Opportunity Title: Utilizing a Modern Mobile to Provide a Level of TSCM Capability Fellowship
Opportunity Reference Code: ICPD-2024-46

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 2/28/2024 6:00:00 PM Eastern Time Zone

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

Current Technical Security Countermeasures (TSCM) tools are various, expensive and a range of physical sizes. All of them together make a useful tool set, but there are operational challenges such as logistics, ease of use, and discretion that are presented in their application.

The modern mobile platforms – i.e., mobile phones and tablets – are a high specification computer processor with a variety of measurement and communications sensors and transducers. These can be exploited to measure the physical world and collect information and measurement data equivalent to the TSCM tools, in a single device.

We are looking to find out how the sensors on a mobile phone (accelerometers, cameras, magnetometers, vibrometers for example) can be used in conjunction with software defined radio to be useful as a tool in monitoring an environmental for technical threats, such as hidden electronic devices.

Key questions – can a phone be used as a TSCM tool to detect hostile threats? Secondly, how effective is that tool when compared to the specific equivalent TSCM tool. Additionally, what are the benefits of collecting data simultaneously and aggregating it at scale?

Example Approaches:

- Downloading and comparing commercial applications for example wifi scanning and ranking for performance.
- Utilizing a bespoke overarching application to manipulate and leverage the commercial applications.
- Utilizing external peripheral devices to exploit sensing not native to the phone. Infrared camera, lenses, borescopes, microphones.
- Utilizing a bespoke overarching application to manipulate and leverage

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the commercial applications.

Key Words: TSCM, mobile phone, tablet, discrete.

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
- Are not required to be U.S. citizens

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)