

Opportunity Title: Biological Science Research
Opportunity Reference Code: ERDC-EL-2022-0004

Organization U.S. Department of Defense (DOD)

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How to Apply Click on *Apply* now to start your application.

Description The Environmental Laboratory (EL) provides relevant, value-added technology supporting the environmental mission of the US Army Corps of Engineers, the Army, the Department of Defense (DoD), and the Nation. Headquartered in Vicksburg, Mississippi, the EL's interdisciplinary staff of over 220 engineers, scientists, technicians, and support personnel plans and executes all phases of the technology development process, from basic research to field implementation to commercialization. The EL staff consists of problem solvers who use research, development, experimentation, special studies, and technical support to address the needs of national and international business development partners. Partnering with Federal and State agencies, academia, and the private sector, the EL uses its distinctive technical capabilities to resolve complex, multi-disciplinary environmental sustainability problems.

Internship opportunity available with the US Army Engineer Research and Development Center, Environmental Laboratory, Environmental Genomics and Systems Biology Team in developing novel biotechnologies for detecting and mitigating cyanobacteria-associated harmful algal blooms (cyanoHABs).

What will I be doing?

Under the guidance of a mentor, you will gain experience in multidisciplinary research activities of environmental science and technology including, but not limited to, molecular biology, genetic engineering, environmental field sampling, nano material synthesis and characterization, genomics, DNA sequencing, data collection and data analytics. You will have research experience, demonstrate an ability to participate in an interdisciplinary team environment, and have a working knowledge and hands-on experience of genetics and basic molecular biology lab techniques (e.g., PCR, western/northern/southern blotting, genetic sequencing, ELISA). Additionally, a Master's degree in biochemistry or biomedicine is desirable.

Projects include rapid, cost-effective and near real-time detection of cyanobacteria genera in freshwater samples, gene silencing-based nanobiotechnology for cyanoHABs control, and the use of cyanophage for cyanobacteria treatment. Specific research activities include: (1) Growing and passaging pure cyanobacterial cultures; (2) Morphological identification and enumeration of cyanobacterial cells; (3) Isolation of specific cyanobacterial species from field water samples; (4) Field sampling of cyanoHABs; (5) Quantitative PCR assays for gene expression analysis; and (6) Mesocosm field experiment setup.

Why should I apply?

This internship provides the opportunity to independently utilize your skills and engage with experts in innovative ideas to move the proposed research forward. There are multiple opportunities available to engage in your applied research and evaluation interests.

Where will I be located? Vicksburg, Mississippi

What is the anticipated start date?

ERDC-EL is ready to make an appointment immediately. Exact start date will be determined at the time of selection and in coordination with the selected candidate.



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What is the length of the appointment?

This appointment is a full-time twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

What are the benefits?

You will receive a stipend to be determined by ERDC-EL. Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. *Participants are eligible to purchase health insurance through ORISE.*
- Relocation Allowance
- Training and Travel Allowance

Nature of Appointment

You will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Qualifications Pursuing or recent graduate with at least a Bachelor's degree in a biological science discipline with a minimum of 3.0 GPA.

A Master's degree in biochemistry or biomedicine is desirable.

A complete application consists of:

- Zintellect profile
- Essay Questions - The application includes questions specific to the opportunity.
- Academic Records - For this opportunity, an official transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted.
- Current Resume/CV
- One (1) Recommendation - Applicants are required to provide contact information for at least one recommendation. You are encouraged to request a recommendation from a professional who can speak to your abilities and potential for success as well as your scientific capabilities and personal characteristics. Recommendation requests must be sent through the Zintellect application system. Recommenders will be asked to complete a recommendation in Zintellect. Letters of recommendation submitted via email will not be accepted.

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system. All documents must be in English or include an official English translation. If you have questions, send an email to usace@orise.orau.gov. Please list the reference code of this opportunity ERDC-EL-2022-0004 in the subject line of the email. Please understand that ORISE does not review applications or select applicants; selections are made by the sponsoring agency identified on this opportunity. All application materials should be submitted via the "Apply" button at the bottom of this opportunity listing. Please do not send application materials to the email address above.

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- Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Computer, Information, and Data Sciences** ([17](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **Life Health and Medical Sciences** ([45](#) )
 - **Mathematics and Statistics** ([10](#) )
 - **Other Non-Science & Engineering** ([1](#) )
 - **Physics** ([16](#) )
 - **Social and Behavioral Sciences** ([17](#) )
 - **Age:** Must be 18 years of age