Opportunity Title: USDA-ARS Big Data Science and Training Program Coordination Fellowship
Opportunity Reference Code: USDA-ARS-2021-0002

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2021-0002

How to 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. All transcripts must be in English or include an official English translation. 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.

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Application Deadline 2/28/2023 3:00:00 PM Eastern Time Zone

Description

***Applications may be reviewed on a rolling-basis and this posting could close before the deadline.**

ARS Office/Lab and Location: Multiple postdoctoral research opportunities are available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Jornada Research Unit in Las Cruces, New Mexico.

Research Project: The U.S. Department of Agriculture - Agricultural Research Service (USDA ARS) mission involves problem-solving research in the widely diverse food and agricultural areas encompassing plant production and protection; animal production and protection; natural resources and sustainable agricultural systems; and nutrition; food safety; and quality. The programs are conducted in 46 of the 50 States, Puerto Rico, and the U.S. Virgin Islands. For ARS to maintain its standing as a premier scientific organization, major investments in computing, networking, and storage infrastructure are required. Training in data and information management are integral to the integrity, security, and accessibility of research findings, results, and outcomes within the ARS research enterprise. Nearly 2000 scientists and support staff conduct research within the ARS research enterprise.

The SCINet/Big Data Research Participation Program of the USDA ARS offers research opportunities to motivated postdoctoral fellows interested in working on agricultural- and natural resource-related problems at a range of spatial and temporal scales, from the genome to the continent, and sub-daily to evolutionary time scales. One of the goals of the SCINet Initiative is to develop and apply new technologies, including AI and machine learning, to help solve complex agricultural problems that also depend on collaboration across scientific disciplines and geographic locations. In addition, many of these technologies rely on the synthesis, integration, and analysis of large, diverse datasets that benefit from high performance computers

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(HPC). The objective of this fellowship is to facilitate cross-disciplinary, cross-location research through collaborative research on problems of interest to each applicant and amenable to or required by the HPC environment. Training will be provided in specific AI, machine learning, deep learning, and statistical software needed for the HPC.

Throughout the course of this research project, the participant will have the opportunity to gain experience in and learn about the challenges associated with managing, coordinating, and training a diverse scientific workforce to access and successfully use high performance computing resources for scientific research. The participant will learn about the ARS Big Data Initiative (BDI; scinet.usda.gov) that is responsible for three major components: (1) a high-capacity network as the backbone of a research data and information conduit among ARS locations (SciNet); (2) high-performance computing and storage infrastructure available to all ARS scientific staff; and (3) a virtual research support core (VRSC), a group of personnel with diverse skills in scientific computing that provides support and training to ARS scientists and staff.

Under the mentorship of a Chief Science Information Officer (CSIO) and with guidance from members of the Scientific Advisory Committee, participant activities will include: (1) coordinate the development, planning, and assessment of scientific computing, AI, and data science workshops and trainings, (2) coordinate activities and synthesize results by BDI fellows, (3) learn how to produce a scientific newsletter for the BDI, and how to create and update material on a website, and (4) develop, create, and evaluate surveys of training needs.

Learning Objectives: The participant will learn about a wide range of activities related to organizational and operational planning, training coordination, and science communication activities in support of the BDI and the ARS Ai Center of Excellence (AI COE). The participant will also have the opportunity to take on-line courses in scientific topics, such as R, Python and statistics, and to learn collaboration and leadership skills through workshop and working group experience.

USDA-ARS Contact: If you have questions about the nature of the research please contact Debra Peters (deb.peters@usda.gov).

Anticipated Appointment Start Date: 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(s) 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.

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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 USDA-ARS@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.

Preferred skills:

- Practical knowledge of agricultural sciences, biology or a similar field as well as practical knowledge of computer science
- Skill in the facilitation of meetings and in working with people
- Knowledge of qualitative and quantitative analytical techniques such as surveys, questionnaires, or interviews and statistics
- Skill in verbal communication
- Skill in scientific and technical writing, the development of presentations, and the fundamentals of web page design and content development
- Interest in learning about research in Big Data and how large science programs function

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (4 👁)
  - **Earth and Geosciences** (1 👁)
  - **Environmental and Marine Sciences** (4 👁)
  - **Life Health and Medical Sciences** (10 👁)
  - **Mathematics and Statistics** (1 👁)