

**Opportunity Title:** The Psychology of Intuition the Implications Associated with Creativity and Cognitive Bias for the Security Community

**Opportunity Reference Code:** ICPD-2025-01

**Organization** Office of the Director of National Intelligence (ODNI)

**Reference Code** ICPD-2025-01

**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>.

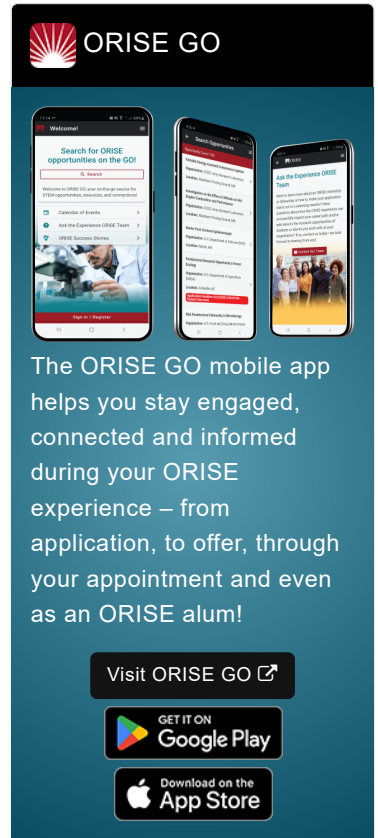
If you have questions, send an email to [ICPostdoc@orau.org](mailto:ICPostdoc@orau.org). Please include the reference code for this opportunity in your email.

**Application Deadline** 3/4/2025 2:30:00 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 Creative and innovative thinkers provide huge benefit to the security sector and these characteristics are highly beneficial to analysts, engineers and scientists. These individuals can identify alternative solutions to reoccurring problems and adapt to new or novel situations, giving an organization huge advantage. Furthermore, these individuals have a heightened sense of intuition compared to others even in close peer groups. However, over a period of time their creative, novel thinking can be affected by organizational cultures, group or task behavior. This manifests as a degradation of novel thinking or indeed cognitive bias from conducting repetitive tasks. This is of particular risk to those who conduct searches and inspections and the critical element to certify an environment as secure and safe.


Currently technology is used to assist to certify an inspection environment is safe, but do end users become biased over time in the manner in which they use/ do not use the technology provided correctly? To some degree an element of intuition can lead highly skilled individuals' experimentation, whereas others do not demonstrate the heightened flare of creativity. In the latter example, this can lead to both false positives and false negatives in results. In other words: decision making can become biased over time, leading to heightened risks from the repetitive nature of the tasks. Do individuals lose their edge due to task fatigue or is it more peripheral bias that can paralyze application of novel thinking? Are some individuals more prone to search bias than others? If so, why? Could the application of game theory provide any insight into this? Is it possible to develop a psychometric


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tool that could assist with the nurturing of creativity in individual officers? Can differences between trained individuals be measured and what technologies could be used to prompt, focus, or even train for heightened intuition/ creativity to solve a problem? The relationship between eye movements and eye tracking can demonstrate bias in an independent way.

The use of augmented reality may be beneficial both during training and on task to provide prompts for the end user. How could this technology improve the decision-making during searches and prevent or direct biased thinking?

The topic will require a proposal that is a combination of applied psychology, together with some form of engineering innovation. It will also need to present new innovative approaches that have not already been explored through research for the benefit of those who conduct routine searches and inspections.

- Eye movement research is a field of psychology that has shown how eye movements and tracking eye movements, directly influenced our attention and understanding of the world around us.
- Various psychological theories have shown how task fatigue can lead to a degradation in performance.

**Example Approaches:**

- Technologies such as augmented reality and immersive reality have been shown to be beneficial for commercial pilots to learn in a simulated environment, how to make critical decisions when faced with a real-world event

**Key Words:** game theory, search bias, improving decision making, human factors and security, augmented reality.

**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

**Point of Contact** [Keri](#)

**Eligibility** • **Citizenship:** U.S. Citizen Only

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- Requirements**
- **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](#))