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Opportunity Title: USDA-ARS Postdoctoral Research Computational Biology Fellowship
Opportunity Reference Code: USDA-ARS-HQPD-2026-0166

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-HQPD-2026-0166

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
- A copy of an abstract or reprint of an article

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

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Application Deadline 6/19/2026 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), Beltsville Agricultural Research Center, Animal Genomics and Improvement Laboratory, 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: Research will focus on development of bioinformatics and genomics tools to characterize the structure and function of the bovine genome and then application of those datasets to accelerate genetic improvement and discover genetic variation affecting economically important traits. This includes:

- Developing and customizing pipelines for automation of data processing

required for discovering genetic (e.g., SNP, CNV) and epigenetic (e.g., DNA methylation) variations, as well as functional elements (e.g., enhancers and promoters) using short- and long-read sequencing in cattle.
- Developing better statistical methods to improve association studies with QTL and enhancing genetic prediction tools for automation of data processing required for SNP use in livestock selection programs.

Learning Objectives: By the end of this training/research experience, the fellow will be able to:

- Explain the structure and functional organization of the bovine genome and describe how genomic tools are used to characterize genetic and epigenetic variation.
- Identify and differentiate types of genomic variation (e.g., SNPs, CNVs, DNA methylation patterns) and functional genomic elements (e.g., enhancers, promoters) in cattle.
- Customize bioinformatics pipelines for automated processing and analysis of short- and long-read sequencing data.
- Apply computational approaches to detect genetic and epigenetic variation from sequencing datasets in livestock species.
- Design and implement statistical methods for QTL mapping and association studies, and interpret their results in the context of economically important traits.
- Evaluate and improve genomic prediction models for use in livestock selection programs.
- Integrate genomic data into applied breeding strategies to accelerate genetic improvement in cattle.

Mentor(s): The mentor for this opportunity is George Liu (george.liu@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

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

Appointment Length: The appointment will initially be for two years, but may be renewed upon recommendation of ARS 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. **The anticipated stipend range is $84,601 annually.**

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 have received a doctoral degree in one of the relevant fields (genetics, bioinformatics, computational biology, statistics, computer science, or a closely related field). Degree must have been received within the past four years.

Preferred skills:

- Computer skills
- Knowledge and understanding of genome assembly, population genetics, statistical genetics, complex trait mapping, and high throughput sequencing genome and programming proficiency in R, Python, Perl, C/C++, Java, and SAS are highly desirable.
- Preference will be given to candidates with a strong publication record, evidence of substantial research productivity, and ability to communicate scientific information successfully.

Stipend $84,601.00 Yearly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 48 months or anticipated to be received by 5/31/2026 11:59:00 PM.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (3 👁)
  - **Life Health and Medical Sciences** (2 👁)
  - **Mathematics and Statistics** (1 👁)