
NRC-MOST AND ITRI COOPERATIVE RESEARCH PROJECTS JOINT CALL FOR PROPOSALS

DEADLINE: 30 June, 2018

Introduction

The Memorandum of Understanding between the National Research Council of Canada (NRC) and the Ministry of Science and Technology of Taiwan (MOST) supports a Collaborative Research Program (CRP) between researchers of NRC and faculty members and researchers in universities, academic institutions, and non-profit research institutions funded by MOST. NRC and MOST steering committee members agreed to invite researchers from the Industrial Technology Research Institute (ITRI) to participate in CRP. MOST and NRC will bear the costs of participating in cooperative activities. ITRI will support the participation of its researchers in approved projects.

Joint applications for financial support are invited from eligible NRC, MOST and ITRI researchers. Cooperative Research Project (CRP) proposals must reach the coordinating team contact at the participating organizations no later than **30 of June 2018 at midnight**. Please refer to the contact information at the end of this document. Applicants are asked to submit their CRP package as a joint collaboration proposal. The content of the CRP package must be jointly prepared by the partners and is further described below.

Eligibility

1. Projects eligible for support are those aiming at advancing research and innovation to achieve world-class scientific and technical results, leading toward new innovative technologies.
2. Projects will have an anticipated life span of three years but with an approval review on the second year based on outcomes obtained by the second year.
3. Principal Investigators are the senior researchers, from the participating organizations, designated as the project leaders and accountable for the funds received throughout the duration of the project.under the agreement.
4. Bilateral (NRC-MOST or NRC-ITRI) cooperation and tri-partite (NRC-MOST-ITRI) projects with the potential for future commercialization will be considered.

Proposal Submission

One electronic version of the CRP package per project should be submitted to the coordinating team contact at the participating organizations by the **deadline of 30 June 2018 at midnight**. Each submission received by the deadline will be officially confirmed, by email, as having been received.

Decisions for funding the successful CRP will be made by the NRC-MOST-ITRI Steering Committee and will be communicated to applicants as soon as possible. Funding will be made available to successful applicants after the signing of contractual agreements to be negotiated between the employing institutions of the Principal Investigators. To allow time for these negotiations, the NRC delivery of funds for the first year operation will be 1 April 2019.

Subject Areas

Applications to the fund are welcome in the areas of:

1. **Hardware building blocks for IoT:**

Autonomous power supply for devices harvesting energy from different sources in surrounding environment combined with super capacitors; low power electronics/circuits; sensors for medical devices; image based sensing to support medical devices; textiles and printable electronics.

2. **Medical application sector:**

Bioinformatics for imaging; neuromorphic computing, big data, data fusion, systems of systems; brain imaging mapping; Neural network computing, edge computing + video processing for elderly care; biomarker discovery, drug discovery/repurposing – genomics + clinical data.

Structure of the Proposal

Preference will be given to projects that strengthen links to other R&D partners (both public and private sector) in both countries.

Structure of the Proposal

1. Executive summary (one page)
2. State of the art (one page)
3. Project description (objectives, goals, methods, also includes:
 - a. explaining the distribution of tasks between the partners, and
 - b. giving reasons for the cooperation, approx. 6 pages)
4. Two pages per partner on the work plan and time schedule
5. CV including publications, patents etc. for each Principal Investigator, plus brief CVs for each major collaborator
6. Benefits for each economy and how the proposal is supportive of longer term Taiwanese-Canadian cooperation (one page)
7. Planned dissemination of results (up to one page)
8. Full contact information (mailing address, telephone numbers and email address)

9. Names and contact information for six (6) suggested peer reviewers that have not previously collaborated with any of the Principal Investigators

Evaluation Criteria and Procedures

Proposals will be evaluated on the basis of scientific merit according to the following criteria:

1. **Quality of Research**

- quality, clarity, significance and originality of proposed research in comparison to the international standard
- track record of the competencies of the principal investigators
- reasonable possibility of success

2. **Potential for Collaboration**

- synergy and added value
- potential for expanded collaboration
- potential for longer term collaboration
- leverage of external funding

3. **Potential Benefits**

- scientific advances and breakthroughs
- capacity building (institute/institution strengthening)
- dissemination of results
- long term impact on S&T cooperation
- Potential for commercialization

Project Agreements

The signing of an implementing agreement between the participating organizations prior to receiving funding for an accepted project is mandatory. Such agreements will include provisions regarding intellectual property rights, confidentiality and publication rights in accordance with the requirements for scientific and financial reporting of the employing organizations of the successful applicants. Signed copies of these agreements must be submitted to the contacts before funds can be disbursed. A guiding template will be available upon request to help in the preparation of the agreement.

The Business Development Officer or other responsible individual who will negotiate the appropriate intellectual property and other terms for the specific project must be identified in the proposal.

Funding

For selected projects, funding will be allocated for the first year; second and third year funding will be contingent upon a satisfactory review of the NRC annual report.

The funding may include the following items:

- Cost of human resources, i.e. resources specifically assigned to researchers in the project who are not regular members of the staff, e.g. graduate students, post-doctoral fellows, or other research assistants.
- Consumable materials and supplies
- Reasonable travel and subsistence expenses
- Support for small items of essential equipment

NRC Annual Report

NRC annual progress reports must be submitted toward the end of the first and second years. Second and third year funding will be contingent upon a satisfactory review of the annual report.

Progress Report

NRC-MOST-ITRI joint progress reports will be requested during the 1st and 2nd years of the collaboration.

Progress reports must consist of two parts:

- (a) **joint** report on scientific progress; and
- (b) financial summary from *each* participating research group.

Joint Report on Scientific Progress

The joint report of scientific progress should be brief (3 to 4 pages). Principal Investigators will be required to *strictly limit* their report to the research proposed and conducted through their collaboration within the joint research project. The following headings will be required:

1. Summary of objectives
2. Progress and achievements
3. Future research planned
4. Exchanges between the collaborators
5. Bilateral benefits
6. Obstacle(s) and review of risk assessment
7. Publications and conference presentations

It is vital that, in their progress report, Principal Investigators provide compelling reasons for continued support and evidence of the following aspects:

- Scientific and/or technological progress
- Industrial linkages, new or strengthened, where applicable
- Defined endpoint(s)

- Exchanges between the collaborators
- Bilateral benefits, unique to the collaboration

Financial Summary

Each Principal Investigator will be required to provide a summary of expenses towards the CRP by his/her group for each whole or partial fiscal year. These should cover expenses for human resources (% time for students, researchers etc.) and operations (minor equipment, rentals, consumables, travel etc.).

Coordinating Team Contacts:

MOST

Ms. Jennifer Hu
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ITRI

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NRC

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**NRC-MOST-ITRI COOPERATION
PROPOSAL FOR A JOINT COLLABORATIVE RESEARCH PROJECT**

1. PROPOSED PROJECT

Project
Title:

Participants:

- NRC institute(s):
- MOST institution(s).....:
- ITRI institute(s).....

Project leaders:

- For NRC:.....
- For MOST:.....
- For ITRI.....

Business Development Officer/responsible person who will engage in negotiating the terms of the project agreement:

- *For NRC:*.....
- *For MOST:*.....
- *For ITRI:*.....

Duration: 3 years

Subject:

Suggestions for names, email and addresses of minimum 6 possible reviewers:

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....

Initials: _____

2. EXECUTIVE SUMMARY

Initials: _____

3. OVERALL PROJECT BUDGET for NRC, MOST and ITRI

Including In-Kind Contributions

	NRC	MOST	ITRI
Human resources ¹	\$*****	\$*****	\$*****
	\$*****	\$*****	\$*****
	\$*****	\$*****	\$*****
	\$*****	\$*****	\$*****
Operations (please give details):			
Chemicals/Materials	\$*****	\$*****	\$*****
Minor equipment	\$*****	\$*****	\$*****
Travel	\$*****	\$*****	\$*****
Accommodation & Subsistence (long term)	\$*****	\$*****	\$*****
Other (specify, e.g. costs of the use of major equipment)	\$*****	\$*****	\$*****
TOTAL (overall project)	\$*****	\$*****	\$*****

¹ includes average salary plus overhead costs

Initials: _____

DONE at, thisday of, 2018.

National Research Council of Canada

**Ministry of Science and Technology
Taiwan**

<hr style="width: 80%; margin-left: 0;"/> Signature	<hr style="width: 80%; margin-left: 0;"/> Signature
<hr style="width: 80%; margin-left: 0;"/> Name of Principal Investigator at NRC (printed)	<hr style="width: 80%; margin-left: 0;"/> Name of Principal Investigator at MOSTMOST(university) (printed)

Industrial Technology Research Institute

<hr style="width: 80%; margin-left: 0;"/> Signature
<hr style="width: 80%; margin-left: 0;"/> Name of Principal Investigator at ITRI (printed)

National Research Council of Canada

**Ministry of Science and
Technology Taiwan**

<p>_____</p> <p>Signature</p>	<p>_____</p> <p>Signature</p>
<p>_____</p> <p>Name of Director General at NRC institute (printed)</p>	<p>_____</p> <p>Name of Director at MOST (university) (printed)</p>
<p>_____</p> <p>Name and address of NRC Institute</p>	<p>_____</p> <p>Name and address of MOST (university)</p>
<p>_____</p> <p>Date</p>	<p>_____</p> <p>Date</p>

Industrial Technology Research Institute

<p>_____</p> <p>Signature</p>
<p>_____</p> <p>Name of Director General at ITRI institute (printed)</p>
<p>_____</p>

Name and address of ITRI Institute

Date

Table for NRC / Tableau pour CNRC

Project Title/Titre du projet:

Project (x years) / Projet (x années):

Participants NRC/CNRC:

MOST :

ITRI :

		Total Costs / Coûts totaux			Real Incremental Costs / Coûts marginaux	Comments / Commentaires
		Year 1 Année 1	Year 2 Année 2	Year 3 Année 3		
Human Resources / Ressources humaines	Senior Research Officers / Agent principal de recherche					
	Research Associate / Attaché de recherche					
Use of major equipment / Utilisation d'équipement majeur	Details / Détails					
Operations / Activités de fonctionnement	Chemicals & Materials / Produits chimiques et matériaux nécessaires					
	Minor Equipment / Petit matériel					
	Travel / Frais de déplacement					
	Other / Autre					
Total						

Initials: _____

Table for MOST/ Tableau pour MOSTMOST

Project Title/Titre du projet:

Project (x years) / Projet (x années):

Participants : MOST :

NRC/CNRC:

ITRI :

		Total Costs / Coûts totaux			Real Incremental Costs / Coûts marginaux	Comments / Commentaires
		Year 1 Année 1	Year 2 Année 2	Year 3 Année 3		
Human Resources / Ressources humaines	Senior Research Officers / Agent principal de recherche					
	Research Associate / Attaché de recherche					
Use of major equipment / Utilisation d'équipement majeur	Details / Détails					
Operations / Activités de fonctionnement	Chemicals & Materials / Produits chimiques et matériaux nécessaires					
	Minor Equipment / Petit matériel					
	Travel / Frais de déplacement					
	Other / Autre					
Total						

Initials: _____

Table for ITRI / Tableau pour ITRI

Project Title/Titre du projet:

Project (x years) / Projet (x années):

Participants : ITRI :

MOST :

NRC/CNRC:

		Total Costs / Coûts totaux			Real Incremental Costs / Coûts marginaux	Comments / Commentaires
		Year 1 Année 1	Year 2 Année 2	Year 3 Année 3		
Human Resources / Ressources humaines	Senior Research Officers / Agent principal de recherche					
	Research Associate / Attaché de recherche					
Use of major equipment / Utilisation d'équipement majeur	Details / Détails					
Operations / Activités de fonctionnement	Chemicals & Materials / Produits chimiques et matériaux nécessaires					
	Minor Equipment / Petit matériel					
	Travel / Frais de déplacement					
	Other / Autre					
Total						

Initials: _____

Contacts at the NRC, MOST and ITRI Offices:**NRC**

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ITRI

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