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Opportunity Title: USGS Internship in Turbulence Thresholds for Cyanobacterial Blooms
Opportunity Reference Code: DOI-USGS-2024-05

Organization U.S. Department of the Interior (DOI)

Reference Code DOI-USGS-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 5/20/2024 3:00:00 PM Eastern Time Zone

Description **USGS Office/Lab and Location:** A research opportunity is currently available with the U.S. Geological Survey (USGS) located in Sacramento, California.

The USGS mission is to monitor, analyze, and predict current and evolving dynamics of complex human and natural Earth-system interactions and to deliver actionable intelligence at scales and timeframes relevant to decision makers. As the Nation's largest water, earth, and biological science and civilian mapping agency, USGS collects, monitors, analyzes, and provides science about natural resource conditions, issues, and problems.

The mission of the USGS Biogeochemistry Group at the California Water Science Center is to provide data and information biogeochemical processes and aquatic food-webs to local, state, and Federal agencies and entities to improve the scientific understanding and management of aquatic ecosystems and water resources in California.
Webpage: https://www.usgs.gov/centers/california-water-science-center/science/biogeochemistry-group

Research Project Goals

- Research the interaction between turbulence, stratification, and cyanobacterial harmful algal blooms (CHABs).
- Collect field and laboratory data on hydrodynamic properties of water and how these conditions interact with other environmental drivers to impact the growth and distribution of cyanobacteria in the water column.

Learning Objectives:

- The research opportunity will include a combination of field-research and data analysis. The participant will join a research team of over 30 scientists and technicians and will learn how to function effectively within a research team.
- Learning and research opportunities include:

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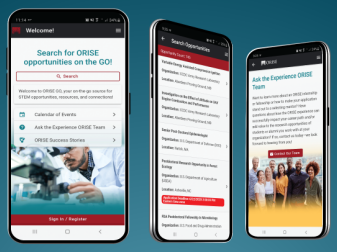
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- Using field-instruments for measuring hydrodynamics: acoustic doppler velocimeter, acoustic doppler current profiler, turbulence microstructure profiler
- Using field-instruments for measuring cyanobacteria and phytoplankton: chlorophyll fluorescence sensors, photosynthetically active radiation sensors.
- Collecting water samples to study drivers of CHABs.
- Laboratory experiments to measure the vertical velocity of cyanobacterial colonies
- Statistical methods for analyzing data to understand hydrodynamic and other environmental drivers of CHABs.

Mentor: The mentor for this opportunity is Keith Bouma-Gregson (kbouma-gregson@usgs.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: June 2024. 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 renewed upon recommendation of USGS and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: Stipend rates may vary based on numerous factors, including education and experience. If you are interviewed, you can inquire about the exact stipend rate at that time and if selected, your appointment offer will include the monthly stipend rate.

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

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 USGS. Participants do not become employees of USGS, 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 USGS@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a bachelor's degree in the one of the relevant fields. Degree must have been received within the past five years or anticipated to be received by 6/3/2024.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree received within the last 60 months or

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anticipated to be received by 6/3/2024 12:00:00 AM.

- **Discipline(s):**
  - **Engineering** (2 👁)
  - **Environmental and Marine Sciences** (7 👁)
  - **Physics** (2 👁)