Natural Sciences and Engineering Research Council
Research Tools & Instruments | Fall 2024 Competition

General Information

Objectives:

Research Tools and Instruments (RTI) Grants are one-year awards of up to $150,000 to support the purchase or development of research equipment with a total net cost between $7,001 and $250,000 (excluding taxes, shipping and handling). RTI grants foster and enhance the discovery, innovation and training capability of university researchers in the natural sciences and engineering by supporting the purchase of research equipment and installations.

Award Amount:
- $7,001 - $150,000
- NSERC will accept applications for equipment costing up to $250,000 provided the applicant has secured funds to cover the amount in excess of $150,000.

Duration:
- 1 year (multiple year requests will not be accepted)

Eligibility of Applicant:
- Researchers will be able to participate on one application/competition, either as an applicant or co-applicant, but not both.
- Applicants and co-applicants must each hold at least one of the following NSERC research grants (either as an applicant or co-applicant):
    - Alliance grant
    - Canada Excellence Research Chairs (NSERC)
    - Canada 150 Research Chairs (NSERC)
    - Canada Research Chairs (NSERC)
    - Collaborative Research and Development grant
    - Discovery Development grant
    - Discovery Grant
    - Discovery Horizons grant
    - Industrial Research Chairs grant
    - Strategic Partnership grant
- General rules of NSERC eligibility apply: you must hold an academic appointment of at least 3 years.
- *NEW* Starting Competition 2023, RTI grants applicants and co-applicants who were successful in the previous year's RTI competition will be ineligible to apply for one year. Eligibility will be reinstated the following competition year.

- ***NEW*** On January 16, 2024, the Government of Canada published its <u>Policy on Sensitive Technology Research and Affiliations of Concern</u>. This funding opportunity is in scope of this new policy, wherein grant applications that involve conducting research that aims to advance a sensitive technology research area will not be funded if any of the researchers involved in activities supported by the grant are currently affiliated with, or in receipt of funding or in-kind support from, a named research organization. Please read the <u>Tri-agency guidance on the STRAC Policy</u> to understand how this policy may impact your grant application. **For more information on STRAC and steps that you need to take to comply, please reach out to the Research Security Division at researchsecurity@ucalgary.ca.**

Eligibility of Application:
- Tools and instruments that form a comprehensive system intended to support NSERC-funded research in the natural sciences and engineering. Requests that bundle unrelated tools and instruments together will not be accepted
- The purchase of new, used or refurbished equipment, for the repair, upgrade or rental of equipment, or for the fabrication of equipment that is not readily available off the shelf.
- NSERC will only accept requests for equipment that is purchased or rented after the application deadline.
- Equipment and items that are part of laboratory infrastructure or intended to render other equipment compliant with health and safety standards are ineligible for RTI support.

Additional Information and Resources:
- NSERC Program Guidelines
- NSERC Detailed Instructions
- Instructions for the NSERC Canadian Common CV
- Canadian Common CV Help Manual
- NSERC Research Portal
- NSERC Peer Review Manual
- Frequently Asked Questions
- **Library of Successful Applications:** The Research Services Office maintains a library of successful applications, which includes RTI applications from the 2013 competition onwards. Sample applications are available to faculty members to assist with the preparation of their own applications. Please contact Research Services (rsogrants@ucalgary.ca).

Application Deadline to Research Services Office:

> Deadline for the *optional* Detailed Review: October 10th at 4:00 p.m. (MT)
>
> Final Internal Deadline: October 22nd at 12:00 p.m. (MT)
>
> **NSERC Deadline: October 25, 2024**

For the full application:
This competition will be run through RMS.

- Internal approvals for the full application stage will be done through the RMS system.
- Complete the Pre-Award/Application record in RMS (login at https://research.ucalgary.ca/rms) and submit for academic approvals. Ensure you receive all required approvals in advance of **noon on October 22.**
- Hit "submit" in the Application Overview page in the NSERC Research Portal by noon October 20, 2023 (this sends it to RSO, not NSERC).
- The completed RMS record and the application must be received by Research Services by **noon, October 22.**
- If you would like a detailed review, Research Services must receive your complete application by **4pm on October 10, 2024**.
  - The detailed administrative review includes checking for eligibility, UofC commitments and risk, compliance with program guidelines, completeness of application, and the opportunity for feedback.
  - The basic administrative review involves a minimal check for eligibility, UofC commitment and risk. Applications received after October 10th will receive a basic administrative review.

Review procedures and selection criteria

Applications for RTI grants submitted to NSERC are reviewed by experts on a competitive basis. Experts on NSERC RTI selection committees follow the guidelines in the Research Tools and Instruments peer review manual.

Applications to the RTI program are assessed on the basis of the three following weighted selection criteria. The onus is on the applicant to thoroughly address each criterion in the application and to provide detailed information.

1. **Need, urgency and suitability (40%):**
   o demonstration that the equipment is essential for the research and that there are no other more cost-effective ways of obtaining the results
   o availability of similar equipment/facilities/services in the vicinity
   o impact of a delay in acquisition of equipment on the research and the pace of research progress
   o need to upgrade or replace obsolete or failed equipment
   o degree of utilization of the equipment by the applicant(s) and other users

2. **Feasibility and impact (40%):**
   o quality and significance of the research program(s), including potential for major advances and impact in the discipline as a result of the equipment
   o feasibility of the plan to use the equipment
   o extent to which the applicant has relevant experience or has presented a training plan to demonstrate how they will gain the ability to fully use the equipment
   o consideration of EDI in the rationale of the team composition.

3. **Training of highly qualified personnel (HQP) (20%):**
   o quality and extent of training
   o opportunity for hands-on training
   o potential to provide marketable skills for students trained on the equipment
   o consideration of EDI in the training of HQP
   o Demographic data is not requested or required to assess any impacts resulting from the consideration of EDI in the research team and training environment.

Guide to Applying

To apply, submit an Application, and a NSERC Common CV. Click here for full instructions.

Application Overview

Application Form
- ☐ Identification
- ☐ Summary of proposal
- ☐ Proposed Expenditures table
- ☐ Activity Details (Certification requirements and STRAC Attestation)
- ☐ Eligibility Profile

Free Form Attachments
- ☐ Proposal
- ☐ Budget Justification
- ☐ Quotations (required for equipment > $25,000)

Canadian Common CV

- ☐ Canadian Common CV
  - o For team grants, each co-applicant must complete a Canadian Common CV

A. Create an Application

1. Sign in to the Research Portal.
2. Select the Funding Opportunity and click Create.
3. Complete your Eligibility Profile and click on Validate.
4. Click on Continue and Create Application.
5. Under Applications, Open the application.
6. Click on Edit to complete the different sections.

B. Complete the Application

<u>Identification</u>
- ☐ Administering Organization
  - o Organization (list University of Calgary)
  - o Department (list the department that will sign your RFAA)
- ☐ Application
  - o Application Title
  - o Language of the Application
  - o Suggested Evaluation Group (not editable)
    - *Select the evaluation group that best fits your research discipline. Your suggestion is used for the preliminary assignment of your application to the appropriate RTI selection committee. NSERC makes the final decision on the assignment.*
  - o Hours per month to Be Devoted to Research/Activity: hours per month
    - ***The applicant and each co-applicant are required to complete this section***

- Enter the time (in hours/month) you plan to devote to the research/activity enabled by the requested equipment

Summary

☐ Summary of proposal (text box – 3000 characters)
  - *The summary is intended to explain the proposal in language that the public can understand.*
  - Using simple terms, briefly describe the equipment that is requested, what it will be used for, and the research activities it will enable. Indicate why and to whom the research activities are important, their anticipated outcomes and the benefits to the research field and to Canada.

☐ Optional second official language translation (text box – 3000 characters)

Proposed Expenditures

Before completing this page, read the instructions and consult the [Tri-Agency Financial Administration Guide](#).

☐ Equipment or facility

Type of expenditure	Eligible costs	Ineligible costs (ineligible funding costs must not be included in the application)
Equipment	Purchase or rental of equipment, including taxes, shipping and handling (Note: You may use the educational services GST discount (67%), which reduces the GST rate to 1.65%)	
Other	- transportation/shipping costs for purchased equipment - fabrication, assembly and installation of the equipment - extended warranty or service contract - brokerage and customs charges for the importation of equipment and supplies - testing/calibration costs - on-site costs of training staff to use equipment - software licensing or upgrades	- salaries and benefits - travel - insurance costs for equipment and research vehicles - laboratory infrastructure (including but not limited to ventilation systems, wiring, power units or electrical outlets, floors, ceilings, walls, plumbing, lighting and storage) - costs of the construction, renovation or rental of laboratories or supporting facilities - equipment or items intended to render other equipment compliant with health and safety standards - consumables

- o Applications for computing equipment are considered on the same basis as all other equipment applications. RTI grant funds may be used to purchase hardware and/or to pay for the acquisition of software.
  - o Provide costs in Canadian dollars for expenses paid in foreign currency. Use the current conversion rate, but note that NSERC will not provide additional funds should the value of the Canadian dollar fall by the time of the award (April 2025).
  - o The total **net cost** of the equipment cannot exceed $250,000, and NSERC will only accept applications requesting up to $150,000 (inclusive of shipping and taxes). The applicant will be responsible for any amount in excess of $150,000.

- ☐ Total Cash Contributions (if applicable)
  - o Indicate any cash contributions from university, industry or other sources, if applicable;
  - o Use the Budget Justification section explained under Attachments below to explain and justify each budget item and any contributions from other sources toward the purchase of the equipment.
  - o NSERC will accept applications for research equipment whose total net cost is up to $250,000, provided that the applicant is able to secure funding from other sources to bring the amount requested between $7,001 and $150,000 (before taxes, customs and importation fees, transportation and shipping charges, and assembly and installation costs). This funding must be in place and confirmed at the time that the application is submitted.

Activity Details
- ☐ Certification requirements
  - o Please consult NSERC's requirements for certain types of research.
- ☐ Research involving humans (if applicable)
- ☐ Research involving the use of animals (if applicable)
- ☐ Research involving human pluripotent stem cells (if applicable)
- ☐ Environmental impact
  - o If you select Yes to any of the questions, you will be asked to answer additional questions as appropriate to address the requirements of the Impact Assessment Act
- ☐ Sensitive Technology Research Areas: If you select Yes, you must complete and attach attestation forms to your grant application – in the STRAC Attestation Attachment section – to comply with the policy. In accordance with the Policy on Sensitive Technology Research and Affiliations of Concern, all researchers involved in the activities supported by a research grant that aims to advance a Sensitive Technology Research Area (STRA) must review the List of Named Research Organizations. By using the attestation form template, the applicant, co-applicant, and collaborators, if applicable, must each complete an attestation form certifying that they have read, understood, and are compliant with this policy. Should the application be successful, they and their research team(s) will also be required to comply with the policy for the duration of the grant. For more information, please read the Tri-Agency's detailed guidance for this policy. The applicant must collect and compile all the completed attestation forms and save them as a single PDF file.
- ☐ Research Subject Codes
  - o Consult the Research Subject Codes. A primary research subject code is required.
- ☐ Area of Application Codes
  - o Consult the Area of Application Codes. A primary area of application code is required.
- ☐ Keywords
  - o Modify, as required, the keywords to best describe your proposal. Maximum 10.

Eligibility Profile

☐   You must re-validate your eligibility profile. Click on Save and validate.

Proposal (Required attachment)

☐   Proposal (maximum of 4 pages)

With input from the co-applicants (if any), applicants should address all the following points:

1.   **Need, urgency and suitability of equipment for the research programs (40%)**
     ▪   Demonstration that the equipment is essential for the research, and that there are no other more cost-effective ways of obtaining the results;
     ▪   Availability of similar equipment/facilities/services in the vicinity;
     ▪   Impact of a delay in acquisition of equipment on the research and the pace of research progress;
     ▪   Need to upgrade or replace obsolete or failed equipment;
     ▪   Degree of utilization of the equipment by the applicant(s) and other users.

2.   **Merit of the research programs supported by the equipment and excellence of the applicant(s) (40%)**
     ▪   Quality and significance of research programs, including potential for major advances and impact in the discipline as a result of the equipment;
     ▪   Feasibility of the plan to use the equipment; and
     ▪   The excellence of the applicant(s), including scientific or engineering caliber of the applicant(s) and extent to which the applicant(s) has relevant experience and demonstrated ability to fully use the equipment.

3.   **Consideration of equity, diversity and inclusion in the rationale of the team composition (applicant, co-applicant(s) and major users).**
     ▪   Importance of the equipment for the training of highly qualified personnel (HQP) (20%)
     ▪   Quality and extent of training;
     ▪   Opportunity for hands-on training; and
     ▪   Potential to provide marketable skills for students trained on the equipment.
     ▪   Consideration of equity, diversity and inclusion in the training of HQP.

==Tip==: References are optional. But if you choose to include them, they must fit within the 4 pages. The font for the references can be smaller.

Budget Justification (Required attachment)

☐   Budget Justification (maximum of 3 pages)

Before completing this page, read the instructions and consult the Tri-Agency Financial Administration Guide.

==Tip:== The 3 pages allocated to the budget justification include the 'Relationship to other research support sub-section, see page 8. Typically, applicants will use 1/2 page for the table, 1 page for the justification, and 1 and 1/2 pages for listing the other research support

The justification should address the following points:

- Provide a detailed explanation and justification for each budget item identified in the Proposed expenditures page.
- Provide sufficient information to allow reviewers to assess whether the items requested are appropriate, including details on models and manufacturers.

In a table format like the one below, give a clear cost breakdown of the items requested indicating the subtotal(s), the institutional tax rate, the total tax and, if applicable, the currency exchange rate(s) and the converted currency total(s).

Table template

Table template				
Item	Quantity	Cost per unit in original currency	Exchange rate	Total cost in Canadian dollars
			Subtotal:	
			Institutional tax rate (1.65%):	
			Total tax:	
			Total cost:	
		Total confirmed from other source(s):		
		Total requested from NSERC:		

All proposed expenditures, including those taken from quotations, must be in Canadian dollars. To convert to Canadian currency, you must use an exchange rate consistent with the Bank of Canada rate at the time of application. Ensure that tax rates (i.e., applicable exemptions or rebates) used in the budget are consistent with the tax rates used by your institution. Failure to use the above-described exchange rate and/or tax rate(s), or the addition of any other line item in the budget intended to cover fluctuations in cost, may result in a revised award amount.

Relationship to other research support — explanation

You must provide sufficient information to enable the reviewers to assess the relationship between the equipment requested in this application and other relevant research funds held or applied for, including those of any co-applicants. These funds can include grants and contributions from funding agencies, organizations, the private sector, institution start-up funds, research chairs, the primary place of employment (for adjunct professors) and other institutional research support.

You must clearly demonstrate that the funds requested in the RTI application will be for expenses that are distinct from those covered by support (in kind or cash) from other sources. For funding applied for, you must

demonstrate that there will be no duplication of funding for the same expense(s) by explaining how funds will be used if all applications are successful.

Quotations (Attachments – if required)

☐ Quotations (up to two PDF documents [file size limit of 10 Mb each])
   1. Provide two recent quotations for items costing more than $25,000 net (net is defined as: purchase cost of the equipment after any discount from the vendor and before taxes, customs and importation fees, transportation and shipping charges, and assembly and installation costs)
   2. *Note: When individual items costing less than $25,000 each are intended to be assembled together and integrated into a single system with a resulting overall cost above $25,000, quotations are **not** required*
   3. *Note: The application will be rejected if the quotations or the justification are not submitted with the application.*

C. Upload your NSERC Common CV

☐ In the Application Overview page, click on Upload to link your NSERC CCV to your application. Refer to the NSERC CCV instructions for details.
   1. Once you have completed the NSERC CCV in the Common CV system, click Submit. When you click Submit, the system will create both a PDF and **confirmation number**. You may retrieve this number at a later time through the History tab on the top menu bar.
   2. Login into the Research Portal and open your application. This will take you to the Application Overview page.
   3. Within the Canadian Common CV Uploaded section, click **Attach**. The Common CV Upload page will appear.
   4. Enter your NSERC CCV confirmation number and click **Upload**.
   5. A message will appear indicating that you have successfully uploaded your CCV, which you may now preview.

☐ The applicant **must link their NSERC CCV to the application**. Note that the applicant's NSERC CCV can be updated with respect to the version submitted with the NOI, up to the submission of the application.

☐ **Important Note**: Preview your CCV in the Research Portal before submitting your application and ensure that the file has been uploaded correctly. If you are unable to preview your CCV or receive an error message delete your CCV, repeat the steps above and re-upload your CCV.

Tip: Make sure to include any Leaves of Absence or Delays related to COVID is in the NSERC CCV under the "Leaves of absence" section of the CCV.

D. Invitations (if applicable)

Include only major (who frequently use the equipment) users as co-applicants. There is no typical number of co-applicants.
1. From the **Application Overview** page in the **Invitations** section, click on **Manage Invitations**
2. Provide the email address and the last name of each co-applicant. An email will be sent to each participant with instructions on how to accept the invitation.
3. A Submit button will be displayed once the co-applicant has validated the information and uploaded their NSERC CCV.
4. They will select Submit to send their part of the application to the applicant.

5. Once co-applicants complete their portions and select Submit, the applicant will see the status of the co-applicant invitations change from "Invitation sent" to "Invitation accepted and completed" and a green check mark will appear in the Status column.

Note: The applicant must ensure that the co-applicants from other institutions obtain the appropriate approval from the authorized officer of their organization **prior to submitting the application to NSERC.** An email from the authorized officer can be forwarded to rsogrants@ucalgary.ca

E. Submitting the Application to NSERC

☐ Complete your Pre-Award record in RMS, complete with electronic approvals.

☐ Submit your application to the University of Calgary Research Services Office from the Application Overview page in the Research Portal. The Submit button will be displayed once you have validated all the sections of your application and uploaded your NSERC CCV. The status of your application will be changed to "Received by Administrator".

   o Once RSO receives *both* the online submission of the application *and* the RMS record, your application will be placed in a queue for review and approval. If submitted before October 13, 4:00 pm it will receive a detailed review. Applications submitted after October 13 will receive a basic review only, checking for eligibility, U of C commitments, and risk. **The final deadline for RSO to receive applications is October 20, 12:00 p.m. (noon)**

   o Once Research Services has approved and forwarded your application to NSERC, the application status will be "Received by Agency."

Appendix

Research Portal presentation and attachment standards

Prepare your attachments in any word processing program, following the requirements below. All text, including references (where applicable), must conform to these standards.

- Acronyms and abbreviations must be spelled out completely on initial appearance in text;
- Pages must be 8 ½" x 11" (216mm x 279mm);
- Pages must be single-spaced, with no more than six lines of type per inch;
- All text must be in 12 pt. Times New Roman font;*
- Condensed fonts will not be accepted;
- Colour imagery is acceptable** but the text should be in black;
- All margins must be set at a minimum of ¾" (1.87 cm);
- Do not introduce hyperlinks or bookmarks in your documents (ensure that your software's 'Create bookmarks' option is de-selected);
- If you have supporting documents written in a language other than English or French, you are required to provide a certified translation of the document.

* The font type and size requirements do not apply to text inside tables and figures. However, for text inside tables and figures, you must use a font type and a font size that are clearly legible. NSERC reserves the right not to accept your application if it does not meet this requirement. Note that figures and tables count toward the specified page limits.

** Applicants who decide to use colour imagery should be aware that the application may not be reviewed in colour. Use of colour increases the file size of your application, and may lengthen download and upload times.