

**Opportunity Title:** USFS LANDIS-II Forest Simulation Model Research  
Opportunity  
**Opportunity Reference Code:** USDA-USFS-NRS-2023-0325A

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-USFS-NRS-2023-0325A

**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** 10/13/2023 3:00:00 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 US Department of Agriculture (USDA) Forest Service (USFS) within the Institute for Applied Ecosystem Studies at the USDA Forest Service Northern Research Station located in Rhinelander, Wisconsin.

The [USDA Forest Service Northern Research Station's](#) mission is to deliver the science needed to help people make informed decisions about pressing natural resource challenges. One important way that the Station does this is through science delivery, that is, by providing science-based tools that deliver sound, peer-reviewed science in a way that is easy for land managers and others to understand and apply. See the Station's Strategic Framework at [Northern Research Station Strategic Framework | US Forest Service Research and Development \(usda.gov\)](#).

The [Institute for Applied Ecosystem Studies](#) is a Research Work Unit within the Northern Research Station, located in Rhinelander, WI. Several of its scientists are landscape ecologists, and one focus of this group is forest landscape simulation modeling. Forest landscape models simulate tree growth and competition in the context of natural and anthropogenic disturbances operating at landscape scales of space and time (50,000 to 10 million hectares and 50 to hundreds of years). Such models are a powerful tool to scale site-level research to landscapes. They also can provide objectively comparable projections of future landscape ecosystem dynamics under alternative future climate and management scenarios, which can aid management decisions.

**Research Project:** The goal of this project is to develop a detailed strategy to operationalize a Station-sponsored forest simulation model ([LANDIS-II](#))

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as a decision-support tool for land management agencies by providing structure and consistent services. Specifically, under the guidance of a mentor, the ORISE participant will co-lead the building of a team of professional ecologists to help us liaison between management needs and scientific experts to generate a detailed strategy to deliver the LANDIS science (tool) to land managers in a way that best allows them to use it to meet their decision-support needs.

The participant will be trained to understand what the model can and cannot do and become conversant about the model in order to explain its capabilities to forest managers. The participant will collaborate with the mentor to set up and conduct meetings with key forest managers either virtually or in-person. The participant will collaboratively assess how the model might meet the decision-support needs of the managers' Unit and identify the barriers that they face when attempting to adopt the LANDIS model.

The ultimate outcome of this project is the development of a detailed strategy to operationalize the use of LANDIS as a decision-support tool for land management agencies by providing specific institutional structure and consistent services. The participant will co-lead the development of this strategy in collaboration with the mentor and Station scientists.

**Learning Objectives:** Through this project the participant will gain on-the-ground experience in fleshing out and vetting a strategy to achieve all goals of the project, building a network of interested or potential participants, and facilitating a collaboration within the network to fully understand the needs of forest managers and how best to meet them. The ORISE fellow will develop skills in organization, communication and leadership, and will develop personal relationships with many high-ranking persons with the forest land management community, primarily [Forest Service R&D](#) and the [National Forest System](#).

**Mentor:** The mentor(s) for this opportunity is Eric Gustafson ([eric.gustafson@usda.gov](mailto:eric.gustafson@usda.gov)). If you have questions about the nature of the research, please contact the mentor(s).

**Anticipated Appointment Start Date:** 2023; start date is flexible (earlier or later).

**Appointment Length:** The appointment will be for one year.

**Level of Participation:** The appointment is full-time.

**Participant Stipend:** The participant will receive a monthly stipend commensurate with educational level and experience. **The current monthly stipend for this opportunity is equal to \$72,000 annually. A health insurance supplement of \$7,226 will be provided along with funds for travel during the appointment.**

**Citizenship Requirements:** This opportunity is available to U.S. citizens.

**ORISE Information:** This program, administered by ORAU through its

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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.NRS@orau.org](mailto:ORISE.USFS.NRS@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 one of the relevant fields.

- Eligibility**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
  - **Discipline(s):**
    - **Business** ([11](#))
    - **Chemistry and Materials Sciences** ([12](#))
    - **Communications and Graphics Design** ([6](#))
    - **Computer, Information, and Data Sciences** ([17](#))
    - **Earth and Geosciences** ([21](#))
    - **Engineering** ([27](#))
    - **Environmental and Marine Sciences** ([14](#))
    - **Life Health and Medical Sciences** ([48](#))
    - **Mathematics and Statistics** ([11](#))
    - **Other Non-Science & Engineering** ([13](#))
    - **Physics** ([16](#))
    - **Science & Engineering-related** ([2](#))
    - **Social and Behavioral Sciences** ([29](#))