
NSERC-NRCan partnership to fund research on small modular reactors

Sponsor

Natural Sciences and Engineering Research Council of Canada (NSERC)

Natural Resources Canada (NRCan)

Program

Research on small modular reactors

For More Information

[NSERC-NRCan Partnership to fund research on small modular reactors](#) [1]

[Equity, Diversity and Inclusion Resource Document for Researchers](#) [2]

[Alliance Grants: Equity, diversity and inclusion in training plans](#) [3]

[NSERC guide on integrating equity, diversity and inclusion considerations in research](#) [4]

[U of G Guide for Completing the National Security Guidelines for Research Partnerships' Risk Assessment Form - NSERC Alliance](#) [5]

[NSERC Alliance Grants - National Security Guidelines for Research Partnerships](#) [6]

[Safeguarding your Research Portal](#) [7]

[NSERC Alliance - Frequently Asked Questions](#) [8]

[NSERC Alliance Grant Application Checklist](#) [9]

Description

In support of Canada's Small Modular Reactor Action Plan, the Natural Sciences and Engineering Research Council (NSERC) is partnering with NRCan to fund research on small modular reactors (SMRs).

NRCan has set aside approximately \$1M per year, over 4 years, to co-fund research projects

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through NSERC's [Alliance grants program](#) [10]. Once the proposed research project has been approved by NRCan, [eligible](#) [11] university researchers can apply for an Alliance grant with a duration of 1 to 4 years. Partners from industry, government and not-for-profit organizations are encouraged to participate as per NSERC's Alliance grants program. NSERC's funding contribution will be calculated using the [Alliance cost-sharing formula](#) [12].

Proposed research projects must address at least one of the following research objectives specific to the SMR technologies being pursued in Canada (consult [Canada's SMR Action Plan](#) [13] for further guidance).

- Robust supply chains for SMRs:
 - Determine the types of equipment and components required to facilitate supply chain development
 - Identify and develop innovative techniques for SMR construction, such as innovative manufacturing techniques to reduce costs
 - Determine how advanced manufacturing technologies can be used in the SMR supply chain; assess what information is needed to qualify these techniques in terms of regulatory approval; undertake research on and/or develop advanced manufacturing technologies/techniques that could be used in the SMR supply chain; undertake research to support the qualification of advanced manufacturing technologies/techniques to meet regulatory requirements
- SMR fuel supply:
 - Develop characterization and examination capabilities for SMR fuel and fuel materials
 - Undertake research to support the development of models and/or codes related to SMR fuel
 - Research and understand the economic impact, including impacts on policies, related to fuel fabrication and/or enrichment in Canada
 - Explore fuel reprocessing options for SMR technologies and related implications relevant to Canada
 - Study the characteristics of enriched materials in terms of their impact on packaging/transportation
- Radioactive waste management and minimization for SMRs:
 - Identify and characterize fuel supply waste streams for SMRs
 - Research and develop SMR waste management solutions, including technologies that have the potential to reduce waste
 - Advance understanding and technologies/techniques to support the safeguarding and proliferation resistance of SMR fuel cycles
 - Undertake research related to intermediate-level SMR waste reduction and disposal solutions
 - Advance understanding of the long-term safety requirements for SMR waste storage and disposal
 - Research transportation requirements for radioactive SMR material based on Canada's non-proliferation, safety and security policies
 - Research and develop technologies for managing non-fuel SMR radioactive waste and contaminated materials

Eligibility

Faculty eligibility for this program follows [NSERC's eligibility requirements for faculty to apply for or hold grant funds](#). [11]

Maximum Project Value

Through these grants, NRCan will provide support up to \$100,000 per year, for up to four years. NSERC's contribution will be calculated using the [Alliance program's cost-sharing formula](#). [12]

Indirect Costs

0% on industry partner funds that are directly leveraged for the NSERC grant and are declared at the time of application submission

Project Duration

1 to 4 years.

NSERC and NRCan will strive to announce funding decisions by February 2024. Some applications may require additional time for national security review

Special Notes

Please note that research activities carried out in the context of COVID-19 need to adhere to the University of Guelph COVID-19 research principles, policies, guidelines and processes as they may be updated from time to time and communicated on the [Office of Research web-page](#) [14].

Deadlines

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

| Type | Date | Notes |
|--------------------------|-----------------------------------|--|
| External Deadline | Tuesday, April 11, 2023 - 11:59pm | University researchers must first submit an Expression of Interest (EOI) form to NRCan. To engage NRCan in supporting your research project, request an EOI form via email to smr-prm@nrcan-rncan.gc.ca [15]. |

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| Type | Date | Notes |
|--------------------------|----------------------------------|---|
| Internal Deadline | Tuesday, July 18, 2023 - 4:30pm | <i>If invited</i> , please submit a signed OR-5, full application draft, including completed draft risk assessment form (if required), and any correspondence from the EOI stage with NRCan to the Research Services Office (research.services@uoguelph.ca [16]) no later than July 18, 2023. Please be sure to "submit" in NSERC's online system. |
| External Deadline | Tuesday, August 1, 2023 - 4:30pm | The Research Services Office will submit the full application on behalf of the applicant to NSERC through their online system |

How to Apply

Step 1: University researchers must first contact NRCan to discuss their proposed research project and obtain approval before submitting an application to NSERC. EOI forms are due to NRCan by 11:59 pm on April 11, 2023.

- To engage NRCan in supporting your research project, request an expression of interest (EOI) form via email to smr-prm@nrcan-rncan.gc.ca [15]. Please include your area of interest/expertise in your initial email to NRCan to help facilitate the process.
- The EOI must explain how your project will address one or more of the specific research objectives and how it will help enable responsible deployment of SMRs in Canada.
- You are encouraged to contact NRCan early in the process to discuss your project concept;
- **An EOI alone is not considered an application for funding.** NRCan will use EOI forms to do a comparative initial review to determine which ensemble of project ideas will best meet the objectives detailed above. A limited number of applicants will be invited by NRCan to submit a full application to NSERC for funding. Funding decisions will then be made based on NSERC's Alliance grants application and review process.

Step 2: Invited [eligible](#) [11] university researchers may apply for an Alliance grant with a

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duration of 1 to 4 years. The Alliance application must be submitted to NSERC by August 1, 2023.

- Applications must be submitted via [NSERC's online system](#) [17]. Following the [instructions for completing an Alliance grant application](#) [18], fill out the [proposal template](#) [19] and complete the other sections of your application.
- In the case where your application involves one or more partner organizations from the private sector, including when they participate alongside other partner organizations from the public and/or not-for-profit sectors, also complete the [National Security Guidelines for Research Partnerships' risk assessment form](#) [20].
- Submit your completed application and supporting documents, including the [personal data form with CCV attachment](#) [21] for the applicant and all co-applicants, through [NSERC's online system](#) [22]. Your partner organization's contact person will be invited through the online system to provide information about the organization following the [partner organization instructions](#) [23].

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

For more information about this funding opportunity, please contact NSERC's

Alliance team at alliance@nserc-crsng.gc.ca [24], or NRCan at smr-prm@nrcan-rncan.gc.ca [15].

Office of Research

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Links

- [1] https://www.nserc-crsng.gc.ca/Innovate-Innover/NRCAN-RNCAN_eng.asp#info
- [2] <https://www.uoguelph.ca/research/alerts/content/equity-diversity-and-inclusion-edi-resource-document-researchers>
- [3] https://www.nserc-crsng.gc.ca/innovate-innover/alliance-alliance/edi_training-edi_formation_eng.asp
- [4] https://www.nserc-crsng.gc.ca/NSERC-CRSNG/Policies-Politiques/EDI_guidance-Conseils_EDI_eng.asp
- [5] <https://www.uoguelph.ca/research/secure/for-researchers/other/university-guelph-guide-completing-national-security-guidelines-research-partnerships-risk>
- [6] <https://www.uoguelph.ca/research/alerts/content/nserc-alliance-grants-%E2%80%93-national-security-guidelines-research-partnerships>
- [7] https://www.ic.gc.ca/eic/site/063.nsf/eng/h_97955.html
- [8] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance-alliance/faq-faq_eng.asp
- [9] https://www.nserc-crsng.gc.ca/_doc/alliance/ApplicationChecklist_e.pdf
- [10] https://www.nserc-crsng.gc.ca/innovate-innover/alliance-alliance/index_eng.asp
- [11] https://www.nserc-crsng.gc.ca/NSERC-CRSNG/Eligibility-Admissibilite/faculty-corpsprof_eng.asp
- [12] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance-alliance/funding-financement_eng.asp#costsharing
- [13] <https://smractionplan.ca/>
- [14] <https://www.uoguelph.ca/research/>
- [15] <mailto:smr-prm@nrcan-rncan.gc.ca>
- [16] <mailto:research.services@uoguelph.ca>
- [17] https://www.nserc-crsng.gc.ca/onlineservices-servicesenligne/index_eng.asp
- [18] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/101/alliance_eng.asp
- [19] https://www.nserc-crsng.gc.ca/_doc/alliance/Proposal_Template-Alliance_Grants_e.docx
- [20] https://science.gc.ca/eic/site/063.nsf/eng/h_98257.html
- [21] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/100/100A_eng.asp
- [22] https://ebiz.nserc.ca/nserc_web/nserc_login_e.htm
- [23] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/Alliance_Partner-Alliance_Partenaires_eng.asp
- [24] <mailto:alliance@nserc-crsng.gc.ca>
- [25] <mailto:abossaer@uoguelph.ca>