

Opportunity Title: USFS Postdoctoral Fellowship in Biomass Sustainability
Opportunity Reference Code: USDA-USFS-2021-0125

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-USFS-2021-0125

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. 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 educational or professional recommendations. At least one reference needs to be submitted for the mentor to view the application.

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

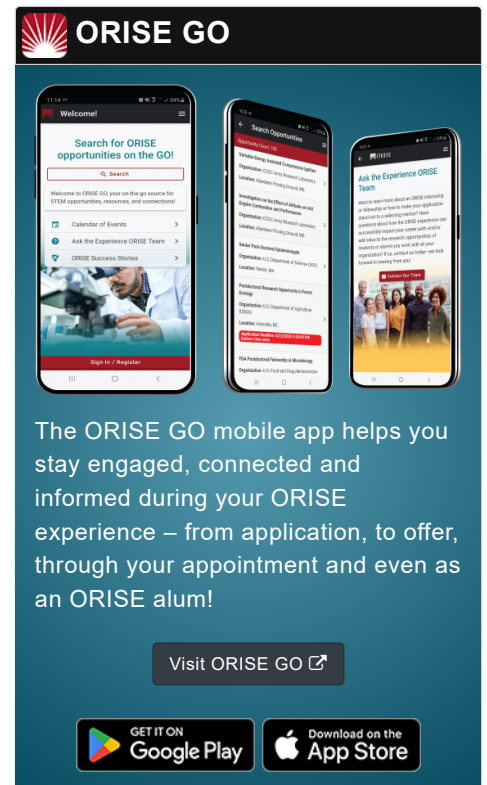
Application Deadline 7/1/2021 3:00:00 PM Eastern Time Zone

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

USFS Office/Lab and Location: A research opportunity is available with the U.S. Forest Service (USFS), Pacific Northwest (PNW) Research Station. The appointment will be located at the US Forest Products Laboratory in Madison, Wisconsin.

Research Project: The purpose of this study is to develop or implement models to assess the pools and flows of harvested wood products (HWP) for West Coast states of Washington, Oregon, and California, and estimate potential “substitution” benefits of using wood instead of other manufactured products. In addition to being a substantial carbon pool on its own, use of HWP in long-lived manufactured products in place of manufactured materials that require more use of fossil fuels to produce (like concrete and steel) has the potential to reduce carbon flux to the atmosphere. Durable wood products can often be used for energy at the end of their useful life, creating potential carbon benefits by offsetting use of fossil fuels. “Mass-timber” (cross-laminated timber) construction is gaining importance in the U.S. and its adoption has wide-ranging ramifications. Expected outputs include analyses of HWP pools and flows under the different management and policy scenarios being modeled, and estimates of energy and product substitution benefits.

The study objective is to improve understanding of HWP



Opportunity Title: USFS Postdoctoral Fellowship in Biomass Sustainability

Opportunity Reference Code: USDA-USFS-2021-0125

dynamics and estimate changes in response to modeled policies and practices. This study has three related components:

- Incorporate current harvest and manufacturing practices into estimates of HWP pools and flows,
- Project future HWP pools and flows using removals projected from ecosystem models and potential changes in merchantability standards and future products, and
- Compare the carbon footprints of traditional and new wood products (e.g. mass timber in tall buildings) vs. common non-wood materials (e.g., construction with concrete or steel), their duration, and end uses to estimate potential substitution benefits.

The selected participant will be collaborating with USDA Forest Service (FS) scientists to assemble, interpret and disseminate data and information to provide options and priorities for managing natural resources in a changing climate. In particular, the participant will interact with scientists at the USDA FS Forest Products Laboratory (also the University of Wisconsin community), who encompass a wide variety of disciplines while generally enjoying life in Madison, Wisconsin (i.e. recreational opportunities, cultural, etc.). The participant will also assemble technical information, perform analyses, contribute to technical reports, and provide leadership in writing peer-reviewed journal papers and other outlets.

Learning Objectives:

- Learn about climate change science and natural resource management issues in the West while helping integrate climate change information into national forest planning and projects.
- Gain first-hand knowledge of Forest Service Research & Development science and National Forest System management.
- Understand and facilitate interactions at the intersection between science and land management.

The participant will have the opportunity to interact with scientists in other Forest Service research stations, and managers in the National Forest System and other land management agencies and entities. The participant may explore options for future job or educational opportunities and take advantage of additional training opportunities.

Mentor: The mentor for this opportunity is Richard Bergman (richard.d.bergman@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: July 1, 2021. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be extended upon recommendation of USFS and is contingent on the availability of funds.

Opportunity Title: USFS Postdoctoral Fellowship in Biomass Sustainability

Opportunity Reference Code: USDA-USFS-2021-0125

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

The annual stipend will be \$70,000. A health insurance allowance and travel/training allowance will also be provided.

Citizenship Requirements: This opportunity is available to U.S. citizens, legal permanent residents, 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 USForestService@orise.orau.gov and include the reference code for this opportunity.



Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields. Degree must have been received within the past five years.

Preferred skills:







- Experience investigating woody biomass systems
- Experience with LCA modeling software, SimaPro preferred
- Published in peer-reviewed journals on the following topics related to biomass systems, LCA, and harvested wood products; primary author preferred
- Experience with forest resource activities and the issues surrounding sustainable forestry
- Experience with supply chain modeling is desired, GAMS preferred
- Ability to write clearly and effectively for technical and non-technical audiences
- A record of publishing scientific articles in peer-reviewed journals
- Strong presentation skills and the ability to communicate highly technical information to non-technical audiences
- Experience with convening workshops
- Ability to effectively synthesize scientific information

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (1 )
 - **Computer, Information, and Data Sciences** (2 )

Opportunity Title: USFS Postdoctoral Fellowship in Biomass Sustainability

Opportunity Reference Code: USDA-USFS-2021-0125

- **Earth and Geosciences** (2 )
- **Engineering** (6 )
- **Environmental and Marine Sciences** (5 )
- **Mathematics and Statistics** (4 )
- **Physics** (1 )
- **Social and Behavioral Sciences** (1 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).