

Opportunity Title: DNA/RNA Extraction and qPCR Preparation Internship

Opportunity Reference Code: AFRL-711HPW-2024-0017

Organization U.S. Department of Defense (DOD)

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How to Apply Click on *Apply* at the bottom of the opportunity to start your application.

Description The Air Force Research Laboratory 711 Human Performance Wing (HPW) is offering an internship at Wright Patterson Air Force Base.

What will I be doing?

As an Oak Ridge Institute for Science and Education (ORISE) participant, you will join the genomics core team of scientists and researchers in an effort to impact scientific research by enabling a more comprehensive understanding of an individual's genetic information, leading to new discoveries and advancements in the field of human performance. This team specializes in the field of Genomics, Transcriptomics and Epigenetics. This combination of 'omics provides a more complete understanding of an individual's genetic makeup and regulation, whereas a targeted approach can be taken to focus on one of these areas.

Why should I apply?

Under the guidance of a mentor, you will gain hands-on experience to complement your education and support your academic and professional goals. Along the way, you will engage in activities and research in several areas. These include, but are not limited to:

- Enhance skills in DNA and RNA extraction using a variety of cell samples and whole blood samples
- Optimize extraction protocols, maintaining accurate records and monitoring quality standards
- Gain experience in quantification and quality control using use spectrophotometers, fluorometers, and electrophoresis (e.g., Agilent TapeStation, Agilent Bioanalyzer, Qubit) to assess the quantity, purity, and integrity of nucleic acids.
- Participate in nucleic acid preparation for qPCR assays, troubleshooting protocols for cDNA conversion and qPCR preparation and minimizing cross-contamination
- Collaborate and communicate with research teams and project leaders to meet project-specific needs and adapt protocols based on project goals.
- Participate in data management and documentation, maintaining detailed and organized records of all procedures, experiments, and sample tracking, ensuring traceability from sample extraction to qPCR data analysis.
- Support generation of reports summarizing DNA/RNA extraction quality, qPCR preparation success, and sequencing readiness.

Where will I be located?

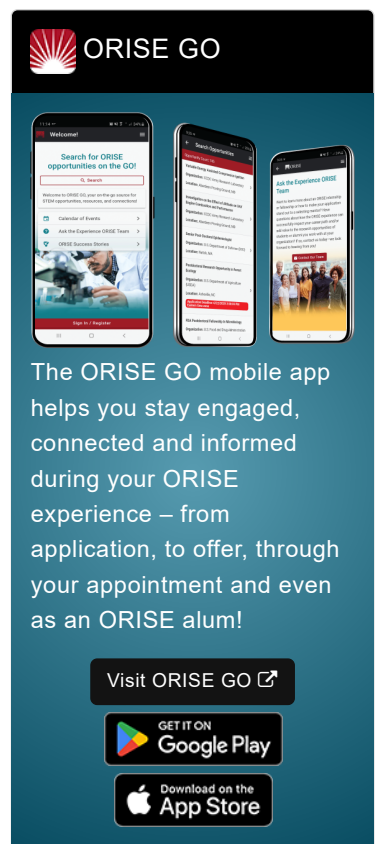
Dayton, Ohio

What is the anticipated start date?

Exact start dates will be determined at the time of selection and in coordination with the selected candidate. Applications are reviewed on an ongoing basis and internships will be filled as qualified candidates are identified.


What is the appointment length?


This appointment is a twelve-month research appointment, with the possibility to be renewed for




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additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

What are the appointment provisions?

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

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

About AFRL

The 711th Human Performance Wing (711 HPW), headquartered at Wright-Patterson Air Force Base in Ohio, is the first human-centric warfare wing to consolidate human performance research, education, and consultation under a single organization. Established under the Air Force Research Laboratory (AFRL), the 711 HPW is comprised of the Airman Systems Directorate (RH) and the United States Air Force School of Aerospace Medicine (USAFSAM). For more information about the Air Force Research Laboratory, 711 Human Performance Wing, Airman Systems Directorate, Airman Biosciences Division, please visit <https://afresearchlab.com/>.

About ORISE

This program, administered by Oak Ridge Associated Universities (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 DoD. Participants do not enter into an employee/employer relationship with ORISE, ORAU, DoD or any other office or agency. Instead, you will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. For more information, visit the [ORISE Research Participation Program at the U.S. Department of Defense](#).

Qualifications The qualified candidate will have at minimum, a high school diploma or currently pursuing with an expected degree completion date of 06/30/2025. Associate and bachelor's degree are eligible as well. Applicants who have already completed their degree must have received the degree within two years of the appointment start date.

Highly competitive applicants will have education and/or experience in one or more of the following:

- Hands-on experience with DNA/RNA extraction from cell samples.
- Strong attention to detail and ability to follow protocols rigorously.
- Familiarity with quality control methods for nucleic acid analysis.

Application Requirements

A complete application consists of:

- Zintellect Profile
- Educational and Employment History

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- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - Please upload a copy of a transcript for your current or most recent degree program that meets the disciplinary qualifications of the opportunity. [Click here for detailed information about acceptable transcripts.](#)
- One Recommendation. We encourage you to contact your recommender(s) as soon as you start your application to ensure they are able to complete the recommendation form and to let them know to expect a message from Zintellect. Recommenders will be asked to rate your scientific capabilities, personal characteristics, and describe how they know you. You can always log back in to your Zintellect account and check the status of your application.

If you have questions, send an email to airforce@orise.orau.gov. Please list the reference code of this opportunity AFRL-711HPW-2024-0017 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:** High School Diploma/GED, Associate's Degree, or Bachelor's Degree received within the last 24 months or anticipated to be received by 6/30/2025 12:00:00 AM.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Communications and Graphics Design** ([2](#))
 - **Computer, Information, and Data Sciences** ([17](#))
 - **Earth and Geosciences** ([21](#))
 - **Engineering** ([27](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Life Health and Medical Sciences** ([51](#))
 - **Mathematics and Statistics** ([11](#))
 - **Physics** ([16](#))
 - **Science & Engineering-related** ([2](#))
 - **Social and Behavioral Sciences** ([29](#))
- **Age:** Must be 18 years of age