DNA losses, gains, and rearrangements. These SVs are particularly challenging to monitor with our current reference genome and important because of their potential to have profound effects on phenotypic variation. A global cattle pangenome would be a valuable resource for understanding the genetic diversity of cattle and for identifying breed-specific variants.

Opportunity Title: USDA-ARS Facilitating the Transition to a Global Cattle Pangenome Reference Through Workflow Distribution
Opportunity Reference Code: USDA-ARS-HQPD-2026-0218

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

- Learn the limitations of the current cattle reference genome in representing global bovine genetic diversity.
- Learn the principles and applications of pangenome analysis to capture genomic variation across diverse cattle breeds.
- Learn to identify and characterize structural variants (SVs), including insertions, deletions, duplications, and rearrangements.
- Learn advanced bioinformatics approaches for detecting and analyzing SVs that are poorly represented in linear reference genomes.
- Learn to evaluate the functional and phenotypic impacts of structural variation on economically and biologically important traits.
- Learn to contribute to the development and interpretation of a global cattle pangenome as a resource for breed-specific variant discovery.
- Learn how to apply genomic insights to improve understanding of cattle diversity, adaptation, and trait variation.

Mentor(s): The mentor for this opportunity is Benjamin Rosen (ben.rosen@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

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 two years.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. **The anticipated stipend range is commensurate with education level.**

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

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our Program Website. After reading, if you have additional questions about the application process, please email ORISE.ARS.HQPostdoc@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields in the last four years.

Opportunity Title: USDA-ARS Facilitating the Transition to a Global Cattle Pangenome Reference Through Workflow Distribution
Opportunity Reference Code: USDA-ARS-HQPD-2026-0218

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 👁)
  - **Life Health and Medical Sciences** (4 👁)