

**Opportunity Title:** USDA-ARS Postdoctoral Research Associate Fellowship to Study Rhizomania Pathogenesis and Host Responses in Sugar Beet

**Opportunity Reference Code:** USDA-ARS-P-2023-0310

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-ARS-P-2023-0310

**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
- 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.

**Application Deadline** 9/1/2023 6:09:03 PM Eastern Time Zone

**Description** \*Applications may be 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 Fargo, North Dakota.

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 research will focus on identification of host responsive elements associated with rhizomania disease development using high throughput sequencing and bioinformatics. RNA-Seq approach will be used to catalog differential gene expression in response to *Beet necrotic yellow vein virus* (BNYVV), the causal agent of rhizomania. Small RNA-Seq will be conducted to identify the changes in small regulatory RNAs in response to BNYVV infection. Comparative analysis of susceptible and resistant genotypes will identify genes and small regulatory RNAs that are differentially regulated in response to rhizomania disease development in sugar beet.

**Learning Objectives:** The incoming participant will have the opportunity to improve their bioinformatic skills on comparative analysis of RNA-Seq and



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small RNA-Seq between susceptible and resistant genotypes in response to rhizomania pathogenesis.

**Mentor(s):** The mentor for this opportunity is Vanitharani Ramachandran ([vanitharani.ramachandran@usda.gov](mailto:vanitharani.ramachandran@usda.gov)). If you have questions about the nature of the research, please contact the mentor(s).

**Anticipated Appointment Start Date: September 2023.** 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 for an additional year 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 current monthly stipend for this opportunity is equal to \$50,000 - \$55,000 per year.

**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.Plains@orau.org](mailto:ORISE.ARS.Plains@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 or be currently pursuing the degree with completion before the appointment start date.

- Eligibility Requirements**
- **Degree:** Doctoral Degree.
  - **Discipline(s):**
    - **Computer, Information, and Data Sciences** ([5](#))
    - **Life Health and Medical Sciences** ([5](#))