Opportunity Title: Aging of Fingermarks. Can Fingermark Deposition Time be Determined from Crime Scenes/Objects?
Opportunity Reference Code: ICPD-2025-07

Organization Office of the Director of National Intelligence (ODNI)

Reference Code ICPD-2025-07

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 AM Eastern Time Zone

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

Deposited friction ridge detail (i.e. finger or palm marks) are often recovered from crime scenes/ and/or objects, in order to assist with forensic investigations. However, determining the age of a fingermark remains a challenge, as current methods lack accuracy and reliability in estimating the age of fingermarks. Being able to reliably age a fingermark would be extremely valuable to a broad range of investigations as it provides a timeframe of events. There is also an opportunity to evaluate transfer and persistence in combination with the aging of fingermarks.

Example Approaches:

The approaches to tackling this problem can be broad but commonly include identifying a chemical change as a function of time and using a form of spectroscopic analysis to measure it i.e. mass spectrometry. This approach would leverage the precision of mass spectrometry to detect and analyze the chemical changes in fingermarks over time, in order to determine their age. This is only one example of an approach, with more indepth studies being envisaged

Key Words: Forensics, Fingerprint, Fingermark, Visualization, Detection, Enhancement, Fingerprint analysis, Aging.

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

Opportunity Title: Aging of Fingermarks. Can Fingermark Deposition Time be Determined from Crime Scenes/Objects?
Opportunity Reference Code: ICPD-2025-07

- 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
- 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)