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Opportunity Title: USFS Fellowship for Simulating Fire Resistance Silviculture Outcomes Under the Wildfire Crisis Strategy
Opportunity Reference Code: USDA-USFS-PNWRS-2023-0385A

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-PNWRS-2023-0385A

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. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- A writing sample such as a publication, paper submitted for a course, or thesis chapter (upload sample in Writing area)
- Two educational or professional recommendations.

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

Application Deadline 5/10/2024 11:00:00 PM Eastern Time Zone

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

USFS Office/Lab and Location: A research opportunity is available with the U.S. Department of Agriculture (USDA) Forest Service (USFS), Pacific Northwest Research Station (PNW) located in Corvallis or Portland, Oregon (hybrid schedule options are available).

This research opportunity is at the Pacific Northwest Research Station's Corvallis Forestry Sciences Laboratory, a world-class science facility on the Oregon State University campus, adjacent to the OSU College of Forestry, housing scientists and other professionals from the Station, the USGS, OSU and the Siuslaw National Forest. As a research fellow, you will interact with forest inventory scientists in the Vegetation Monitoring Science and Application (VeMSA) team and with forest scientists and managers across the Pacific Northwest and beyond.

Research Project: You will join our forest and fire management research group within Team VeMSA, where we seek to inform choices affecting sustainable resource management. Collaborating in response to an urgent national priority, we'll deploy the BioSum modeling framework and Forest Vegetation Simulator to simulate forest ecosystem trajectories under management that enhance forests' resistance to stand-replacing fire in several of the 21 Priority Investment Landscapes identified under the national Wildfire Crisis Strategy.

You will analyze data from the national forest inventory to understand the likely outcomes of plans to enhance fire resistance in these priority landscapes in terms of both the extent to which the risk of stand-replacing fire can be reduced and the potential production of renewably produced wood products, including low value wood that might otherwise be burned

without energy capture, generating greenhouse gas emissions. We will also address the potential for biohubs to improve the economic feasibility of fuels management and the likely effects of implementing the crisis strategy on climate change mitigation.

You will enjoy opportunities to:

- Continue your professional development while tackling critical, policy-relevant questions about ecosystem management at a pivotal moment, as changes in climate and wildfire are accelerating,
- Inform and contribute to decisions about managing forest ecosystems to reduce stand-replacing fire while recovering and utilizing wood residues for maximum climate mitigation benefit, and
- Pursue research investigating the extent to which biohubs— networks of collection points to facilitate biomass supply chains—can scale-up landscape treatments sufficient to provide prospects for achieving natural climate solution objectives.

Learning Objectives: By the conclusion of this research fellowship, you can expect to:

- Understand how management can enhance their fire resistance, while maintaining compatibility with other forest objectives,
- Enhance your experience in forest modeling using inventory data,
- Attain real-world perspectives on forest management through research co-production with managers and practitioners,
- Improve your communication skills via experience sharing information with management, professional and scientific communities both in presentations and publishing findings in journals, reports and electronically delivered visualizations,
- Engage with a diverse set of scientists in Forest Service Research and Oak Ridge National Lab, as well as managers in the priority landscapes selected as focal areas for this analysis.

Mentor: The mentor for this opportunity is Jeremy Fried (jeremy.s.fried@usda.gov). If you have questions about the nature of the research, please reach out to Jeremy.

Anticipated Appointment Start Date: Summer 2024. Start date is negotiable and will depend on a variety of factors.

Appointment Length: While the appointment will initially be for one year, it can be extended upon recommendation of USFS and is contingent on the availability of funds. Funding is currently available for at least two years.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend in an amount that corresponds to **$63,000 - $77,000 per year,** depending on educational attainment and experience, plus payments to cover 75% of health and dental insurance premiums as priced for coverage available through ORISE.

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Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR).

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.PNWRS@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 or be currently pursuing a doctoral degree.

Masters-level researchers possessing exceptionally strong quantitative analysis/data science skills and forest modeling experience are encouraged to apply.

Preferred Skills:

- Experience with forest projection models, silviculture, timber management, fire and fuels, and/or forestry applications of operations research or forest inventory analysis;
- An educational background that includes training in forestry/natural resources, operations research, biometry/statistics **or** a related discipline.
- A research fellow with great fit will have:
  - Experience with the Forest Vegetation Simulator or another stand projection system, analyzing forest inventory data, and engaging in or carrying out research related to forest or fuels management.
  - Strong data management skills, especially with databases (e.g., MS Access, SQLite) and analysis programming environments (e.g., R or python) to link, query, summarize, and analyze large datasets to generate informative tables and graphics that convey interpretations that are both accurate and relevant.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (2 👁)
  - **Engineering** (3 👁)
  - **Environmental and Marine Sciences** (6 👁)
  - **Life Health and Medical Sciences** (2 👁)
  - **Mathematics and Statistics** (3 👁)

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- **Social and Behavioral Sciences** (1 👁)