Centre for International
Governance Innovation

The Quantum Nexus: A Framework for Canadian Strategic Advantage in a Contested Domain

The Centre for International Governance Innovation (CIGI) invites applications for a competitive emerging scholars program connected to a Department of National Defence Mobilizing Insights in Defence and Security (DND MINDS)-supported research project on the nexus of quantum technologies, intellectual property (IP) and national security. The program aims to foster multidisciplinary dialogue and support the next generation of scholars and policy thinkers working at the intersection of emerging technologies, governance and security.

The research project explores governance challenges raised by quantum technologies and their convergence with artificial intelligence (AI), including post-quantum cryptography migration, dual-use considerations and supply-chain resilience. It addresses the tension between open scientific collaboration and the protection of strategically sensitive technologies and intellectual assets.

Themes

The program is organized around six themes (final subtopics will be confirmed by the project leads):

- Quantum, IP, dual-use and export controls
- Post-quantum cryptography migration
- Critical materials and quantum supply chains
- Quantum-AI convergence
- Quantum standards, procurement and allied interoperability
- Applying the least trade-restrictive, security-sufficient, innovation-preserving (LSI) test to a case study (please see suggested readings)

Program Overview

Selected participants will join a small cohort of four to six emerging scholars from across Canada for a virtual mentorship and publication program running from September to December 2026. Participants will:

- Receive a one-on-one mentorship session with CIGI Senior Fellow and Principal Investigator Mauritz Kop.
- Participate in an online international expert workshop with researchers and practitioners (Wednesday, October 21, 2026, 12:00 p.m. to 2:15 p.m. EDT [UTC–4:00]).
- Attend an online group masterclass on emerging technology governance and publication development, chaired by Mauritz Kop (Wednesday, November 4, 2026, 12:00 p.m. to 2:00 p.m. EST [UTC–5:00]).
- Develop a 1,200–1,500-word analytical note on an assigned subtopic.
- Contribute an analytical note to the project's final CIGI report (Emerging Scholars annex).

All program activities are conducted online.

Eligibility

Applications are open to individuals based in Canada, including undergraduate and master's students, Ph.D. candidates and post-doctoral researchers. Prior expertise in quantum technologies and their societal impact is not required; applicants from all disciplinary and educational backgrounds are encouraged to apply.

Commitment to Equity, Diversity and Inclusion

The program strongly encourages applications from individuals belonging to equity-deserving groups. Effective governance of emerging technologies benefits from a diversity of disciplinary perspectives, lived experiences and approaches to knowledge production. The cohort selection process will seek to support diversity across educational backgrounds, regions, experiences and perspectives.

How to Apply

Applicants are asked to submit a single PDF containing:

- **A short expression of interest (300–500 words)** indicating which theme the applicant wishes to engage with, why and how it connects to their academic or professional background. Applicants may use one of the guiding questions below as orientation.
- A current CV.
- One reference letter.

Selected applicants will be assigned a specific subtopic within their chosen theme and will develop the 1,200–1,500-word analytical note as part of the program (not as a precondition for admission).

Guiding Questions

Applicants may engage with one of the following interdisciplinary topics, or a related question of their own framing:

1. How should Canada balance open quantum research with the protection of sensitive technologies through IP, including patents and trade secrets?
2. What export-control or safety and interoperability standards tool kits are best suited to a specific quantum technology of concern?
3. How should Canada plan the migration to post-quantum cryptography across critical infrastructure?
4. What legal, ethical, social and policy issues (ELSPI) arise from quantum-AI convergence in defence, biomedical or intelligence settings?
5. How should Canada build a quantum ecosystem that leverages its unique strengths, drawing on the lessons of past technology transitions — which patterns of innovation policy failure should be avoided, and which models of success should be scaled?
6. Which defence and national security challenges are distinctive to quantum and quantum-AI capabilities, and how should they shape Canadian doctrine, procurement and allied posture?

Submissions should demonstrate analytical rigour, originality and engagement with governance or policy challenges related to the program.

Please submit materials to programs@cigionline.org with the subject line **Emerging Scholars Application: DND MINDS Project**.

Suggested Reading

Selected applicants will receive a fuller subtopic-specific reading list prior to the workshop. The following pieces frame the project and may be useful background:

- Mauritz Kop, “The Nexus of Quantum Technology, Intellectual Property, and National Security: Deterrence by Denial for Democratic Resilience — An LSI Test for Securing the Quantum Industrial Commons,” arXiv:2602.15051 (February 11, 2026).

- Mauritz Kop and Tracey Forrest, *Global Quantum Governance: From Principles to Practice*, CIGI Policy Brief No. 222 (February 5, 2026).

These pieces introduce the LSI test and the broader nexus framework for protecting the democratic industrial commons in quantum technology.

Program Timeline

- **Application deadline:** July 15, 2026
- **Notification of acceptance:** Mid-August 2026
- **Program duration:** September–December 2026

Questions regarding the program may be directed to programs@cigionline.org. We thank all applicants for their interest; only selected candidates will be contacted.