Opportunity Title: USDA-FS Wildland Fire Research: Simulation Modeling Case Studies and Methods Development
Opportunity Reference Code: USDA-FS-RMRS-2024-0316

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-FS-RMRS-2024-0316

How to Apply

To submit your application, scroll to the bottom of this opportunity and click 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. 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. 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.

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Application Deadline 11/8/2024 3:00:00 PM Eastern Time Zone

Description

*Applications will be reviewed on a rolling-basis.

USDA Forest Service Office/Lab and Location: A fellowship opportunity is available with the US Department of Agriculture (USDA) Forest Service (FS) within the Rocky Mountain Research Station (RMRS) located in Missoula, Montana.

At the heart of the USDA 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 USDA 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.

Research Project: Wildfires increasingly threaten communities, firefighter safety, and ecosystem resilience in many parts of the world. Exacerbated by climate change, often unhealthy forest conditions, and a growing wildland urban interface, uncertainty and potential consequences of wildfires are only getting worse with time in many places. While prescribed

fires and fuel treatments offer a means to mitigate these issues and shift trajectories, fuel and fire managers need better guidance to help plan, implement and anticipate the outcomes of different fuel management strategies.

This project seeks to expand understanding of the tradeoffs in different wildland fuel management alternatives through case studies in a variety of landscapes and ecosystems. Using cutting edge remote sensing data and modeling approaches and advanced simulation modeling, participants in this ORISE opportunity will assemble and process data and use programming and statistical analysis to explore outcomes in different scenarios. In addition to using case studies for specific landscapes, participants will also contribute to testing and development of new methods for mapping and modeling wildland fuels, including both forest overstory as well as understory, grassland and rangeland fuels. Participants may participate in laboratory studies as well as field research data collection efforts.

Learning Objectives: Participants will gain experience with a variety of data sources, including Uncrewed Aerial Systems (UAS, or drones), light detection and ranging (LiDAR), and physics-based fire behavior models. The skills acquired through this opportunity are in high demand in multiple fields.

Mentor: The mentor for this opportunity is Russell Parsons (russell.a.parsons@usda.gov). If you have questions about the nature of the research, please contact the mentor.

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

Appointment Length: The appointment will initially be for six months but may be extended upon recommendation of USDA Forest Service and is contingent on the availability of funds.

Level of Participation: The appointment is part-time or full-time (minimum of 10 hours per week).

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 and Lawful Permanent Residents (LPR) only.

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 USDA Forest Service. Participants do not become employees of USDA, USDA Forest Service, 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.

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Questions:	Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email [ORISE.USFS.RMRS@orau.org](#) and include the reference code for this opportunity.
Qualifications	The qualified candidate should be currently pursuing or have received a bachelor's, master's, or doctoral degree in the one of the relevant fields. Degree must have been received within the past five years, or anticipated to be received by 6/30/2025. **Preferred skills:** • Ideal candidates will be curious, energetic, attentive, able to focus, and willing to learn. • Ability to program in python and/or R is desired. • Familiarity with forestry and fire related issues is desirable. • Familiarity with GIS and different kinds of spatial data is desirable. • Familiarity with data analysis desirable. • Familiarity with data visualization is desirable. • Familiarity with 3D modeling is desirable.

Eligibility Requirements	• **Citizenship:** LPR or U.S. Citizen
	• **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or anticipated to be received by 6/30/2025 12:00:00 AM.
	• **Discipline(s):**
	  ○ **Computer, Information, and Data Sciences** (8 👁)
	  ○ **Earth and Geosciences** (6 👁)
	  ○ **Engineering** (6 👁)
	  ○ **Environmental and Marine Sciences** (4 👁)
	  ○ **Mathematics and Statistics** (5 👁)
	  ○ **Physics** (2 👁)