

Annual Progress Report For 2024-2025 Fiscal Year

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Section A: Year in Review

IC-IMPACTS maintained steady progress over the year, strengthening scientific collaborations between Canadian and Indian stakeholders. The Centre remained focused on advancing community-driven solutions across key areas, including Public Health, Safe and Sustainable Infrastructure, Integrated Water Management, and Food Security and AgriTech.

IC-IMPACTS consistently demonstrates that the integration of Canadian and Indian scientific research effectively addresses critical socioeconomic challenges, leading to high-impact results with tangible, practical outcomes. The table below highlights the Centre's key accomplishments.

	Past Fiscal (2024-2025)	Overall (2013-2025)
Active Projects	31	110
HQP (years)	75	1,624
Scientific Publications	74	1,718
New Partnerships	5	425
Patents and Licenses	34	
Start-ups	8	

2024-25 was a fruitful year for IC-IMPACTS in terms of securing future activities with other academic institutions. A Memorandum of Understanding (MoU) was signed with the Visvesvaraya National Institute of Technology (VNIT), Nagpur, in March 2025. This MoU paves the path for exchange of post-graduate students and faculty; exchange of scholarly information on relevant subjects; invitation to attend scholarly and technical meetings, forums and conferences; support for joint conferences, seminars, workshops and exhibitions; facilitation of technology demonstration projects; as well as discussions on future collaborations in areas of mutual interest.

IC-IMPACTS resumed hosting its Annual India Week conference in Delhi. The conference was very well attended with presentations and talks by Project Investigators, HQPs, and stakeholders including from Governments of Canada and India. IC-IMPACTS also facilitated HQP-led events and workshops, such as the *Colloquium on Sustainable Water Management and Climate Change: The Use of Advanced Processes and Artificial Intelligence*, which was held at The University of British Columbia on November 12, 2024.



Figure 1: Colloquium on Sustainable Water Management and Climate Change: The Use of Advanced Processes and Artificial Intelligence

New Projects

In 2023-24 fiscal year, IC-IMPACTS received a number of proposals which were submitted under the Call for Proposals in Innovative Technology Demonstration Projects. Out of these projects which were all reviewed by the Research Management Committee, the following proposal was recommended to the Board of Directors for funding.

Implementing affordable structural health monitoring systems for heritage structures with budget constraints

PI: Faezeh Azhari, Assistant Professor, University of Toronto

This project seeks to implement affordable Structural Health Monitoring (SHM) framework for heritage structures with limited resources. Two heritage structures, one in Canada and one in India, will be instrumented in several stages to allow for an iterative development of the framework based on site-specific requirements.

A second proposal was also conditionally approved by the RMC; however, funding of the project would not start until in 2025-26 fiscal year.

Section B: Performance Against Program Review Criteria and Objectives

B1 - Excellence of the Research Program (highlighting featured projects)

IC-IMPACTS' bilateral model is guided by community-identified needs, enabling the deployment of impactful solutions across diverse contexts—from Indigenous communities in Canada to urban and rural regions in India. The following theme-based examples illustrate the model's effectiveness.

Agritech and Food Security Theme

❖ **Extraction of Protein from Brewer's Spent Grain for Human and Animal Consumption**

Canadian Lead: Dr. Chijioke Emenike, Dalhousie University

Indian Lead: Dr. Kiran Babu Uppuluri, SASTRA Deemed University

The research team has successfully explored different extraction techniques for optimized recovery of both total protein powder and soluble protein group from the brewers' spent grain. The study has analyzed the effect of different alkaline solutions on changes in recoverable protein. Researchers have continued to explore the effect of other conditions, such as ultrafiltration, on the optimization process. Significant training (undergraduates and graduate supervision) time has been invested to prepare both local and international students for the food upcycling industry.

The project's top three achievements to date are:

- Establishment of an alkaline solution, specific for protein powder recovery from brewers' spent grain; September 2024 – February 2025
- Identification of the best and most practical acid precipitant blend for optimized protein recovery; April 2025
- Presentation of the research findings at IC-IMPACTS Research Conference and other international research conferences; 2024 – Date



Figure 2: HQP working on Bradford Assay and Image of Brewer's Spent Grain

❖ Food Security and the Problem of Fit: Examining Local Innovations to Milk Wastage in India

Canadian Lead: Dr. Jeremy Pittman, University of Waterloo

Indian Lead: Dr. Sanchayan Nath, Indian Institute of Technology – Tirupati

The research team has successfully collected data from over 200 key informants that will be analyzed to develop a better understanding of the nature and drivers of innovation for addressing milk wastage along the supply chain as milk moves from farms to village cooperatives and district milk unions. While the team has been successful in collecting data, data analysis has been slowed initially by challenges in working in the post-COVID period. Nonetheless, there are plans to ensure that data analysis is completed by the end of the calendar year.

The research team's top three achievements are:

- Completion of data collection: over 200 surveys with key informants from village milk cooperatives and district milk unions in Tirupati and Telengana that will be analyzed to better understand the nature and drivers of innovation for addressing milk wastage.
- Training and experience of HQP: 3 HQP in Canada received training and supported the implementation of the project, through a literature review (Master's student – Waterloo), development of research instruments (PhD student – Waterloo), research oversight (Postdoc- Waterloo) and data collection (Master of Public Policy student – India).
- Development of relationships: successful development of a strong relationship through challenges that may provide future opportunities for collaboration.

Public Health Theme

❖ **Intelligent Portable Ultrasound Imaging-Based Continuous Lung and Heart Monitoring System for Post-COVID19 Assessment**

Canadian Lead: Dr. Abhilash Rakkunedeth Hareendranathan, University of Alberta

Indian Lead: Dr. Mahesh Raveendranatha Panicker, Indian Institute of Technology – Palakkad (moved to SIT Singapore)

A key challenge post COVID-19 is to monitor the long-term impact and comorbidities in affected individuals. This places a huge resource burden on health systems as most of these assessments are currently subjective and require trained medical experts onsite. These examinations require expensive imaging equipment (like CT and MRI) that are often less accessible to remote communities and disadvantaged individuals and may not be the preferred option for continuous and periodic monitoring. With the recent introduction of low-cost point-of-care ultrasound (POCUS) probes (like Philips Lumify or Butterfly), sonographers can now carry ultrasound scanners in their pockets. Despite obvious benefits, POCUS is not universally used as the first tool in covid-19 follow-up. This is partly because ultrasound scans are hard to interpret. Also, the quality of POCUS scanners may not match that of conventional ultrasound machines currently used in hospitals. In this study, the research team proposed an AI-augmented POCUS as a cost-effective solution for studying the long-term effects of COVID-19.

Researchers have successfully met all the objectives of the project, disseminated the knowledge generated through this work, and established collaborations to sustain the project beyond the current funding term. The primary focus this year was on developing a novel deep learning framework for analyzing LUS (lung ultrasound) videos based on image annotation. Since obtaining large, annotated datasets is cumbersome and often impractical in medical ultrasound, the research team developed deep learning approaches based on foundation models such as the Segment Anything Model (SAM), which were finetuned for specific radiology use cases like cardiac and lung ultrasound.

Publications: This work has been published in peer-reviewed journals, including in *Computers in Biology and Medicine (CIBM)*, *Bioengineering*, and the *Journal of Clinical Medicine*.

Presentations: Key outcomes from the research were presented at local and international venues, including the *2024 IEEE EMBC Conference* in Florida, USA.

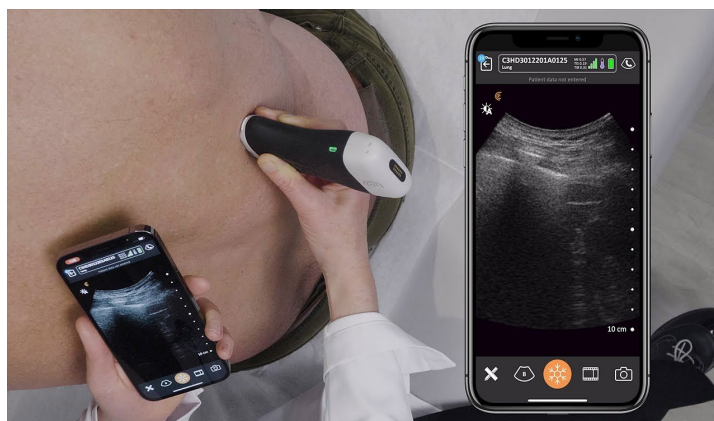


Figure 3: Point of Care Ultrasound (POCUS)

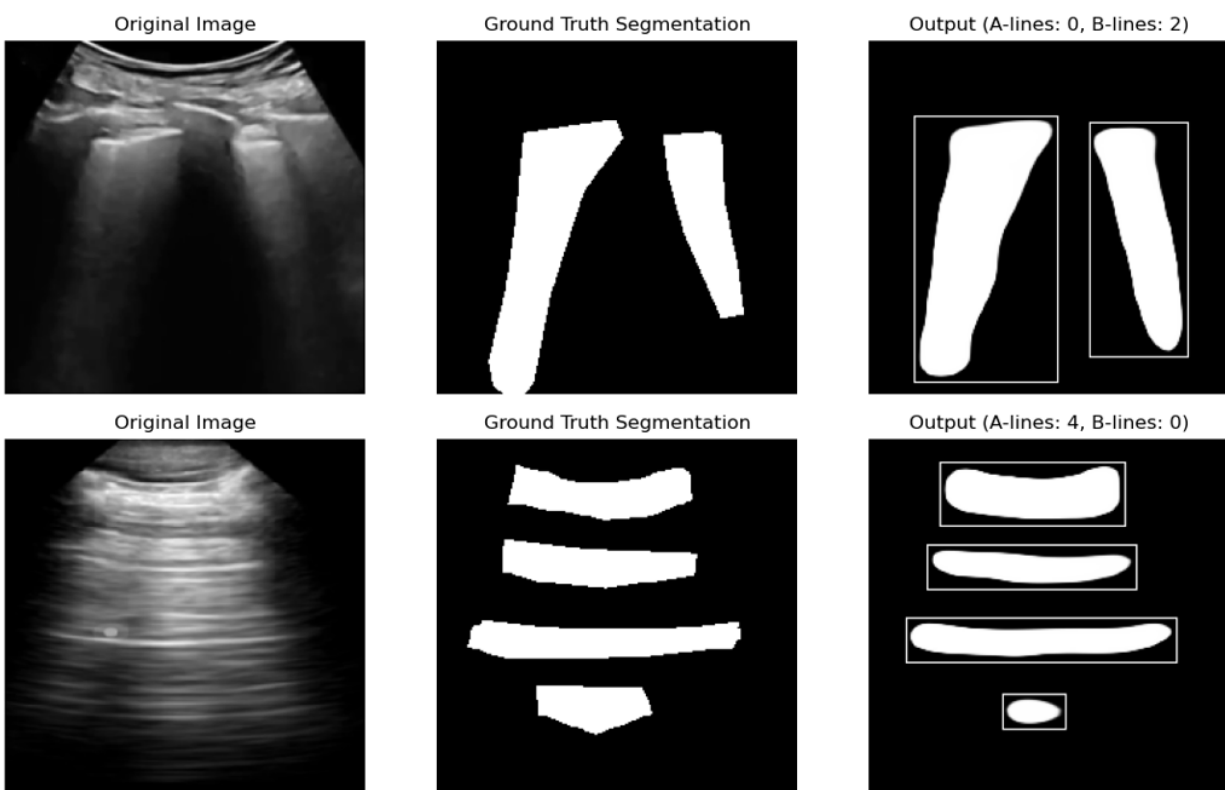


Figure 4: Lung Ultrasound - Results from Deep Learning Models

Integrated Water Management Theme

❖ **Use of Deep Learning Models to Understand the Impact of Climate and Land Use Changes on Future Groundwater Resources, with a Focus on Data-Scarce Regions**

Canadian Lead: Dr. Jan Adamowski, McGill University

Indian Lead: Dr. Maheswaran R, Indian Institute of Technology – Hyderabad

In this study, a well-calibrated surface water model is developed and coupled with a groundwater flow model to create an integrated framework for the entire **Ganga Basin**. For the groundwater component, a conceptual two-layer aquifer system is adopted, representing the shallow unconfined and deeper confined to semi-confined aquifer systems that dominate the basin. The model incorporates key hydrogeological parameters, including hydraulic conductivity, specific yield, storativity, aquifer thickness, recharge mechanisms, and boundary conditions. These are derived from geological maps, borehole lithologs, and regional groundwater studies.

Key activities included the launch of joint research projects aimed at refining downscaling methodologies for GRACE (Gravity Recovery and Climate Experiment) data. Teams from both nations contributed their unique expertise in hydrology and remote sensing, leading to the development of innovative approaches tailored to the specific hydrological conditions of the Ganges River basin. These projects not only advanced the science of water management but also strengthened the methodological exchanges between the researchers.

A series of workshops and training sessions were implemented, aiming at building capacity among researchers and practitioners in both countries. These workshops served as platforms for knowledge exchange, where Canadian and Indian experts shared insights on advanced drought monitoring techniques, the application of statistical models in hydrology, and the integration of local data with GRACE observations.

The project has successfully recruited a diverse group of personnel, including two graduate students, one PhD student, and one early-career research scientist from leading institutions in Canada and India. This recruitment strategy is designed to attract individuals with strong backgrounds in hydrology, remote sensing, and data science, ensuring a rich interdisciplinary mix that enhances the project's innovative capacity.

In the past year, the research team has produced 6 publications on this work.

❖ **Phosphorous Recovery from Wastewater for Safeguarding Global Phosphorous Sustainability and Food Security: Denitrifying Phosphorous Accumulating Organisms (DPAOs) have the Merits.**

Canadian Lead: Dr. Qiuyan Yuan, University of Manitoba

Indian Lead: Dr. Prangya Ranjan Rout, Dr. B. R. Ambedkar National Institute of Technology

Over the past year, the project has made significant progress in advancing a sustainable, single-reactor system for simultaneous nitrogen and phosphorus removal, with the long-term goal of phosphorus recovery. The collaboration between the University of Manitoba and Dr B R Ambedkar National Institute of Technology, Jalandhar has been instrumental in integrating engineering and microbiological expertise toward this objective.

Experimental work in Canada has focused on the operation and long-term acclimatization of a Sequential Batch Reactor under alternating aerobic and anoxic conditions. The system was successfully maintained for over 200 days to foster conditions conducive to denitrifying phosphorus-accumulating organisms along with operation of new Fluidized bed biofilm reactor. Parallel research at NIT Jalandhar involved the isolation, characterization, and enrichment of microbial communities from raw and acclimatized sludge, with metagenomic analysis underway to identify key functional species to develop a DPAO rich consortium. Optimization of key process parameters such as COD, reactor configuration, and reaction time, nutrient dosing in influent was conducted in SBR systems with and without biofilm carriers. Initial findings confirm the feasibility of simultaneous nutrient removal and phosphorus release under shared redox conditions.

Two HQPs one based in Canada and one in India have been actively engaged in experimental work and are preparing for reciprocal institutional visits in upcoming terms along with presenting this research at international conference organised by IC-IMPACTS in Delhi, India. The project exemplifies research excellence through its innovative integration of microbial ecology, reactor engineering, and resource recovery within the domain of wastewater treatment. It addresses a globally relevant challenge of simultaneous nitrogen and phosphorus removal and phosphorus recovery using a single-reactor system using DPAOs.

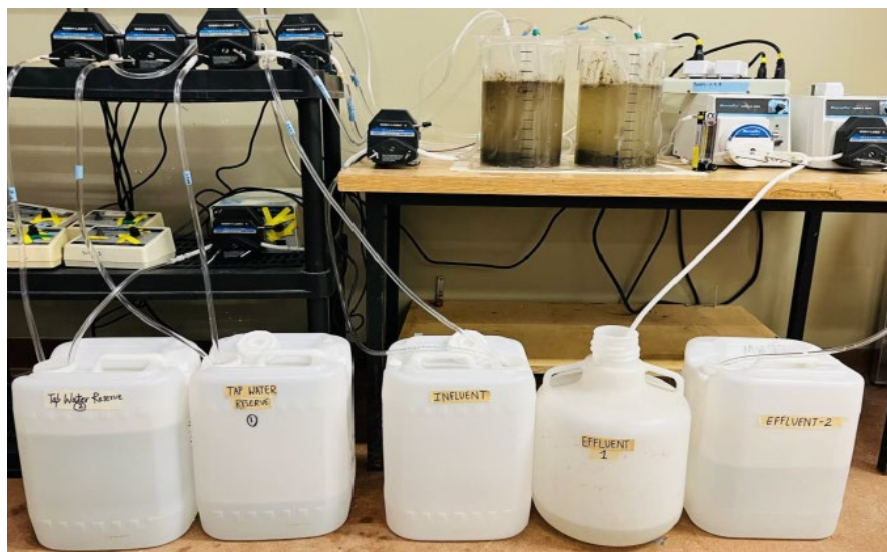


Figure 5: Laboratory Bioreactor Setup

Safe and Sustainable Infrastructure Theme

❖ **A Data-driven Simulation-based Machine Learning Optimisation (SML-Opt) Framework to Support Net Zero Energy Building Retrofits in Canadian and Indian Contexts.**

Canadian Lead: Dr. Elie Azar, Carleton University

Indian Lead: Dr. Albert Thomas, Indian Institute of Technology – Bombay

The research team proposed a Simulation-based Machine Learning Optimisation (SML-Opt) framework to guide the design and operation of net-zero energy buildings (NZEBS), with a specific focus on retrofitting existing buildings. An integral part of the project is demonstrating and validating the framework on buildings in Canada and India, confirming its applicability to different contexts, building characteristics, and climate conditions. With case studies leading to focused recommendations on how the building regulations of both countries could be adjusted to support the net-zero transition of their building sectors.

So far in the project, researchers have expanded the proof-of-concept Genetic Algorithm Multi-Objective Optimisation (GA-MOO) framework to include costs and renewable energy consideration (in addition to total energy, peak loads, thermal comfort). They have successfully applied the framework to test numerous Nze-supporting retrofit scenarios and strategies. And have published the framework in an open-access repository (GitHub).

Two research visits took place during the current year. The first visit was by the Canadian team (Canadian PI and 1 HQP) to IIT-Bombay, spending one week in Mumbai. The visit included presentations to students and professors, meetings, and site visits. The second visit was by the Indian PI to Carleton University. The visits included similar collaborative activities (i.e., presentations to students and professors, meetings, and site visits).

New Partnerships Created: IEA EBC Annex (95) on Human-Centric Buildings for a Changing Climate



Figure 6: Dr. Azar's Research Visit to IIT-Bombay

❖ Smart Infrastructure with High Fracture Toughness, Durable Concrete Employing Large Amounts of Industrial Wastes

Lead: Dr. Nemkumar Banthia, the University of British Columbia

Repairing aging and deteriorating sewer infrastructure remains a persistent challenge for municipalities, often made more complex by the location of sewer systems in densely built environments that have undergone significant changes since their original design and installation. Over the past year, the project advanced the development of sustainable, high-performance alkali-activated materials (AAMs) for infrastructure applications. Research focused on valorizing industrial by-products such as incinerated sewage sludge ash (ISSA), recycled glass, and fly ash. These materials were formulated into durable binders suitable for harsh service environments, including sewers and microbial attack zones.

The research team completed and published three peer-reviewed studies on this topic. One explored using ISSA and recycled glass in sewer-resistant AAMs. Another introduced polysaccharides as rheology-modifying agents for 3D-printed AAMs. The third examined microbial-induced corrosion in fly ash-based geopolymers under real-world conditions. The team also engaged closely with municipal and academic partners for field testing and knowledge sharing. Training opportunities were provided for students and early-career researchers in material design, durability testing, and publication. These outcomes contribute meaningfully to low-carbon infrastructure solutions and the responsible use of industrial waste streams.

On the subject of 3DPC, the ideal strength and air content requirements for 3D printed concrete exposed to outdoor winter temperatures have been reached. The effect of temperature on fresh and hardened properties of concrete desired for 3D printing has been studied. With the inclusion of high volume Supplementary Cementitious Materials (SCMs), researchers are trying to now reduce the carbon footprint of the 3D printing technology which remains carbon intensive at the moment. In the past year, the team has completed successful modification of rheology suitable for 3D-printing of concrete in-situ cold weather. Tested the use of various cold weather acceleration systems (e.g., Hot Water, accelerators, anti-freeze, Rapid Setting Cements) and successfully investigated their use for in-situ cold weather 3D printing.



Figure 7: Printing at Room Temperature vs. Printing at Cold Temperature

On another front, a cement-based sensor has been developed for effective and reliable monitoring of chloride ion concentrations in reinforced concrete structures. This work addresses a critical gap in smart infrastructure by developing a next-generation cement-based chloride sensor capable of accurate, selective, and durable in situ monitoring—offering a sustainable alternative to conventional electronic sensors. As reinforced concrete structures worldwide face progressive degradation from chloride-induced steel corrosion, early-stage detection remains the key to effective intervention. However, traditional electronic sensors often suffer from poor durability, limited integration, and high maintenance costs in harsh concrete environments.

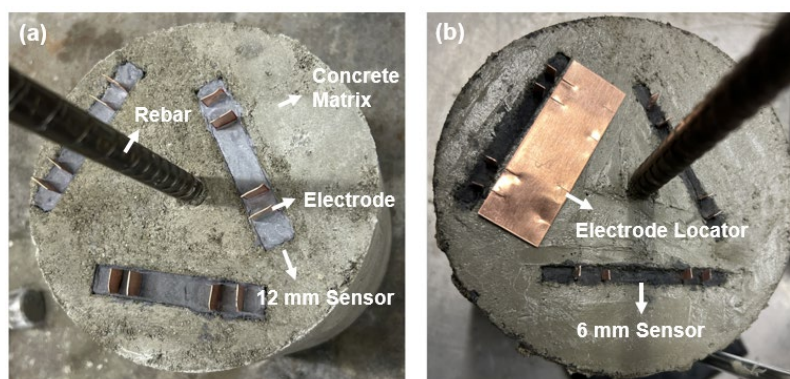


Figure 8: Reinforced Concrete Containing Sensors of Different Thicknesses

The sensor was successfully embedded into reinforced concrete columns, and demonstrated practical viability. Beyond detection, it contributed to corrosion resistance of reinforced concrete by capturing chloride ions.

B2 - Development of Highly Qualified Personnel

Highly Qualified Personnel (HQP) at IC-IMPACTS play a vital role in the Centre's funded projects, contributing across all stages—from project initiation and proposal development to stakeholder engagement and eventual commercialization. HQP benefit from specialized training and professional development opportunities, collaborating with researchers from both Canada and India to exchange knowledge, enhance their skillsets, and cultivate international partnerships. Their active participation in IC-IMPACTS initiatives provides exposure to a wide range of experiences, including technological innovation, service delivery, and entrepreneurial activities.

Since 2013, IC-IMPACTS has trained a total of 1,625 HQPs (reported here as HQP-Years). These include graduate students, postdoctoral fellows, research associates and research staff, 49% of whom are female and four individuals self-declaring as non-binary.

The following charts provide a breakdown of our HQP gender distribution:

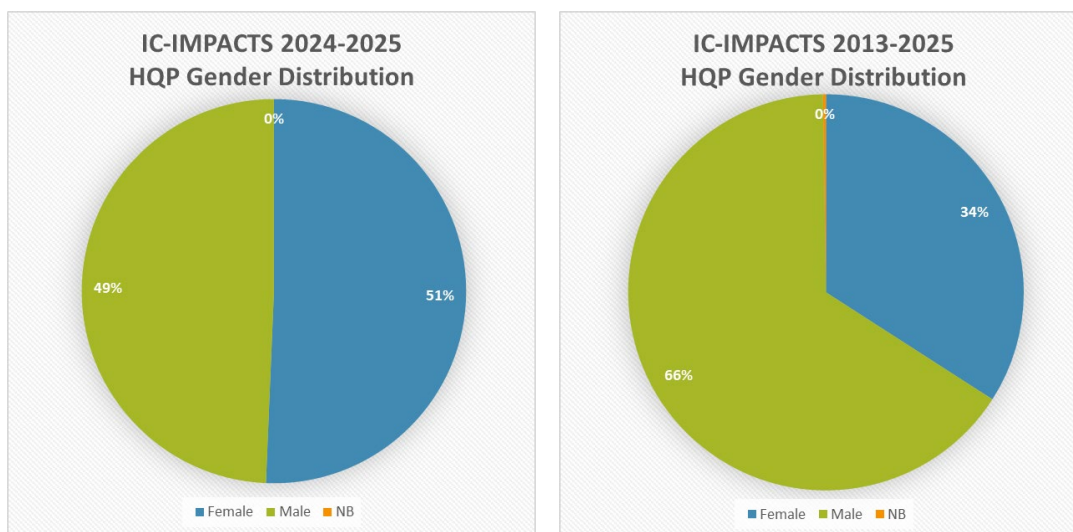


Figure 9: HQP Gender Distribution

In addition to being trained through IC-IMPACTS funded projects, HQP are trained through workshops, cohorts, and special skills sessions such as sessions on scientific communication.

IC-IMPACTS' community-based projects provide unique opportunities for HQP to directly transfer technology from labs to markets. In doing so, HQP working with community members become extremely experienced on finding the right solutions to challenges faced by those communities and, in turn, are also able to receive feedback from the end-users. IC-IMPACTS remains committed to training the next generation of leaders for a fast-changing future. In addition to what HQP gain through involvement in research projects, IC-IMPACTS' diverse programs provide further opportunities for our HQP to learn through volunteering. Skills are strengthened as HQP participate in diverse events and build connections.

HQP also get a chance to network with industry leaders and strengthen various critical competencies. We are proud to report that 95% percent of our graduates are employed in either academic, industry, or government bodies.

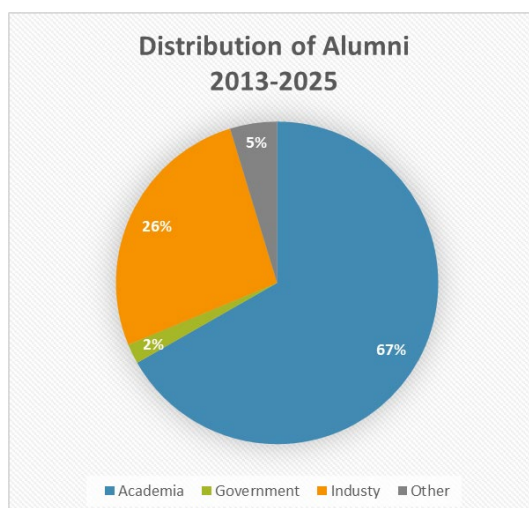


Figure 10: Alumni Employment Fields Distribution

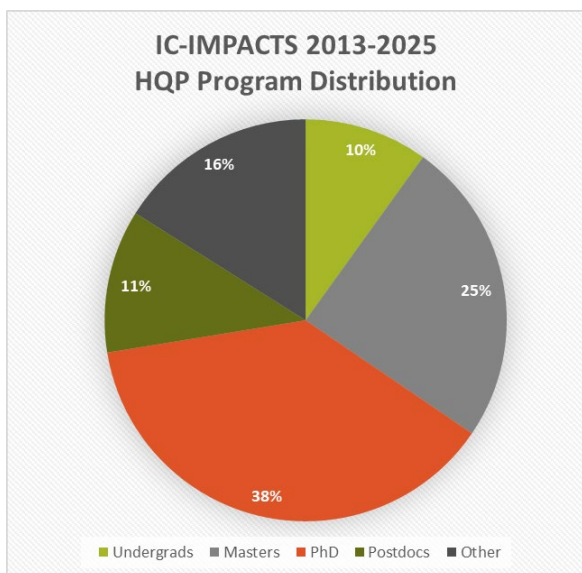


Figure 11: HQP by Program Distribution

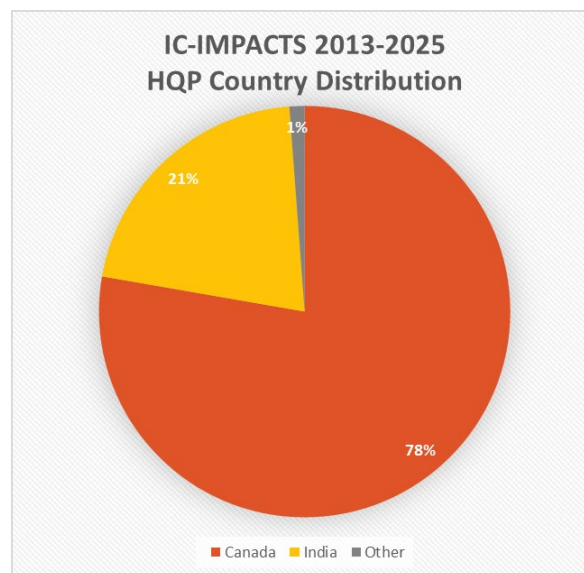


Figure 11: HQP by Country Distribution

B3 - Networking and Partnerships

With many academic institutions and universities in India, including 11 Indian Institutes of Technology (IITs), collaborating with IC-IMPACTS, we are recognized as the Canadian Center for Science and Technology collaborations with India. Despite geopolitical challenges, IC-IMPACTS' collaborations with the Department of Science and Technology (DST) and the Department of Biotechnology (DBT) continue to grow with a renewed focus on demonstrating technologies in communities.

The IC-IMPACTS Annual India Week conference took place from December 9-11, 2024, Celebrating 12 years of Canada-India Collaborations in Science & Technology at India Habitat Centre in New Delhi, India. At the conference, Dr. Nemkumar Banthia, CEO and Scientific Director, welcomed guests and announced the launch of IC-IMPACTS' 100th Canada-India Project.



Figure 12: IC-IMPACTS Annual India Week, December 2024

The conference brought together leadership from Canadian and Indian universities—including IIT Directors—alongside senior executives from industry, government officials, media representatives, and faculty and students involved in IC-IMPACTS, DST, and DBT-supported projects. The program featured administrative sessions focused on student and faculty mobility, scientific collaboration, and technology transfer between academic institutions and industry partners. Parallel sessions showcased outcomes from current and past Canada-India initiatives in the areas of Infrastructure, Water, Public Health, and Food Security.

IC-IMPACTS was honoured to welcome several distinguished guests and speakers. Among them were Ms. Jennifer Daubeny, Acting High Commissioner of Canada in India, and Dr. Ravindra Goel, Principal Executive Director of Bridges at Indian Railways. Remarks were delivered by Dr. Joy Johnson, President of Simon Fraser University, and Dr. Rangan Banerjee, Director of IIT-Delhi. The keynote addresses were delivered by Dr. Venkatesh Kodur, Distinguished Professor at Michigan State University, and Dr. Pramod Narayan, Director at the Central Water Commission, Ministry of Jal Shakti.

IC-IMPACTS signed a Memorandum of Understanding (MoU) with the University of Kashmir on July 2, 2024. The MoU was signed to support the development of bilateral projects between India and Canada. It aims to provide students and faculty with international exposure and opportunities to engage in advanced research across all four thematic areas: Infrastructure, Integrated Water Management, Food Security and Agritech, and Public Health.

KU, IC-IMPACTS Sign Mou: Research Findings, Technology To Transform Society, Says KU VC 'Partnership to drive sustainability'

KH NEWS SERVICE

SRINAGAR : The University of Kashmir (KU) on Tuesday signed a Memorandum of Understanding (MoU) with IC-IMPACTS Centres of Excellence, headquartered in Vancouver, Canada. The MoU establishes a framework for a collaborative partnership aimed at enhancing academic and research opportunities and encouraging bilateral projects between Canada and India.

The Chief Executive Officer (CEO), IC-IMPACTS, Dr. Nemkumar Banthia and Dean, Research, KU, Prof M Sultan Bhat signed the agreement during a ceremony held at the Vice Chancellor's Secretariat here.

KU Vice Chancellor, Prof Nilofer Khan; KU Registrar, Prof Naseer Iqbal; Director, Directorate of Internal Quality Assurance (DIQA), KU, Prof Manzoor Ahmad Shah (Programme Coordinator), Special Secretary to KU VC, Dr Ashfaq A Zarri and India Coordinator, IC-IMPACTS Prabha Daga were present on the occasion. Ex-



pressing her enthusiasm for the collaboration, Prof Nilofer Khan, said that the partnership will facilitate meaningful academic exchanges and innovative projects that align with KU's vision of academic excellence and community development. "This MoU will provide our students and faculty with international exposure and opportunities for cutting-edge research," she said, believing public health and food security to be significant components of the project.

The project focusses on four major areas, infrastructure, water, food security and public health.

Prof Khan further said

that the varsity would also rope-in its satellite campuses and affiliated colleges to contribute in these areas.

"We will take the research findings and technology and use them for engaging with the community at the grassroots level for social transformation," she reiterated.

Emphasising the importance of the collaboration, CEO, IC-IMPACTS, Dr Nemkumar Banthia, said that all their technologies are patented and asserted that that the collaboration will lead to significant number of patents and prototypes.

"By setting up demonstration projects and put-

ting our technologies in the community and engaging investing companies, we can change the whole scenario," he said, adding that the aim is to give back to the community by engaging with the community itself.

He further said that the partnership with the varsity will drive community transformation and sustainability through joint research and academic activities.

Dean, Research, KU, Prof M Sultan Bhat, underscored the potential benefits of the partnership and its alignment with the varsity's vision of encouraging academic collaboration. "This

MoU opens up numerous opportunities for our scholars to engage in cutting-edge research and gain international exposure," he said.

Project Coordinator, Prof Manzoor A Shah, discussed the potential and possibilities of cooperation between the two institutions and the prospects of collaboration in various areas, including the exchange of students and faculty, as well as sponsoring demonstration projects.

"The university students and faculty members will have the opportunity to attend IC-IMPACTS events with partner Indian/Canadian educational institutions, companies and government agencies leveraging the strengths of both institutions to achieve meaningful outcomes," he maintained.

IC-IMPACTS will fund all the activities including research, development of prototypes, workshops, demonstration projects, leadership training programmes, etc. during the three-year partnership.

Figure 13: News of the Signing of the MoU in Brighter Kashmir

B4 - Knowledge and Technology Exchange and Exploitation

IC-IMPACTS' researchers continued to be very productive in dissemination of knowledge and produced a vast amount of work, including 74 publications in the 2024-25 fiscal year, bringing the total number of scholarly publications to 1,718.

B5 - Management of the Network

IC-IMPACTS Board of Directors is responsible for the overall strategic direction of the Centre towards its objectives, milestones, and deliverables and maintains its three sub-committees which meet on regular basis; (1) Executive Committee, (2) Nominations and Governance Committee, (3) Finance Committee, and the (4) Equity, Diversity, and Inclusion Committee.

The Executive Committee provides critical support between Board meetings and formulates agendas and key policies for Board approval. The Nominations and Governance Committee is responsible for Board nominations, governance, government relations and relations with the Host Institution. The Finance Committee oversees financial aspects and recommends audited statements to the Board members. The EDI Committee provides an overview of the role that Equity, Diversity, and Inclusion plays within the network. It also supports efforts to advance inclusion and is responsible for policy reviews and revisions. The Board of Directors meets regularly to ensure that acts, bylaws, funding and international agreements are adhered to.

IC-IMPACTS Research Management Committee (RMC) is comprised of a regionally diverse, inspiring group of researchers who are top world experts in a variety of disciplines. IC-IMPACTS is fortunate to have the dedication and continued support of such highly skilled professionals who help build connections between Canada and India.

SECTION C: TRENDS AND JUSTIFICATIONS

Feedback from NCE Monitoring Committee on Previous Annual Report

IC-IMPACTS did not receive feedback from the NCE Monitoring Committee on the previous report.

Actual Versus Expected NCE Grant Expenditures

Over the fiscal year, without additional NCE grant, IC-IMPACTS continued to follow its prudent financial policies, from fiscal year 2013 to 2025, keeping its overall percentage of expenditures for administration operations below 20% and its active disbursement of research funding to academic institutions in Canada at 70%. IC-IMPACTS knowledge transfer (including research networking, technology transfer, and communications expenses) was at approximately 11% of the NCE funding.

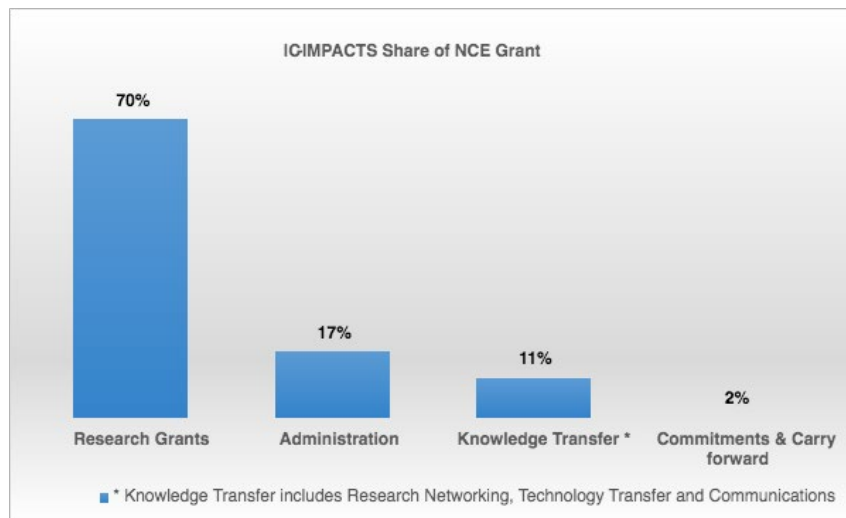


Figure 14: Distribution of NCE Funds

SECTION D: NETWORK-LEVEL PERFORMANCE

IC-IMPACTS' bilateral model has proven to be very successful since its inception in 2013, and has consistently exceeded its established targets.

Progress on Goals and Objectives Defined in Last Year's Annual Report

IC-IMPACTS made great progress on the goals and objectives identified in the 2023-2024 NCE Annual Progress Report. The following list highlights some of these achievements:

1. Continue developing a multidisciplinary and cutting-edge research program, delivering solutions towards community problems in Canada and India:

IC-IMPACTS remains committed to advancing a multidisciplinary and innovative research program, addressing real-world challenges in Canada and India. Currently, the Centre is supporting 31 active projects that exemplify this commitment—each focused on delivering practical, community-driven solutions through collaborative research across key sectors.

2. Further strengthening engagement with Indigenous communities:

IC-IMPACTS Principal Investigators are actively engaging with project sites and communities through follow-up meetings inviting their participation in collaborative workshops to gather feedback and co-develop community-based solutions. A notable example of this approach is the work led by Dr. Elie Azar, as highlighted earlier in the report.

3. Supporting and training HQP in activities that are innovative and entrepreneurial:

Throughout 2024-25, IC-IMPACTS facilitated HQP-led activities and workshops on the topics of Water Management, Public Health, Agritech as well as Safe & Sustainable Infrastructure. The *Colloquium on Sustainable Water Management and Climate Change: The Use of Advanced Processes and Artificial Intelligence*, which was held at UBC on November 12, 2024 is a notable example of an HQP-led activity.

4. Ensuring sustainability beyond 2025-26 fiscal:

IC-IMPACTS is working with an external advisory committee and the CEO continues to meet with the Canadian Federal Government, discussing IC-IMPACTS proposals and possible path forward. In 2024-25, IC-IMPACTS hosted multiple events with the Consulate General of India in Vancouver, where industry leaders and stakeholders were brought in to discuss the future of the Centre. India also continues to express strong support for the IC-IMPACTS program beyond 2025-26 fiscal. Both the Department of Biotechnology and the Department of Science and Technology continue to collaborate with IC-IMPACTS on projects on a dollar-for-dollar basis.

5. Prioritizing equity, diversity and inclusion:

Principles of EDI remain a top priority for IC-IMPACTS. Principles of EDI are built into all IC-IMPACTS activities and are carefully considered at each stage.

Commitment to the Principles of Equity, Diversity and Inclusion

IC-IMPACTS respects, honours, and celebrates the diversity in our network and as an international Research Centre, IC-IMPACTS is fully aware of the benefits brought on by having a diverse team. We remain committed to fostering and maintaining an inclusive environment, bringing together diverse perspectives from our HQP, researchers, partners, and members of the community. IC-IMPACTS continues to develop and promote equity, diversity, and inclusion initiatives in our programs. Our HQP network has a 49% female ratio which we see as a notable achievement. Our Board of Directors is currently at 46% female ratio and our Administration Office is currently at 75% female ratio.