

**DST's Guidelines for Indian Participants**

**Applying for Water and Carbon reduction themes under India-Canada Call for Proposal (CFP)-2022**

**Last date of Submission: 31 August 2022**

**Department of Science & Technology** (DST), Government of India, Department of Biotechnology (DBT), Government of India and Natural Science and Engineering Research, Canada have concluded an MoU for funding of Joint Research Proposals in India and Canada in the areas of Basic Science. Under this MoU.

Reference to the common call for proposal (**India-Canada CFP-2022**), DST and IC IMPACTS invite active Indian and Canadian scientists/ researchers to submit proposals for Joint Research Project in the following specific areas under DST- IC IMPACTS cooperation:

**1. Water (DST and IC-IMPACTS)**

The UN [Sustainable Development Goal \(SDG\) 6](#), is to ensure the availability and sustainable management of water and sanitation for all by 2030. The COVID-19 pandemic and the critical role of proper sanitation have heightened the need for urgent measures by all countries and the international community to make clean water accessible to all communities for drinking and sanitation purposes. In order to build climate resilient communities in the post COVID-19 era and to move to a green and resilient society, we welcome projects in the following areas:

- a. Drinking Water in Remote and Rural Communities:** Climate-neutral technologies for water purification systems.
- b. Circular Economy and Wealth from Wastewater:** (i) Strategies and solutions for potable and non-potable wastewater re-use (ii) Climate-neutral technologies for nutrient recovery; (iii) Aqua mining technologies for rare earth elements (REEs) recovery; (iv) Hydrophytobial mining technologies using wetland plants and their associated microbes; (v) Valorization of extracted resources to versatile and high value chemicals.
- c. Wastewater-based epidemiology:** (i) Genomic and sensor technologies for monitoring water quality; (ii) Epidemiological models using artificial intelligence algorithms for monitoring and surveillance of infectious diseases including COVID-19, Malaria, Dengue and Zika, among others.
- d. Impacts of climate change on water availability and quality:** (i) Artificial intelligence and deep learning for predicting the impacts on water availability and quality; (ii) adaptation and mitigation and resilience strategies.

**2. Carbon Reduction in Our Built Environment (DST and IC-IMPACTS)**

Canada wants to be carbon-neutral by 2050 and India by 2070. Creating the thriving and resilient post-COVID communities of the future requires developing technologies that enable us to dramatically reduce the embedded carbon and operational emissions from our civil infrastructure and buildings. These emissions currently amount to around 39% of total emissions, and we need:

- A 40% reduction in embodied carbon as soon as possible for all new buildings, infrastructure, and major renovations, and 65% by 2030.
- For existing buildings – a 65% reduction by 2030 in operational carbon emissions.
- Zero carbon emissions for the entire built environment by 2050.

Projects are invited in the following areas:

- a. Circular Economy and Wealth from Waste:** Recycling waste products from energy, steel and other industries into construction materials and building systems.
- b. Advanced and Additive Manufacturing:** 3D-printed structures in steel, polymers, ceramic and concrete that are carbon-neutral.
- c. Carbon Capture, Utilization and Storage:** Using captured carbon into building products and developing resilient storage facilities.
- d. Power Generation Systems:**
  - i. Sustainable and durable design/construction/development of new infrastructure of renewable energy options.
  - ii. Evaluation, monitoring, maintenance, refurbishment, and life extension of existing facilities, structures, and systems.
- e. Smart Systems, Cyber-Physical Networks, Sensors, & AI:** Design, construction, evaluation, monitoring and maintenance of smart, low energy and low carbon structures including buildings using advanced sensors and digital technologies.

**Proposals submitted in other research areas will not be considered.**

### **Terms of the project grant**

- The duration of each project is two years.
- Project on each side to be implemented by a project team consisting of at least 1 member.
- Indian PIs should be scientists/faculty members working in a regular capacity in universities, academic institutes and national research and development laboratories/institutes. The Indian Principal Investigator (PI) should not be retiring or leaving the parent institute during the proposed duration of the project.
- Project coordinators on both sides must have published at least 10 research articles in SCI indexed journals in last 5 years.
- It is expected that each supported project would result in to at least 05 research publications in SCI indexed journals.
- The Indian and Canadian team leaders should submit identical application to

- respective nodal agency, upon consultations, using the respective forms prescribed by DST and IC IMPACTS. Applications submitted by one side only; not on prescribed format and received after due date will not be accepted. Indian/Canadian team leaders should, therefore, ensure that their counterpart submits an identical application on prescribed format as per guidelines of nodal agencies by due date.
- The team leader shall be entitled to submit only one application to take part in this call.
  - The Projects should have industrial perspective and participation from both Indian and Canadian companies is strongly encouraged. However, no financial support would be given to the Industries by Indian/Canadian side. Only the Academic Institutions would receive funding under this call.
  - Indian researchers currently implementing any Indo-Canadian joint project which is likely to be over after 31<sup>st</sup> August 2022 are not eligible to submit proposal under this call.
  - The Indian scientists who are in any way involved in the implementation of two or more projects that were previously supported by the DST (International Group) and that are not expected to be completed by 31<sup>st</sup> August 2022 are also not eligible to be a member of the research team.
  - All proposals should be supported with brief bio-data of entire project team members indicating their affiliation, date of birth, highlights of academic and research activities / awards.
  - Indian researchers should submit their proposals on format available at [www.onlinedst.gov.in](http://www.onlinedst.gov.in) . **Only those applications shall be accepted which would be submitted by online portal of DST.**
  - After registration, they should move to scheme and format section where details about this call would be available in the International cooperation (bilateral). One hard copy of the proposal should be sent to Department of Science & Technology at contacts given below.
  - Title of the project submitted on both systems should be identical.
  - Launch of CFP on IC-IMPACTS, and DST websites: **July 15, 2022**
  - Deadline to submit Full Application: **August 31, 2022 (5:30 PM IST)**
  - Review and evaluation: **September, 2022**
  - Announcement of final result: **October 2022**
  - Canadian and Indian teams should comply to national regulations described in the call documentation.

**Kind of support available for Joint Project:**

Any financial support will be as per DST norms. This funding will cover the following expenses in connection with a project;

- **Consumables, Accessories, Fellowships and other research expenses;** Expenditure by project team in their country would be borne by the respective country, i.e., DST would support expenditure on Indian side of the project whereas

- IC IMPACTS would meet the expenditure of Canadian side.
- **Support for Exchange visit component**  
The sending side would provide international airfare (to and from), visa fee, medical insurance etc. During exchange visits of both sides, hospitality of counterpart (such as accommodation, local travel, per diem, etc.) would be taken care by the host country. The financial support shall be as per the DST norms.
  - A maximum of 40% of the Indian side's budget may be allowed for consumables.
  - **Institutional Overhead: As per DST norms.**
  - Indian PIs may request a budget of up to approximately Rs.60,00,000/- to fund projects for a maximum of 24 months.

### **Assessment of applications**

All applications received by the notified round closing date will undergo a peer review process and then be referred to an independent advisory panel for consideration and ranking. DST and IC IMPACTS will conduct parallel review of the applications respectively based on the agreed criteria. DST and IC IMPACTS will make joint decisions based on the review results. DST and IC IMPACTS may consider inviting Project coordinators for presentation of the proposed work as part of the review process.

Applications must attain a positive rating to be considered eligible for funding. Joint selection of successful applications by DST and IC IMPACTS will be discussed by the respective nodal agencies and informed by the rankings. Decisions are made by the DST-IC IMPACTS Joint Working Group and will be final.

### **Submitting an application**

The Indian researchers can download the proposal formats from websites [www.dst.gov.in](http://www.dst.gov.in) / [www.onlinedst.gov.in](http://www.onlinedst.gov.in) and should submit completed application form and all relevant information through e-PMS portal of the DST. Proposals must be submitted to DST through the e-application system provided at [www.onlinedst.gov.in](http://www.onlinedst.gov.in).

Indian Applicants also requested to send **one hard copy** to DST (Dr. Charu Agarwal, Scientist C, DST) by 5 September 2022 through proper channel. It should be ensured that application with identical title has been submitted by his / her Canadian counterpart to IC IMPACTS by due date.

**Proposal not submitted through ePMS portal by due date will not be considered.**

## **Contact information**

For further details and clarifications, if any, kindly contact any of the following in India or Canada:

### **Department of Science and Technology (DST)**

Dr. Charu Agarwal

Scientist 'C'

International Cooperation Division

Department of Science and Technology

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### **IC-IMPACTS**

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