

# **NSERC Alliance grants**

Supporting research partnerships between universities and other organizations

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# Supporting research at Canadian universities



The Natural Sciences and Engineering Research Council of Canada (NSERC) is the **largest provider of grants & scholarships** in Canada in the fields of Natural Sciences and Engineering



#### Alliance grants

## **Program objectives**

- 1. Alliance is now NSERC's university research partnerships program
- 2. Support research in the natural sciences and engineering (NSE) led by strong, complementary, collaborative teams
- 3. Enable collaborations with a broader set of partner organizations (private, public, not-for-profit sectors)

- 4. Interdisciplinary collaborations are encouraged with up to 30% of costshared project costs covered by Alliance.
- 5. Remove barriers and provide more flexibility in building partnerships that will effectively generate new knowledge and accelerate the application of research results for the benefit of Canadians

#### Alliance grants

## **Cost sharing**

Project costs are shared between NSERC and partner organizations

NSERC's contribution depends on the:

- 1. Expected outcome of the project for society
- 2. Partner organization(s) cash contributions
- 3. Partner organization(s) size and sector(s)

## Collaboration

Partner organizations must also play an **active role** in the project, e.g.:

- 1. Active participation in project research activities
- 2. Applying results to help achieve the desired outcomes
- 3. Translating/mobilizing knowledge to generate benefits for Canada

Alliance grants support truly **collaborative** projects

#### Alliance grants

### Type of partners which can be recognized for cost-sharing

#### **Private sector**

- Canadian private companies
  - At least 2 FTE
  - Physical location
- Multinationals with presence in Canada
- Foreign companies (not as sole partner)

#### **Public sector**

- Municipalities, local / regional governments
- Public utilities
- Crown corporations
- Federal / provincial / territorial government departments (not funding agencies)

#### Not-for-profit sector

- Producer groups
- Industrial associations
- Registered charities with a research mandate
- Museums/libraries
- Indigenous groups
- Community groups

## National security guidelines for research partnerships

- The Government of Canada introduced the <u>Guidelines</u> to ensure that the Canadian research ecosystem is as open as possible and as safeguarded as necessary
- 2. They help integrate national security considerations into the development, evaluation, and funding of research partnerships

- 3. They apply to Alliance grant applications involving one or more partner organizations from the **private sector**
- 4. If your Alliance project involves private sector organizations, you and your post-secondary institution must complete the <u>Risk Assessment Form</u> and submit it as an integral part of your Alliance application

Alliance grants: Cost-sharing



## **Option 2**

\$30K - \$1M per year for 1 to 5 years

For **specific** projects -

societal impact making connections broad outcomes

NSERC contribution 100%

#### Option 1

### **Cost-sharing ratio**



#### Option 2

## **Overview and updates**

- Annual funding limit raised to \$1,000,000
- Up to 100% of project costs covered by NSERC
- No participation limits for researchers or partner organization



#### Alliance grants – option 2

Current outcomes and results

Application received & processed	131
Success rate (PIVP)	47%
Funding rate	85%
Total grants funded	46
Total investment value	\$22.3 M
Area of research funded	Water, Agriculture, Medical Devices, ICT, Environment, Engineering, Transport and Energy

-- as of September 2022 --

## societal impact making connections broad outcomes

Your proposal must meet all three specific characteristics to qualify for Option 2

## **Characteristic 1: Societal impact**

- Focuses on important and unmet needs affecting society or societal groups, regionally, nationally or globally with important impact in Canada
- Removes or lowers the barriers to achieve what would otherwise not be possible in terms of:
  - building capacity to transform a sector and its practices
  - providing evidence for new policies or regulations
  - solving an issue affecting a whole business area
  - creating a new area of the economy

The project's outcomes must reach beyond the partner organizations and near-term economic success to **impact & benefit society**.

## **Characteristic 2: Making connections**

- Identify the key stakeholders in the ecosystem or value-chain surrounding the problem.
- Engage all relevant stakeholders beyond the participating partner organizations in the research design and implementation who:
  - bring relevant societal perspectives/skill sets
  - help merge ideas, overcome barriers and find creative solutions
  - ensure the project is need-driven
  - contribute in integrating solutions with decision-makers within and across sectors

Despite limited cash contributions, partners must be **strongly committed & active**, and provide valuable opportunity to connect & share results with other organizations.

## **Characteristic 3: Broad outcomes**

- Outcomes/outputs generate benefits beyond the participating partner organizations
- Clear plan to communicate progress and results to the targeted groups:
  - results in formats accessible by all stakeholders in society
  - strategy to raise awareness of the resulting products, services or policies among potential users
- Expectations:
  - short term: strengthening capacity, building relationships and networks
  - medium term: uptake, use of results
  - long terms: measurable societal impact

All stakeholders must understand and accept the principle that the management of the intellectual property generated through the project **cannot become a barrier** to the use of the results.

# 

**Option 2** supports research with goals aimed at **filling** identified gaps at the intersection of science and **society**. To solve these challenges, teams must involve people or societal groups affected by these issues in setting the goals and research strategy, and must **share** the research in unconventional ways that will mean the results are used by those affected groups. Because the approach takes more effort, NSERC may cover up to 100% of the project costs.

Do not consider Option 2 ...



as a replacement for Engage grants or Strategic Partnership grants

for a one researcher-one partner centred project

to push ideas as opposed to responding to an existing and well defined societal need (i.e., benefits to society are the driver, not an afterthought)

to reduce the financial costs of partner organizations in initiating new partnerships

to offset the cost of research where investments are available or in areas where research is intense and already heavily funded

to reduce the cost of research where the goal is to develop or improve new products or services for commercialization with important unmet societal need

where societal impact is expected

with barriers that prevent it from happening

that have a need to reach out to participants beyond the usual comfort zone

where a viable solution can be envisioned to significantly contribute to long-term societal benefits

where higher NSERC support is key to enabling these advances

## Consider Option 2 for projects ...



#### Funded project: Option 2 example

# Evaluation of micro- and nanoplastics in Canadian drinking water

- Project: to examine the concentration and characteristics of micro- and nanoplastics in untreated and treated water. The research team will then work to fill the knowledge gap associated with the potential health impacts related to consumption of these contaminants in drinking water.
- Value: \$388,200 over 4 years from NSERC All partners providing essential in-kind support
- Applicant: PI with 25 years of experience in the evaluation of drinking water treatment processes and distribution systems
- **Partners**: 2 public utilities, 2 municipal governments



#### Value added by Alliance

Enabling partner organizations to research a topic that otherwise may not have been studied due **to funding and technical gaps** 

Bringing together different organizations to work towards a common goal to benefit society

Tapping into expertise and facilities at a local university

#### Funded project: Option 2 example

### Novel Solutions for Battery Thermal Management and Battery Reuse

- **Project:** develop efficient thermal management solutions to predict battery surface temperature under realistic conditions. Assess used battery pack modules aimed at cost-effective pack replacement for used vehicles. demonstrate connected battery management service to foster battery technology, drive down costs and stir innovation.
- **Grant:** \$139,000 over 3 years from NSERC. All stakeholders providing essential in-kind support
- **Stakeholders:** 1 university, 2 private sector companies, 1 not-for-profit industrial association, 1 not-for-profit community organization
- Expected societal outcomes: enhance Canadian leadership and innovation in battery management systems. Improve public safety and energy efficiency by minimizing adverse effects of battery heating. Improve the reliability of EV and lower the cost of refurbished batteries for EVs and e-bikes. Support the development of e-transportation policies.

#### Value added by Alliance

Bringing together different organizations to work towards a common goal to benefit society





## Proposal template: Background and outcomes

Describe the need for original research to address the project's topic and the potential for generating new scientific knowledge:

- How will the topic be addressed through original research?
- What are the concepts or directions that may lead to advances in the field? What is the type and scope of the anticipated advances?
- How is the proposed project positioned relative to the state-of-the-art?



Explain how equity, diversity and inclusion have been considered in the academic team composition.

## Proposal template: Partnerships

Explain how each partner organization has been involved in the co-design of the project and how it will be actively involved in it:

 complemented by the description of in-kind contributions in the pertinent section

#### Insert your name here Background and expected outcomes Outline the goals of the partnership and explain the potential outcomes and impacts. · Describe the importance of the topic to Canada and how the expected outcomes will benefit Canada. · Explain the new concepts or directions needed to address the topic and how this research will fill knowledge gaps related to developing new and innovative policies, standards, products, services, processes or technologies in Canada. Position the proposed project relative to other efforts by the researchers and partner organizations and to any related research. · Outline efforts the partner organizations will invest following the project's completion to advance the results in Canada. INSERT YOUR TEXT HERE, RESPONDING TO EACH OF THE ABOVE POINTS Partnership · List all partner organizations expected to play a key role in the activities or to make cash and/or in-kind contributions. · Describe the core activity of the partner organizations and their experience related to the research project, such as any efforts to date that the partner organizations have invested toward addressing this problem, the need for this research project and how the topic is relevant and aligned with the partner organizations' activities. · Explain how each partner organization will be actively involved (through cash and/or in-kind contributions) in co-designing and implementing the research program. Describe the value added through in-kind contributions and how these are important to realizing the project's intended outcomes · Outline each partner organization's strategy and capacity to translate the research results into practical application to achieve the desired outcomes and impacts, including any planned knowledge translation activities and integration of the research results into its operations. INSERT YOUR TEXT HERE, RESPONDING TO EACH OF THE ABOVE POINTS Proposal · Outline the research objectives. Detail the resources and activities needed to achieve the anticipated results. · Indicate approximate timelines for the activities to lead to milestones and deliverables using a Gantt chart, table or diagram. · Explain how sex, gender and diversity have been considered in the research design, if applicable. · Identify the indicators and methods for monitoring progress during the project and for assessing the outcomes. You may include a chart or table. INSERT YOUR TEXT HERE, RESPONDING TO EACH OF THE ABOVE POINTS Team · List the applicant, any co-applicants and key staff of the partner organizations. · Explain how the knowledge, experience and achievements of these individuals provide the expertise needed to accomplish the project objectives. Discuss the role of each individual and how their contributions, including those of staff from the partner organizations, will be integrated into the project.

 Explain how equity, diversity and inclusion have been considered in the academic team composition.

## Proposal template: Partnerships

Outline each partner organization's strategy and capacity to translate the research results into practical application to achieve the desired outcomes and impacts:

 not just the strategy and capacity to participate in carrying out the project



## Proposal template: Proposal

Identify indicators and methods for monitoring progress during the project and for assessing the outcomes:

- not just how progress will be monitored (e.g., regular meetings with partners, oversight committee), but also which metrics will be measured/monitored
- during the project and after its completion



 Explain how equity, diversity and inclusion have been considered in the academic team composition.

## Proposal template: Training

Describe how the project and the partnership offer opportunities for enriched training experiences:

 including the nature of planned interactions with the partners



## Proposal template: Training – EDI

Describe what **specific**, **concrete practices** that you will put in place to ensure that EDI is intentionally and proactively supported in your project's training plan.

Vague or generic statements regarding EDI in the training plan (e.g., "the university is committed to EDI" or "in future hiring, EDI will be considered") are insufficient and will lead to your application being rejected.



- **Do not** provide vague or generic statements (e.g., "in future hiring, EDI will be considered" or "the university is committed to EDI")
- **Do not** refer to the team's current diversity
- **Do not** refer to EDI general best practices only
- Do not refer to the university's EDI policy alone

## Equity, Diversity and Inclusion in your training plan

**Specific** actions or practices implemented to support EDI in your project's training plan should be guided by the following overarching objectives:

Removing <u>systemic barriers</u> from the recruitment processes to encourage full participation of individuals from underrepresented groups	Increasing diversity in the composition of teams
Integrating diversity and equity in mentoring, training and accessing career development opportunities	Fostering an equitable, inclusive and accessible research environment needed to enhance excellence in both research and training



## **Questions?**

#### **NSERC** Ontario

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## C2C-Alliance grants

Program Information Session for Universities









## About OCI

- A not-for-profit funded by the Government of Ontario.
- Works in partnership with government, industry and academia to commercialize innovation.
- Supports SMEs and entrepreneurs through projects that create jobs and exports, attract local and international co-investment and make Ontario more globally competitive.
- Focuses on province-wide economic development.





 Accelerate commercialization by leveraging expertise in Ontario's academic institutions

 Generate economic benefits for Ontario and its small and medium sized companies





## **Industry Partner:**

- ° For-profit SME
- Minimum 2 years in businessMinimum 5 FTE

Commercialization Horizon: • Three years



## Funding:

- °\$20K \$150K grant from OCI
- Project duration: 6 24 months
- Industry partner matches OCI funds (50% cash to academic institution)
- Spend focus: HQP
- No overhead shown in budget



## Partnered Options (in addition to NSERC)

### SOSCIP

- Access to high performance IBM infrastructure
- Free access to IBM software and tech support
- Three platforms
  - GPU-Accelerated
  - Parallel CPU
  - Cloud Analytics

### **MITACs**

- \$7500 per intern for 4-6 month internship
- Simply check box on the OCI application



## **Application Process:**

- One-page summary of project
- OCI Business Development Manager reviews application.
- Endorsement required from academic research office
- $\circ$  Submission to decision timeline ~ 30 days
- Success rate > 85%

Note: Academic institution and partner must agree on IP before submission





## **Guiding Principles**

- Focus on high potential Ontario SMEs
- Suitable for 1-year projects with academic expenses less than \$90K
- OCI and NSERC fund 80% of academic cash expenses
- Opportunities vetted prior to applying
- Apply using NSERC online system
- Option 1 projects ONLY


## Who can apply?

Academic Researchers:

- Eligible to hold Tri-Council funds
- Faculty from eligible Ontario universities
- Researchers with active OCI or NSERC peer-reviewed grants



- For-profit SME organization, with Ontario R&D and/or manufacturing operations related directly to the project
- 5-499 global full-time employees and incorporated at least two years.



## Project Cost Sharing Example

NSERC Cash	\$30K
OCI Cash	\$30K
Industry Cash	\$15K
Industry In-kind	\$15K
Total	\$90K



## **Contact Information**



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#### . MitJCS

## **NSERC Alliance – Mitacs Accelerate grants**

Emily Gordon, Mitacs Advisor – University of Guelph

November 15, 2022

# PURPOSE

Mitacs **empowers** Canadian innovation through partnerships that deliver solutions to our most pressing problems. We drive economic growth, productivity, and meaningful change to improve quality of life for all Canadians.

## VISION

Canadian innovation will create change that transforms the world.

# MISSION

Mitacs is a **catalyzing force** in the Canadian innovation ecosystem. We will build a world-class, diverse community of innovators through our collaborative model, attracting and deploying top talent to industry, and matching need with expertise to create ambitious solutions to real-world challenges.

#### Who we are:



Mitacs is a national not-for-profit, funded by the federal and provincial governments, that bridges Canadian business and industry with academia to drive research, innovation, productivity, and economic growth.





#### **Mitacs Accelerate**

- Supports and funds collaborative research projects with industrial or community partners and academic researchers
- Small to large-scale projects focused on HQP training outside of academia
- Drive innovation and R&D capacity
- At least 25% of project time spent on-site with industry or community partner (up to 75%)
- Partner organization contributes 50% of project costs which includes student or postdoc stipend and some research expenses
- Funding delivered through modules of 4–6-month terms valued at \$15,000



### Funding is scalable and flexible



- Research internship (4-6 months)
- Two-year Master's thesis
- Four-year PhD thesis
- Undergraduate Assistantship
- Three-year postdoctoral fellowship





### Mitacs partnership with NSERC

Together, **Mitacs** and the **Natural Sciences and Engineering Research Council of Canada** are working to develop and co-fund collaborative projects between post-secondary institutions and partner organizations.







#### Available for Alliance Option 1 only

# Applicants must meet **both** NSERC and Mitacs eligibility and merit criteria

Applies to new submissions only







Boosts research and innovation by leveraging the resources and funding of both organizations

Supports innovation-focused, work-integrated learning for university students and postdoctoral fellows

Reduces administrative burden on applicants: only one joint application and review is required

**Industry** funds recognized towards the **global budget** of joint applications



### **Distribution of Funds**



Nov 2022

## Interesting in learning more?

Feel free to reach out any time



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in

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## Thanks to our funding partners.

