

**Opportunity Title:** Effect of AI Driven Support Systems Use on the Development of Intuition and Subject Matter Expertise in Cyber Security Professionals

**Opportunity Reference Code:** ICPD-2025-26

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

**Reference Code** ICPD-2025-26

**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** 2/28/2025 6:00:00 PM Eastern Time Zone

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

The rapid introduction of AI driven approaches to solving problems within the cyber security profession has potential impacts on an individual's ability to develop intuition and subject matter expertise. To mitigate these impacts, this research will contribute to the design of AI driven support systems that better support the development of user expertise and intuition.

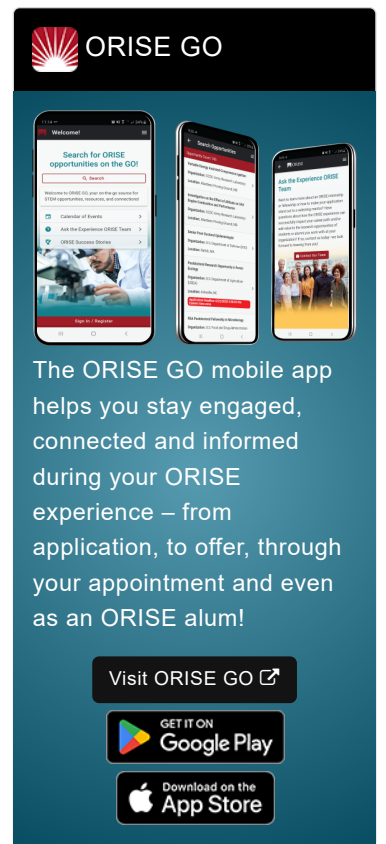
**Example Approaches:**

Possible research questions are:

- How do AI driven decision support systems affect the ability of cyber security professionals to develop intuition and decision-making skills?
- What is the impact of AI driven decision support systems on the retention and application of subject matter knowledge in cyber professionals?
- How does the reliance on AI driven decision support systems influence the long-term development in cyber professionals?
- What design features of AI decision support systems can be optimized to support the development of user intuition and expertise?


**Relevance to the Intelligence Community:**


The intelligence community largely relies on commercial offerings or inhouse software developers for all their analytic tooling. With the shift to AI driven software solutions, there are several different problems that we introduce into the environment. Whilst the problems centering around user trust have been explored to varying degrees, the impact of the long-term use of these systems is less well understood. Ensuring that our people do not lose their skills and abilities will be key to ensuring the successful functioning of our agencies as we incorporate more of these systems into our ecosystems.




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#### References:

- K. Michael, R. Abbas and G. Roussos, (2023) 'AI in Cybersecurity: The Paradox', IEEE Transactions on Technology and Society, vol. 4, no. 2, pp. 104-109, doi: 10.1109/TTS.2023.3280109.

**Key Words:** AI driven support systems, user expertise, cyber security.

#### 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 Tarwater](#)

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| <b>Eligibility Requirements</b> | <ul style="list-style-type: none"><li>• <b>Citizenship:</b> U.S. Citizen Only</li><li>• <b>Degree:</b> Doctoral Degree.</li><li>• <b>Discipline(s):</b><ul style="list-style-type: none"><li>○ <b>Chemistry and Materials Sciences</b> (<a href="#">12</a>)</li><li>○ <b>Communications and Graphics Design</b> (<a href="#">3</a>)</li><li>○ <b>Computer, Information, and Data Sciences</b> (<a href="#">17</a>)</li><li>○ <b>Earth and Geosciences</b> (<a href="#">21</a>)</li><li>○ <b>Engineering</b> (<a href="#">27</a>)</li><li>○ <b>Environmental and Marine Sciences</b> (<a href="#">14</a>)</li><li>○ <b>Life Health and Medical Sciences</b> (<a href="#">45</a>)</li><li>○ <b>Mathematics and Statistics</b> (<a href="#">11</a>)</li><li>○ <b>Other Non-Science &amp; Engineering</b> (<a href="#">2</a>)</li><li>○ <b>Physics</b> (<a href="#">16</a>)</li><li>○ <b>Science &amp; Engineering-related</b> (<a href="#">1</a>)</li><li>○ <b>Social and Behavioral Sciences</b> (<a href="#">30</a>)</li></ul></li></ul> |
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