

Opportunity Title: Correlated Noise in Quantum Computing

Opportunity Reference Code: ICPD-2025-38

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:**

As multi-qubit devices grow in size, correlated sources of error become increasingly problematic, in particular for quantum error correction algorithms. For example, in superconducting qubits, the impact of ionizing radiation and creation of correlated errors has been well studied over the past few years, and the community is actively working on mitigations. This topic is focused on the identification, characterization and/or mitigation of new or under-explored potential sources of correlated errors.

Example Approaches:

Example topics of interest in correlated noise includes:

1. Theoretical study or experimental identification of unexpected sources of correlated errors.
2. Quantification of error sources
3. Development of mitigation strategies (either in hardware or software) to reduce the impact.
4. Study of long-term impact for algorithms of interest e.g. quantum error correction

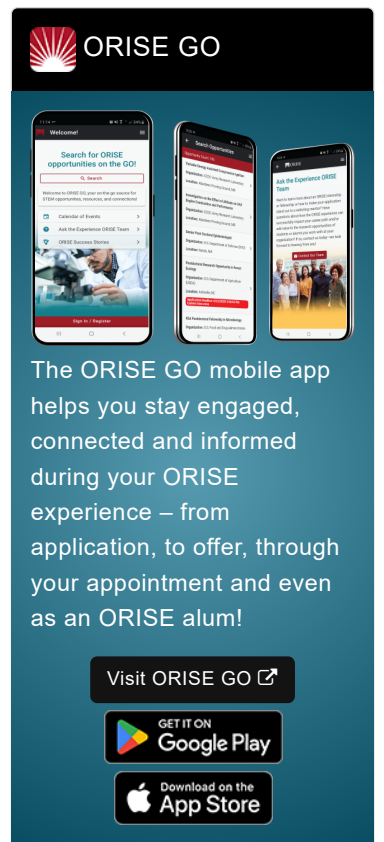
Relevance to the Intelligence Community:

Quantum Computing

Key Words: Quantum Computing, Noise, Correlated Noise, Qubits, Characterization


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




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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](#))