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Opportunity Title: USDA-ARS Postdoctoral Fellowship in Crop Modeling
Opportunity Reference Code: USDA-ARS-PW-2023-0078

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PW-2023-0078

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
- Transcripts – 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 5/12/2023 3:00:00 PM Eastern Time Zone

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

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

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 project focuses on evaluating crop models for their performance to simulate crop growth and phenology under different climate conditions and improving them through modifying sub-routines. The major research activities of the participants include: 1) field data collection and compilation of data to develop databases required for crop model calibration and validation; 2) investigating spatial optimization approaches to improve the model parameterization at spatial scale; and 3) using uncertainty characterization methods to quantify and decompose uncertainty in crop model predictions.

Learning Objectives: This opportunity will provide experience in crop system modeling and uncertainty estimation methods. The opportunity will also provide experience in summarizing and presenting results.

Mentor: The mentor for this opportunity is Varaprasad Bandaru (prasad.bandaru@usda.gov). If you have questions about the nature of the research, please contact the mentor.

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Anticipated Appointment Start Date: April 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 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.PacificWest@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 (e.g., Civil Engineering, Agricultural Engineering, Plant Physiology), or currently be pursuing the degree to be received by start of appointment.

Preferred Skills include:

1. Experience working with process-based crop models such as EPIC, DSSAT or APSIM.
2. Knowledge in multivariate statistics and mathematical modeling.
3. Strong oral and written communication skills.

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Earth and Geosciences** (5 👁)
  - **Engineering** (2 👁)
  - **Environmental and Marine Sciences** (1 👁)
  - **Life Health and Medical Sciences** (4 👁)