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Opportunity Title: NOAA Linking Ecosystem Indicators to Improve Fisheries Stock Assessments Fellowship
Opportunity Reference Code: NOAA-2024-05

Organization National Oceanic and Atmospheric Administration (NOAA)

Reference Code NOAA-2024-05

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. Click **Here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two educational or professional recommendations

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

Application Deadline 8/16/2024 11:15:17 AM Eastern Time Zone

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

NOAA Office/Lab and Location: A research opportunity is currently available with the National Oceanic and Atmospheric Administration (NOAA), based at the Northwest Fisheries Science Center in Seattle, Washington.

The NOAA Fisheries Research Participation Program will serve as the next step in the educational and professional development of scientists and engineers interested in learning about coastal stewardship and management. This program provides opportunities for students and recent graduates to connect with the unique resources of the National Oceanic and Atmospheric Administration (NOAA) where they can have authentic research experiences using equipment not found on most college campuses. These research experiences complement the educational nature of the program and make participants aware of potential STEM employment opportunities at NOAA. Throughout their appointments, selected candidates will have access to unique research and training opportunities, top scientists and engineers, and state-of-the-art facilities and equipment.

Research Project: The productivity of fish stocks is heavily influenced by variability in the ecosystem and environment. Accounting for environmental and ecosystem drivers is important for understanding population dynamics and providing management advice. For example, identifying drivers of recruitment variability can improve the precision of estimates of recruitment in a stock assessment, particularly in the terminal years of the model, leading to better projections for management over short time scales (e.g., setting allowable harvest). Understanding environmental drivers of population dynamics can also improve long-term predictions by better predicting the impacts of climate change on fish productivity and by helping to design climate-ready fishery management advice.

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Learning Objectives: The selected participant will have the opportunity to conduct cutting-edge research on new methods for including environmental and ecosystem information in stock assessments through increased realism in the modeling of recruitment, growth, maturity, spatial distribution, or other life history processes. There will also be opportunities to develop computational tools (e.g., software packages) to accelerate widespread use of new methods and best practices. This research could be published in peer-reviewed journals. The participant may also have the opportunity to present research results at conferences, or to the Scientific and Statistical Committee of the Pacific Fishery Management Council with the aim of improving accepted practices for scientific advice to managers.

Mentor: The mentor for this opportunity is Kiva Oken (kiva.oken@noaa.gov). If you have questions about the nature of the research please contact the mentors.

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

Appointment Length: The appointment will initially be for two years, but may be renewed upon recommendation of NOAA 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 NOAA. Participants do not become employees of NOAA, 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: If you have questions about the application process please email NOAA@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should be currently pursuing or have received a master's or doctoral degree in the one of the relevant fields.

Preferred skills:

- Ability to research independently, to be self-motivated, and to cooperate with others.

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- Strong communication, organizational, and problem-solving skills.
- Proficiency in both written and oral English.
- Experience conducting transparent, reproducible, and open-source science (examples of using Github, Rmarkdown / Quarto, or similar tools)
- Experience with fisheries stock assessment and/or fitting population models to data.
- The ideal candidate will have knowledge of software tools commonly used in the USA, such as Stock Synthesis.
- Strong coding skills in open source software languages (examples: R / Python, Stan, C++ and related environments such as Template Model Builder, ADMB)
- Data wrangling: depending on the research focus, using large datasets, including georeferenced spatial data, is highly desired.
- Statistical expertise with mixed effects models (ideally understanding the role of fixed / random effects) and models with complicated likelihood structures (for example several likelihood components from several data sources)

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
  - **Environmental and Marine Sciences** (8 👁)
  - **Life Health and Medical Sciences** (3 👁)
  - **Mathematics and Statistics** (6 👁)