Opportunity Title: Postgraduate Research Opportunity in Vegetation Model &
Fire Model Integration
Opportunity Reference Code: USFS-PNW-2018-881

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USFS-PNW-2018-881
How to Apply	A complete application package consists of:

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- 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. Proof must be sent to ORISE directly from the academic institution including graduation date and degree awarded. All transcripts must be in English or include an official English translation. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two references – While two references are requested, applications will be considered without reference information. It is preferred that a complete application package contains a minimum of one reference.
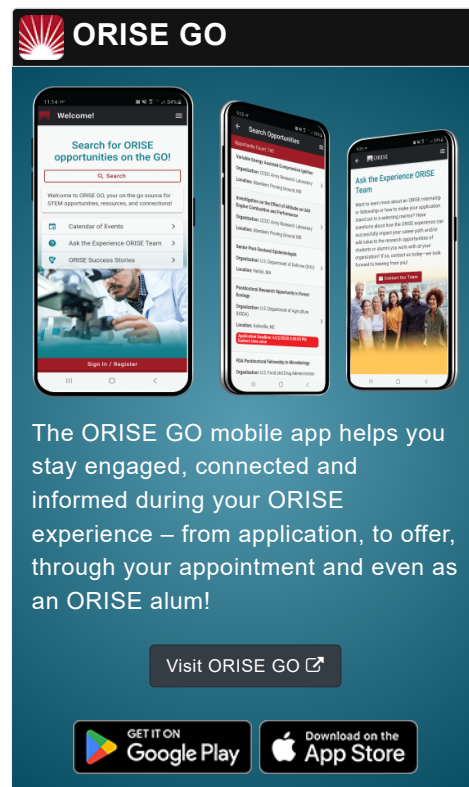
If you have questions, send an email to USForestService@orise.orau.gov. Please include the reference code for this opportunity in your email.

Description   A postgraduate research opportunity in vegetation model and fire model integration is available with the Western Wildlands Environmental Threats Assessment Center (WWETAC), part of the US Department of Agriculture Forest Service Pacific Northwest Research Station. The participant will be located in Corvallis, OR. WWETAC gathers information and generates knowledge about the nature, causes, and consequences of large, rapid, or significant changes to ecosystems that may threaten societal values across the western 7 Forest Service Regions, and 18 western states. Scientists and collaborators in this program work across the west to help land managers and resource specialists anticipate, manage, adapt to, or mitigate disturbance and its consequences.

The participant will perform, under mentorship of experts, the integration of MC2 dynamic vegetation model output with FSIM fire simulator model. The research includes designing model integration strategies, performing computer simulations, analyzing output, and writing reports and manuscripts for publication. These activities in simulation modeling support the research mission of the PNW Research Station.

Specific activities may include:

- Familiarize oneself with MC2 vegetation model design;

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- Familiarize oneself with FSIM model design, and, with training, become proficient at running FSIM on a high performance computing platform.
- A minimum of one trip to Missoula, MT is required for training.
- Familiarize oneself with general concepts in fire ecology of Southern California.
- Help design a strategy to integrate output from MC2 vegetation model as input for FSIM fire model.
- Run an integrated modeling protocol to produce output using historical and future climate datasets.
- Analyze and evaluate simulation results with respect to other studies and observation datasets.
- Collaborate with station, university and collaborating scientists on research and research application to management activities.
- Contribute to and/or take the lead on research paper development through literature reviews, analysis, table and graph creation, writing text, and interpretation, analysis, and production of relevant maps.

The appointment is full-time for one year with an anticipated start date of May 1, 2018. Additional years (up to four more years) are possible depending on the availability of funding. The annual stipend rate is $60,000. The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE. If the participant selects coverage under the ORISE policy, a supplement to the stipend in the amount of $5,000 may be provided to offset a portion of this expense. A travel allowance in the amount of $4,000 will be awarded to use for conferences and scientific meetings.

The participant will not enter into an employee/employer relationship with ORISE, ORAU, USDA, USFS, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

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

For more information about the USFS Research Participation Program, please visit the **Program Website.**

Qualifications

Applicants must have at least an MS degree (PhD is preferred) in the field of ecological modeling, fire science and modeling, forestry, landscape ecology or environmental science.

A strong background in modeling and computational skills are preferred. Applicants must have both conceptual knowledge and practical skills with statistics, databases, spatial datasets, and Linux/Unix computing platforms.

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Preferred requirements:

- Experience working on research projects and successful publication record.
- Competency in ecology, fire science, watershed science, and/or ecological modeling.
- Demonstrated ability to work on research-grade simulation models.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
  - **Earth and Geosciences** (2 👁)
  - **Engineering** (1 👁)
  - **Environmental and Marine Sciences** (5 👁)
  - **Life Health and Medical Sciences** (3 👁)