

Opportunity Title: USDA-ARS Postdoctoral Fellowship in Dairy Cattle Nutrition

Opportunity Reference Code: USDA-ARS-2022-0225

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0225

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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.

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

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 Madison, Wisconsin.

The 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: This is an opportunity for the selected fellow to learn about and participate in a variety of research related to dairy cattle nutrition. In our lab we work on analytical methods (if you can't measure it, you can't evaluate it), evaluation of how rumen microbes process non-fiber carbohydrates (NFC), and how lactating dairy cows respond to changes related to NFC, fiber, and protein in their diets. We collaborate with other researchers in house to associate changes in microbial population profiles with other responses we see in the rumen and cow. Our work is quantitative, not qualitative, with the intent that the kinetics of rumen function can be worked out for application to predicting animal responses to diets.

Some of the projects that are in the queue during this postdoctoral appointment: Investigating how microbes may change starch digestibility, measuring microbial true protein in the presence of feed protein sources, describing the animal and other factors that affect liquid kinetics in the



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rumen, meta-analysis of protein-carbohydrates interactions, fermentations with rumen microbes, and relating milk fatty acid profiles to dietary inputs. Other projects related to rumen fermentation and liquid passage are possible.

Learning Objectives: The research and training will be hands-on. It will involve learning quantitative analysis, sample protocols and handling, assessing animal behavior, in vitro anaerobic fermentation, data analysis, research with ruminally cannulated and non-cannulated dairy cattle, etc. Interacting with live animals will require certification to do so with the Institutional Animal Care and Use Committee (done on paid time).

Mentor(s): The mentor for this opportunity is Mary Beth Hall (marybeth.hall@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: 2023. Start date subject to change based on a variety of reasons, and start date may be flexible to accommodate the needs of a qualified candidate.

Appointment Length: The appointment will initially be for one year, but may be extended 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.

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.

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.Midwest@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 one of the relevant fields.

Preferred Skills:

- Experience working with cattle in research
- Degrees in Animal Science, Dairy Science, or Zoology
- Experience running analyses in the laboratory

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- Demonstrated good communication skills in speaking and writing

**Eligibility
Requirements**

- **Degree:** Doctoral Degree.
- **Overall GPA:** 3.50
- **Discipline(s):**
 - **Life Health and Medical Sciences** ([17](#) 👁)