

Opportunity Title: USDA-ARS Postdoctoral Research Opportunity for the Use of Advanced Computing Technologies

Opportunity Reference Code: USDA-ARS-2020-0183



Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2020-0183

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 10/30/2020 3:00:00 PM Eastern Time Zone

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

ARS Office/Lab and Location: Two research opportunities are currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) at the Crop Science Research Laboratory located at Mississippi State University in Starkville, Mississippi.

Research Project: 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 (HPC). The objective of these positions 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.

Learning Objectives: The learning objectives for these opportunities are: a) to gain experience in Artificial Intelligence and machine learning; b) to learn how to apply these skills in finding solutions to complex problems in agriculture across disciplines; and c) to meet and interact with other ORISE SCINet Post-doctoral Fellows in the area of High Performance Computing.

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Mentor(s): The mentor for these opportunities is Dr. Johnie Jenkins (johnie.jenkins@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: September 30, 2020. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment(s) 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: These appointments are 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.

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:

- Experience working with complex datasets
- Experience with high performance computers
- Experience with GIS and remote sensing
- Proficient in computer programming in R, Python or other scripting languages (e.g., SAS)
- Demonstrated oral and written communication skills
- Good organization skills
- Ability to work collaboratively with researchers from different disciplines

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (4 )
 - **Earth and Geosciences** (1 )
 - **Engineering** (1 )
 - **Environmental and Marine Sciences** (5 )
 - **Life Health and Medical Sciences** (13 )

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- **Mathematics and Statistics** (1 )