

Opportunity Title: USDA FS ORISE Conservation Fisheries Genomics Internship

Opportunity Reference Code: USDA-FS-RMRS-2024-0191A

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.

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

USDA FS Office/Lab and Location: A research opportunity is available with the US Department of Agriculture (USDA) Forest Service (FS), at the University of Idaho, associated with the US Forestry Sciences Lab located in Missoula, Montana.

At the heart of the 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: The student intern involved in this project will collaborate with state (Idaho Department of Fish and Game), federal (USDA Forest Service) and academic (University of Idaho and North Dakota State University) partners to collate GTSequencing (~250 SNPs) and RADsequencing (~50,000 SNPs) data sets. They will then compare overlapping SNP loci to test for genotyping concordance and conduct the following analyses for the endemic Yellowstone cutthroat trout and invasive rainbow trout in the Teton River:

1. Identify F1 and post-F1 hybrids
2. Estimate genetic diversity, population genetic structure and extent of introgression (backcrossing)

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3. Identify associations between hybrid ancestry and landscape features (riverscape genetics)

The intern will be expected to collaborate well, interact with co-managers and stakeholders, conduct bioinformatic analyses, assist in any additional wet lab research, and derive their own hypotheses to test in this study.

Learning Objectives: As a result of this training, the intern will learn and improve on computational genetics and conservation genetics analyses. These skills will include, but not be limited to, learning to use statistical coding languages (R, bash), generate genetic pipelines for genotyping samples and working with diverse collaborators on conservation genetic research questions.

Mentor: The mentor for this opportunity is Alexandra Fraik (Alexandra.Fraik@usda.gov). If you have questions about the nature of the research, please contact the mentor.

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

Appointment Length: The appointment will initially be for 11 weeks but may be extended upon recommendation of USDA Forest Service 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, USDA FS, 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.RMRS@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received or be currently pursuing a bachelor's degree anticipated to be received by the start of the appointment. Degree must have been received within the past five years, or

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is currently pursuing.

- Eligibility Requirements**
- **Degree:** Bachelor's Degree received within the last 60 months or currently pursuing.
 - **Academic Level(s):** Post-Bachelor's or Undergraduate Students.
 - **Discipline(s):**
 - **Environmental and Marine Sciences** ([7](#) )
 - **Life Health and Medical Sciences** ([1](#) )