

Opportunity Title: FBI Counterterrorism and Forensic Science Research Unit (CFSRU) Chemical Analysis of Primary Explosives

Opportunity Reference Code: FBI-CFSRU-2024-CAPE

Organization: Federal Bureau of Investigation (FBI)

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How to Apply: Click on *Apply* below to start your application.

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

The U.S. Federal Bureau of Investigation (FBI) Counterterrorism and Forensic Science Research Unit's (CFSRU) provides technical leadership for the FBI as well as for other law enforcement and intelligence agencies through applied research and development.

What will I be doing?

This project involves the development of extraction and instrumental methods for the analysis of residues from detonators (primary explosives) used in criminal cases. There are currently no validated methods for the trace analysis of primary explosives. This project uses analytical techniques such as solvent extraction, elemental assays for heavy metals, ion and liquid chromatography, and mass spectrometry. You will be expanding your knowledge and experience using these and other techniques to further your educational pursuit. Previous experience with ion chromatography, Thermo Electron Orbitrap mass spectrometers, and liquid chromatography are highly desired.

As a participant with the Counterterrorism and Forensic Science Research Unit (CFSRU) Visiting Scientist Program (VSP), you will have an opportunity to enhance your professional development and increase your research capabilities and contributions by participating in forensic research initiatives utilizing state-of-the-art equipment under the mentorship of CFSRU scientists. The VSP will expose you to a research environment in a high security government facility and provides an opportunity to perform research in areas of interest unique to law enforcement and national security.

You may be involved in research including:

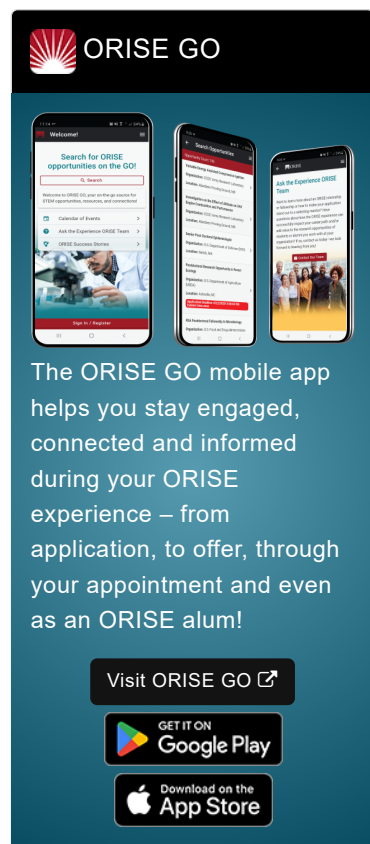
- Detection of explosives
- Characterization and comparison of forensic materials
- Mass spectrometry applications to chemical analyses
- Development of instrumental methods in ion and liquid chromatography

Under the guidance of a mentor, you may be involved in some or all of the following:

- Conducting searches of scientific literature
- Designing experimental plans
- Conducting field tests
- Performing analytical laboratory analyses
- Analyzing instrumental data/ documenting results
- Preparing and presenting research findings to diverse audiences, both orally and in writing

Why should I apply?

Under the guidance of a mentor, you will perform sophisticated laboratory techniques using emerging technologies, judge the completeness and accuracy of research results, perform statistical analyses on data, and prepare written manuscripts for FBI review and publication in peer-reviewed journals.



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Release of any information acquired during participation in this program is at the sole discretion of the FBI.

Where will I be located?

Quantico, Virginia

Participant Benefits:

As a participant you will receive a stipend as support for your living and other expenses during this appointment. Stipend rates are determined by the CFSRU officials and are based on your academic and professional background. Relocation expenses, not to exceed \$1,000, incurred in relocating from your current address to Quantico, Virginia (if more than 50 miles from the address shown on the application), may be reimbursed for Post-Doctoral appointments. You will receive a travel allowance of \$5,000 per appointment year to cover travel-related expenses to scientific and professional development activities. The initial appointment can be up to one year but may be renewed upon recommendation of FBI contingent on the availability of funds.

This opportunity is available to U.S. citizens.

For more information about the Visiting Scientist Program, please visit <https://www.fbijobs.gov/students/undergrad>

Nature of Appointment

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

Qualifications Participation Eligibility:

An ideal candidate for this appointment will have an academic background and relevant professional experience in a field related to the agency's mission and must be seeking to gain knowledge/experience in forensic science applications of scientific techniques. Relevant professional experience may include, but is not limited to:

- Analytical chemistry and analytical method development
- Statistical analysis applied to design of experiments, chemistry, and physical sciences

You must meet the following criteria to participate in the program:

- Be a U.S. Citizen
- Have completed requirements for a Bachelor's, Master, or PhD within the last 5 years or complete all the requirements for the degree by the anticipated start date of the appointment. If more than five years since receipt of degree, the applicant must have an academic background and experience in a relevant field and must be seeking to gain new knowledge/experience in order to expand career opportunities or to advance professionally.
- Undergo an extensive FBI background investigation and meet suitability criteria.

Program Website: <https://orise.orau.gov/fbi/>

Students may apply for the program, but selected applicants will need to have completed their degree before their start date.

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A complete application consists of:

- Complete Zintellect profile and responses to opportunity specific application questions.
- Transcripts/Academic Records - Recent unofficial transcripts or copies of the student academic records printed by the applicant or by academic advisors from internal institutional systems may be submitted to complete the application, if a copy of the official transcript is not available at the time of application. Transcripts/Academic Records must include the name of the academic institution, name of the student, completed/in progress coursework and grades. If you are selected, you will be required to provide proof of degree that includes either a letter from the university's authorized Academic Official on official letter head stating all degree requirements have been met, or a copy of your diploma (with English translation), or a copy of your most recent official transcript showing proof of degree, before the appointment can start.
- A current resume/CV including academic history, employment history, relevant experiences, and publication list.
- One Academic or Professional Recommendation: The recommendation should address a candidate's academic record and potential for success as a fellow, as indicated by communication, motivation, and collaboration skills, and must be submitted through Zintellect. Although only one recommendation is required, you are encouraged to enter more than one contact to request a recommendation since you need at least one recommendation in the system to count as part of the completed application. **Applications without a recommendation will not be reviewed.**

All documents must be submitted through Zintellect, and must be in English or include an official English translation. Documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blacked out, made illegible, etc.) prior to uploading into the application system. Incomplete applications will not be considered. Supporting documents sent by email, postal mail, or fax will not be considered. All supporting materials must be uploaded as PDF files so the document can be searched by Zintellect's search engine. Scanned items are not optimal for search engines. PDF must not require special certificates or passwords to open. Max file size is 10MB.

If you have questions, send an email to FBIrpp@orau.org. Please include the reference code for this opportunity in your email.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([11](#) )
 - **Age:** Must be 18 years of age