

Opportunity Title: USFS Postgraduate Research Opportunity in Entomology

Opportunity Reference Code: USDA-USFS-2023-0092

Organization U.S. Department of Agriculture (USDA)

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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.

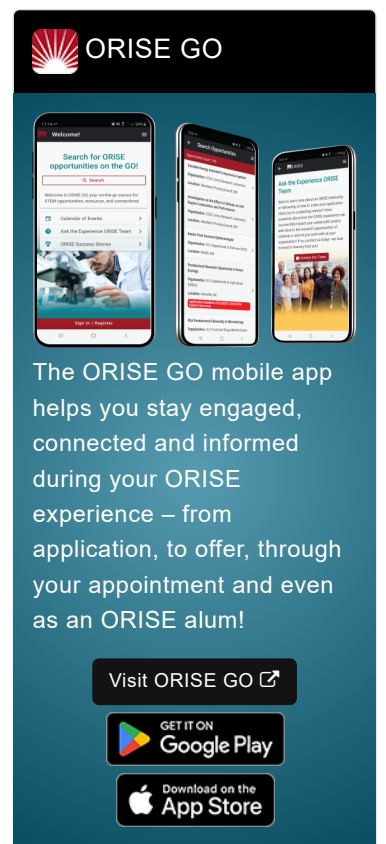
Application Deadline 5/15/2023 3:00:00 PM Eastern Time Zone

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

USFS Office/Lab and Location: A research opportunity is currently available with the United States Department of Agriculture (USDA), U.S. Forest Service (USFS), Rocky Mountain Research Station lab on the Montana State University campus located in Bozeman, Montana.

At the heart of the U.S. 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 U.S. 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: We seek a recent graduate with experience in Entomology to conduct research on several insect-related research projects that will involve both laboratory and field components. These projects include investigating: (1) the chemical ecology of Great Basin bristlecone pine and how specific defense traits affect bark beetle host selection and brood success, (2) variation in floral scent and how this affects pollinator attraction and plant reproduction, and (3) how wildfire risk reduction treatments (e.g., logging, and prescribed fire) affect pollinators and their habitat. This research will include sampling and analysis of plant chemistry (GC-MS, volatile collection, and analysis), and insect behavior and feeding



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trials. This understanding will aid in management strategies for protecting species of conservation concern (high-elevation pines and pollinators). Field research will include surveying trees for bark beetle infestation and hopefully applying what is learned in the laboratory to protect trees in the field and sampling pollinators. The participant will collaborate closely with USDA Forest Service Research Entomologists Dr. Justin Runyon (Bozeman, MT) and Dr. Barbara Bentz (Logan, UT).

Learning Objectives: The fellow will have the opportunity to learn through experience about plant-insect chemical ecology including how to sample and use a GC-MS to analyze plant chemistry, and to learn field-based insect sampling techniques. The fellow will be able to contribute intellectually to experimental design, data analysis, interpretation, and publishing and communicating findings. The participant will also be exposed to a management-based research organization (RMRS), learn about the challenges posed in managing bark beetles and pollinators, and how science is seeking ways to address these challenges.

Mentor: The mentor for this opportunity is Dr. Justin Runyon, (justin.runyon@usda.gov). If you have questions about the nature of the research, please contact the mentor.

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

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

Level of Participation: The appointment is full-time.

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, Lawful Permanent Residents (LPR), 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.

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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 (e.g., Entomology, Biology, Ecology, Forestry). Degree must have been received within the past five years.

Preferred Skills:

- Experience working with insects in the lab and field, plant-insect chemical ecology, R programming, and demonstrated writing skills

Eligibility • **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.

Requirements • **Discipline(s):**

- **Environmental and Marine Sciences** ([5](#) )
- **Life Health and Medical Sciences** ([7](#) )