Opportunity Title: Development High-Throughput Informatic Tools to Support Proteomic Analysis in Complex Samples
Opportunity Reference Code: ICPD-2025-32

Organization Office of the Director of National Intelligence (ODNI)

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How to Apply **Create and release your Profile on Zintellect** – Postdoctoral applicants must create an account and complete a profile in the on-line application system. **Please note: your resume/CV may not exceed 3 pages.**

Complete your application – Enter the rest of the information required for the IC Postdoc Program Research Opportunity. The application itself contains detailed instructions for each one of these components: availability, citizenship, transcripts, dissertation abstract, publication and presentation plan, and information about your Research Advisor co-applicant.

Additional information about the IC Postdoctoral Research Fellowship Program is available on the program website located at: https://orise.orau.gov/icpostdoc/index.html.

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

Application Deadline 2/28/2025 6:00:00 PM Eastern Time Zone

Description **Research Topic Description, including Problem Statement:**

Analysis of protein samples collected for law enforcement or intelligence purposes are frequently of low quantity and poor quality. Proteomic analysis provides critical information to support the attribution process. The IC laboratories frequently utilize mass spectrometry to identify key peptides in a protein. This project seeks to develop informatic processes that can support the identification of novel proteins with confidence scores that would be linked to specific peptides or groups of peptides identified in public or private databases.
Example Approaches:

- Develop an algorithm that exploits the robust protein sequence databases available to compare partial sequence information.
- AI has been successfully applied to predicting the structure of proteins; use the same approach to provide possible protein "matches" based on partial sequence information from MS analysis.

Key Words: AI, Computational, Methods, Bioinformatics, Biothreats, Mass Spectrometry, Proteomics

Qualifications **Postdoc Eligibility**

- U.S. citizens only
- Ph.D. in a relevant field must be completed before beginning the appointment and within five years of the appointment start date
- Proposal must be associated with an accredited U.S. university, college, or U.S. government laboratory
- Eligible candidates may only receive one award from the IC Postdoctoral Research Fellowship Program

Research Advisor Eligibility

- Must be an employee of an accredited U.S. university, college or U.S. government laboratory

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- Are not required to be U.S. citizens

Point of Contact Keri Tarwater

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12)
  - **Communications and Graphics Design** (3)
  - **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** (11)
  - **Other Non-Science & Engineering** (2)
  - **Physics** (16)
  - **Science & Engineering-related** (1)
  - **Social and Behavioral Sciences** (30)