NSERC Alliance Quantum: Advancing the industrial readiness of quantum sensing technologies

Sponsor

NSERC (Natural Sciences and Engineering Research Council of Canada) and the NRC (National Research Council Canada)

For More Information

General Grant Information

- NSERC Alliance Quantum Call for Proposals: Advancing the industrial readiness of quantum sensing technologies [1]
- Instructions for completing an Alliance Quantum grant application [2]
- Revised Guidelines on assessment of contributions to research, training, and mentoring [3]
- NSERC Alliance - Frequently Asked Questions [4]
- Research Innovation Office NSERC Alliance Resources [5]

Equity, Diversity and Inclusion Resources

- UofG Equity, Diversity and Inclusion Resource Document for Researchers [6]
- Alliance Grants: Equity, diversity and inclusion in training plans [7]
- NSERC guide on integrating equity, diversity and inclusion considerations in research [8]

National Security Guidelines for Research Partnerships Resources

- U of G Guide for Completing the National Security Guidelines for Research Partnerships' Risk Assessment Form - NSERC Alliance [9]
- NSERC Alliance Grants - National Security Guidelines for Research Partnerships [10]
- Safeguarding your Research Portal [11]

Description

Quantum science is the study, manipulation and control of systems at the atomic and subatomic level. Quantum technologies are at the leading edge of science and innovation, both in Canada and worldwide. They will support the growth and transformation of key sectors, enable new economic opportunities and help advance a range of benefits for society. Canada is a leader in

quantum research, and Canadian scientists are well positioned to capitalize on these opportunities.

NSERC and the NRC are partnering to launch the present Alliance Quantum grants call for proposals to strengthen Canada's quantum research and innovation capacity in quantum sensing and advance the development and application of technologies in this domain for the benefit of Canadians. The NRC is participating through the Internet of Things: Quantum Sensors Challenge program [12] (QSP) and Collaborative Science and Technology Innovation Program (CSTIP).

Support provided through this joint initiative will reinforce, coordinate and scale up Canada's domestic research capabilities in quantum sensing science and technology through partnerships between university researchers; for-profit small- or medium-sized enterprises federally or provincially/territorially incorporated in Canada (referred to as Canadian SMEs); the NRC; and other organizations from the private, public or not-for-profit sectors.

Proposals may address any challenges in quantum science or engineering, but their thrust must aim to advance the third of the NQS missions [13]: **Enable the Government of Canada and key industries to be developers and early adopters of new quantum sensing technologies.**

Projects considered as part of this call for proposals should be associated with a technology readiness level (TRL) [14] in the range 3-6, address a need in the quantum sensing ecosystem, and fall under one of the NRC's current QSP areas of focus:

- Quantum photonics
- Chip-based quantum systems
- Quantum metrology

Collaborations that synergistically couple any of these quantum sensing areas to other research topics in the natural sciences and engineering would be accepted.

Eligibility

Research Team Eligibility

Canadian university researchers who are eligible [15] to receive NSERC funds can apply on their own or as a team with co-applicants who are also eligible [15] academic researchers. Grants awarded for this call will support proposals of varying scale and complexity, including projects involving one researcher to projects involving multiple researchers across several universities.For this call for proposals, researchers may apply for more than one grant as the principal applicant or as a co-applicant in order to support separate projects. The grants must cover distinct expenses; there must be no duplication of funding.

NSERC encourages the participation of early career researchers (ECRs) as applicants or co-applicants on Alliance Quantum grant applications. While applications led by ECRs will be assessed using the same evaluation criteria, the merit indicators [16] used for the assessment

include provisions for cases where the applicant's experience in managing projects or mentoring trainees is nascent. NSERC will monitor the success rate for ECR-led proposals to ensure that it is consistent with NSERC's aim to effectively support researchers throughout their careers. For more information on how NSERC categorizes an applicant as an ECR, refer to the Discovery Grants: applicant categories [17].

Partner Eligibility

In addition to the NRC through the QSP, you must involve at least one Canadian SME as a partner organization in your project. You may also include other partner organizations (in the private, public or not-for-profit sector) that play an important role in your project. They may include Canadian federal departments, organizations that perform R&D, multinational companies with business operations in Canada, or anticipated end-users of the project's targeted quantum technologies. At least one partner organization must have the ability to exploit the project's research results.

Even though cash contributions are not required from partner organizations, you must have at least one partner organization whose cash contributions would be recognized for cost sharing, had there been any required (see Alliance grants: Role of partner organizations [18]). The Canadian SME(s) participating in your project should normally satisfy this requirement. The NRC, as a partner organization of your project, is not recognized for cost sharing.

Funding Availability

Grant support ranges from $100,000 to $350,000 per year from NSERC for up to three years to cover eligible direct costs of research incurred by the academic team. Cash contributions from partner organizations are not required.

The Canadian SME(s) participating in a project can request from the NRC's Collaborative Science and Technology Innovation Program (CSTIP) up to $350,000 per year, on average, for up to three years toward the non-repayable reimbursement of up to 75% of eligible expenditures incurred to support the project. These expenditures are those associated with SME(s) involvement in the project and their in-kind contributions to support it. If your project involves more than one Canadian SME, the average annual non-repayable reimbursement amount of up to $350,000 must be shared between them. In such a case, the SMEs are expected to discuss and agree on the distribution of their requests to the NRC's CSTIP prior to the submission of your application.

Each partner organization's in-kind contributions are to be presented and well justified in the application. Each Canadian SME requesting non-repayable reimbursement from the NRC's CSTIP of expenditures incurred as part of the provision of in-kind contributions must complete the NRC's Industry Collaborator Information and Financial Form [19]. For more information on expenses that are eligible for reimbursement through CSTIP, consult the NRC's web page Grant and contribution funding for collaborators [20] or contact the NRC's National Program Office [21].

Project Duration

Up to 3 years

Special Notes

The National Research Council Canada (NRC) will hold information sessions for the Canadian quantum community.

Date	Time	Meeting Link
Wednesday, February 14, 2024	1:30pm to 3:30pm	**Join meeting** [22]
Thursday, February 15, 2024	1:30om to 3:30pm	**Join meeting** [23]

Deadlines

If College-level review is required, your College will communicate its earlier internal deadlines.

Type	Date	Notes
Internal Deadline	Friday, May 31, 2024 - 4:30pm	OR-5 and full application must be submitted to the Office of Research Services (research.services@uoguelph.ca [24]) a minimum of two (2) weeks prior to the intended submission date to NSERC. Please be sure to "submit" in NSERC's online system.
External Deadline	Friday, June 14, 2024 - 8:00pm	The Office of Research Services will submit the full application on behalf of the applicant to NSERC through their online system.

How to Apply

1. Log in to NSERC's online system [25] and choose 'Create a new form 101.'
2. Select 'Research partnerships programs', then 'Alliance grants.'
3. For the Proposal type field, select 'Full proposal.'
4. For the Type of call field, select 'Quantum – Advancing quantum sensing' from the drop-down menu.
5. Following the instructions for completing an Alliance Quantum grant application [2], fill

out the Alliance Quantum grants proposal template [26] and complete the other sections of the application.
6. Using the Other documents section of form 101, attach the completed and signed Industry Collaborator Information and Financial Form [19] for each Canadian SME participating in the project and requesting non-repayable reimbursement from the National Research Council Canada's (NRC's) Collaborative Science and Technology Innovation Program (CSTIP) of up to 75% of eligible expenditures incurred to support the project through the provision of in-kind contributions.
7. Since each application involves at least one partner organization from the private sector, complete the National Security Guidelines for Research Partnerships' risk assessment form [27].
8. Submit the completed application and supporting documents, including the personal data form with CCV attachment [28] for the applicant and all co-applicants, through NSERC's online system [29]. Each partner organization's contact person will be invited through the online system to provide information about the organization following the partner organization instructions.

Information For Co-applicants

If you need to meet a deadline set by the lead institution for this opportunity, please ensure that you provide the Office of Research with at least five days in advance of the lead institution's deadline to review the application, or your proposed component of the project. Please be in touch with the Office of Research (contact information below) ahead of the deadline if it looks like it will be difficult for you to submit all the required documentation on time (i.e. budget, proposal, OR-5 Form).
For Questions, please contact
Please contact the Research Innovation Office for initial discussions:
Kaleigh Rajna, Industry Liaison Officer
krajna@uoguelph.ca [30]

NSERC Alliance Quantum team:

- alliance_quantumquantique@nserc-crsng.gc.ca [31]
- 1-855-275-2861

National Resource Council Canada:

- Program Office: NRC.NationalProgramOffice-Bureaunationaldesprogrammes.CNRC@nrc-cnrc.gc.ca [21]
- Quantum Sensors Challenge program team: NRC.QuantumSensors-Capteursquantiques.CNRC@nrc-cnrc.gc.ca [32]

Office of Research

Rachel Lee, Senior Grants and Contracts Specialist
Research Services Office

rachell@uoguelph.ca [33]
Alert Classifications**Category:**
Funding Opportunities and Sponsor News

Disciplines:
Health and Life Sciences
Information and Communications Technology
Physical Sciences and Engineering

Source URL:https://www-research.uoguelph.ca/research/alerts/content/nserc-alliance-quantum-advancing-industrial-readiness-quantum-sensing-technologies

Links
[1] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance_quantum-alliance_quantique/Quantum_Sensing-Detection_Quantique/index_eng.asp
[2] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/101/alliance_quantum_industrial-alliance_quantique_industrielles_eng.asp
[3] https://www.uoguelph.ca/research/alerts/content/nserc-releases-revised-guidelines-contributions
[4] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance-alliance/faq-faq_eng.asp
[5] https://uoguelphca.sharepoint.com/:f:/r/sites/ResearchInnovationOffice/Shared%20Documents/NSERC%20Alliance%20Resources?csf=1&web=1&e=H5dP0U
[6] https://www.uoguelph.ca/research/alerts/content/equity-diversity-and-inclusion-edi-resource-document-researchers
[7] https://www.nserc-crsng.gc.ca/innovate-innover/alliance-alliance/edi_training-edi_formation_eng.asp
[8] https://www.nserc-crsng.gc.ca/NSERC-CRSNG/Policies-Politiques/EDI_guidance-Conseils_EDI_eng.asp
[9] https://www.uoguelph.ca/research/secure/for-researchers/other/university-guelph-guide-completing-national-security-guidelines-research-partnerships-risk
[10] https://www.uoguelph.ca/research/alerts/content/nserc-alliance-grants-%E2%80%93-national-security-guidelines-research-partnerships
[11] https://www.ic.gc.ca/eic/site/063.nsf/eng/h_97955.html
[12] http://nrc.canada.ca/en/research-development/research-collaboration/programs/internet-things-quantum-sensors-challenge-program
[13] https://ised-isde.canada.ca/site/national-quantum-strategy/en/canadas-national-quantum-strategy#s5
[14] https://ised-isde.canada.ca/site/innovation-canada/en/technology-readiness-levels
[15] https://www.nserc-crsng.gc.ca/NSERC-CRSNG/Eligibility-Admissibilite/faculty-corpsprof_eng.asp
[16] https://www.nserc-crsng.gc.ca/_doc/alliance/Merit_Indicators-AllianceQuantum_e.pdf
[17] https://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DGCategories-SDCategories_eng.asp
[18] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance-alliance/role_of_partner_organizations-role_des_organismes_partenaires_eng.asp#roleofpartner
[19] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance_quantum-alliance_quantique/Qua

ntum_Sensing-
Detection_Quantique/_docs/Industry_Collaborator_Information_Financial_Form_e.docx
[20] https://nrc.canada.ca/en/research-development/research-collaboration/grant-contribution-funding-collaborators
[21] mailto:NRC.NationalProgramOffice-Bureaunationaldesprogrammes.CNRC@nrc-cnrc.gc.ca
[22] https://r20.rs6.net/tn.jsp?f=001S2uWuv5ll_U8wkwfo2IlbVyTDVv2jx8Pwnku7yqGS-dhYGH80aDi7jHYNeOkkB3ccKZGtT4zD4tVLMygTi6FAr8H4uJZAZJHPqpfCxZ7dU3F-kTTa8XT655FqOxX_K7r4O8B1RBYTbMWysM_KWMEWknzbgoEfZkztDWeFWUcf535bfumQD9asZIAicvqANZNw_iJ4yRmt6qEm9GGSHf2j3AazUs4zyMX&c=J72gwrZZCi0_zhDvNWmAETo0slHnj32sTjjxSvsoPbZlHKgkHpzHXQ==&ch=MPWZi6f5oIlOjRpi4ZYIjkEQn4pnrfkXmzlwtEf55QcguNKm2we0TQ==
[23] https://r20.rs6.net/tn.jsp?f=001S2uWuv5ll_U8wkwfo2IlbVyTDVv2jx8Pwnku7yqGS-dhYGH80aDi7jHYNeOkkB3c-oPvH5ZNvOcg1Dl25asMt0fdZYaidsYexeAJFbMXYDSbVn0bVZZSwCNrmZYQp89FiX14YFj4xu4TpGYkpeo8eUHI0rYQpwfcMgyyJ_guzsmYn3VMwR_sZE4CONd2bTYXuD8zN8lVahAe8rDjq870KS_7521m44Ev&c=J72gwrZZCi0_zhDvNWmAETo0slHnj32sTjjxSvsoPbZlHKgkHpzHXQ==&ch=MPWZi6f5oIlOjRpi4ZYIjkEQn4pnrfkXmzlwtEf55QcguNKm2we0TQ==
[24] mailto:research.services@uoguelph.ca
[25] https://ebiz.nserc.ca/nserc_web/nserc_login_e.htm
[26] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance_quantum-alliance_quantique/Quantum_Sensing-Detection_Quantique/_docs/Proposal_Template_QuantumSensing_e.docx
[27] https://science.gc.ca/eic/site/063.nsf/eng/h_98257.html
[28] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/100/100A_eng.asp
[29] http://ebiz.nserc.ca/nserc_web/nserc_login_e.htm
[30] mailto:krajna@uoguelph.ca
[31] mailto:alliance_quantumquantique@nserc-crsng.gc.ca
[32] http://NRC.QuantumSensors-Capteursquantiques.CNRC@nrc-cnrc.gc.ca
[33] mailto:rachell@uoguelph.ca