Opportunity Title: USFS Urban Forest Biodiversity, Ecosystem Services, and Community Well-Being Fellowship
Opportunity Reference Code: USDA-USFS-PSWRS-2024-0123

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-PSWRS-2024-0123

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 package 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. Selected candidate must provide proof of completion of the degree before the appointment can start. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two educational or professional recommendations. At least one recommendation must be submitted in order for the mentor to view your application.

All documents must be in English or include an official English translation.

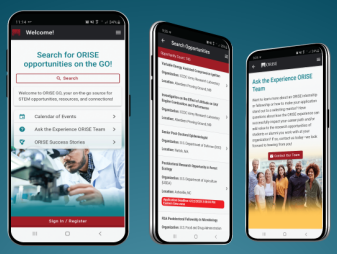
Application Deadline 6/25/2024 3:00:00 PM Eastern Time Zone

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

USFS Office/Lab and Location: AA fellowship opportunity is available within the US Department of Agriculture (USDA) Forest Service (USFS) with the Pacific Southwest Research Station (PSWRS). The selected participant will participate out of the Riverside Forest Service office in Riverside, California.

At the heart of the U.S. Forest Service's mission is their purpose. Everything they do is intended to help sustain forests and grasslands for present and future generations. Why? Because their stewardship work supports nature in sustaining life. This is the purpose that drives the agency's mission and motivates their work across the agency. It's been there from the agency's very beginning, and it still drives them. To advance the mission and serve their purpose, the U.S. Forest Service balances the short and long-term needs of people and nature by: working in collaboration with communities and our partners; providing access to resources and experiences that promote economic, ecological, and social vitality; connecting people to the land and one another; and delivering world-class science, technology and land management.

The PSWRS leads research and development to sustain the health, diversity, and productivity of forests and grasslands. The Pacific Southwest Research Station, along with its many partners, advances science to support sustainability and biodiversity of ecosystems, hydrologic functioning of watersheds, and the livability and provisioning of services across the wildland to urban gradient in California, Hawai'i, and the US-affiliated Pacific Islands, as well as across the US and around the world. Its Humans

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and Nature priority area, focuses on connections among human communities and ecosystems including understanding the effects of urban and community forests on air and water quality, temperature reductions, energy use, human health and well-being, and other ecosystems services and disservices.

Research Project: The PSWRS is seeking a research fellow that will explore the use of quantitative methods (spatial statistics, economics, data science, quantitative ecology) and diverse datasets (field plots, public health, environmental quality, public surveys and interviews**)** to study how urban forests and their biodiversity influence ecosystem services and disservices, particularly the health and well-being of disadvantaged communities. Indeed, the Southern California study area is home to socio-ecologically diverse populations and communities. Although the role of urban tree cover on air pollution and heat burden are commonly studied, information on other ecosystem services provided by urban forest biodiversity (e.g., human health, soil and water quality) and ecosystem disservices (e.g., allergies, nuisances) are also needed.

The fellow will collaborate with a transdisciplinary team composed of USFS researchers, local governments, environmental-based organizations, and local universities from the Greater Los Angeles, California area as part of this opportunity. This research team will investigate: 1) The role of urban forest biodiversity in providing ecosystem services, 2) what are the ecosystem disservices affecting different communities, 3) The relationship between neighborhood level tree cover and human well-being.

Under the guidance of a mentor, fellowship will contribute to:

- Compile and analyze environmental (soil, water, air, vegetation - both field and secondary), ecological, human health, and economic data using statistical, econometric, and spatial analytical methods.
- Collaborate closely with USFS and university researchers to coordinate field research and sampling including: tree and plant measurements, in-situ air sampling, plant diversity, pollen, and soil quality.
- Developing spatial analyses and maps related to understanding urban forest ecosystem services and disservices in southern California.

Learning Objectives:

- Gain experience in compiling and statistically analyzing large socioeconomic, ecological, public health, and environmental spatial datasets using mixed methods.
- Learn about the dynamics of urban forests, ecosystem services, human health, and environmental justice in highly urbanized settings.
- Use datasets to develop guidelines and best management practices for improving community well-being in disadvantaged communities.

Mentor: The mentor for this opportunity is Francisco Escobedo (francisco.escobedo@usda.gov). If you have questions about the nature of the research, please contact the mentor.

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Anticipated Appointment Start Date: June 1, 2024. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year and six months, but may be extended upon recommendation of USFS 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 USFS. Participants do not become employees of USDA, USFS, 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.USFS.PSWRS@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a master's or doctoral degree in one of the relevant fields. Degree must have been received within the past year.

Preferred skills:

- Expertise and familiarity in analyzing large ecological, public health, economic, and environmental (air, soils, water, temperature) spatial datasets is high desired.
- Strong programming and statistical skills (e.g. R language). Familiarity with geospatial methods is highly desired.
- Experience with field research, including vegetation and soils measurements in urban settings.
- Demonstrated skills with quantitative data and science writing are highly desired.
- The fellowship is suitable to those with experience in, but not limited to:
  - Ecosystem service valuation
  - Urban ecology
  - Data analytics

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- Economics
- Landscape ecology
- Urban forestry
- Landscape ecology
- Health geography
- Urban planning
- Environmental science/studies
- Soil science
- Geospatial data science

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree received within the last 12 month(s).
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (4 👁)
  - **Earth and Geosciences** (2 👁)
  - **Environmental and Marine Sciences** (6 👁)
  - **Life Health and Medical Sciences** (6 👁)
  - **Mathematics and Statistics** (2 👁)
  - **Social and Behavioral Sciences** (4 👁)